



crea
summer academy

Dossier best practices summer schools

HKU - UAEGEAN - POLIMI

WP 3 _ Deliverable N° 3.1.2 _ July 2015



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 644988.

DELIVERABLE 3.1.2

DOSSIER BEST PRACTICES SUMMER SCHOOLS

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1. Introduction

The CREA project aims to strengthen the European Entrepreneurial base by setting up a network of summer academies with a focus on Entrepreneurship, Creativity and ICT thus establishing new best-practices in teaching entrepreneurship. The cross-fertilization between ICT and creative sectors is particularly important in the CREA project. ICT and creativity are certainly two important drivers that new entrepreneurs can use to generate disruptive innovation with new start up ideas in different fields.

CREA has put forward five distinct objectives as described below:

Objective 1: To create European wide system of Summer Academies for university and last year high school students entirely focused on ICT entrepreneurship.

Objective 2: To create a model of Summer Academy action oriented with a strong focus on ICT and entrepreneurial skills development and a rich offer of mentoring, support for business planning, matchmaking opportunities and generation of ICT related business ideas

Objective 3: To stimulate the development of new start up business ideas boosting on ICT and creativity

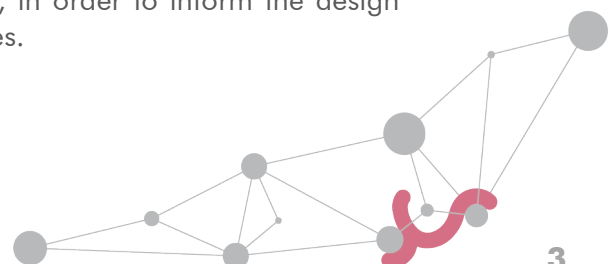
Objective 4: To complement and extend similar existing Summer Academy programs while strongly focusing on ICT and creativity entrepreneurship

Objective 5: To organize and promote ICT business idea contests addressed to University and high school students

Besides cross-fertilization between creativity, entrepreneurship and ICT, internationalization and networking are two other very important objectives of CREA project. Indeed, CREA aims to act as a laboratory to test the possibility of enlarging the network of institutions participating in the Summer Academies in order to increase the involved competences.

To achieve the aforementioned objectives, a shared approach is necessary that will guide the activities of all members of the consortium towards the achievement of the common objectives. This deliverable serves this purpose. More specifically,

- It puts forward a workable conceptual roadmap that places the project into a wider framework and identifies the key drivers - related to CREA's original objectives - and the key outcomes expected.
- It presents a catalogue of best practices and case studies of other summer academies with similar objectives and scope, in order to inform the design of the first edition of CREA Summer Academies.



- As a follow up activity, it proposes the CREA Educational Model and the CREA Didactic Framework that guide CREA academies' educational activities development.

The deliverable is organized as follows:

- Section 1 presents the CREA conceptual roadmap that helps towards the achievement of the Project's objectives and builds the basis of a shared approach for the development of a European System of Summer Academies based on the triad of Entrepreneurship, Creativity and ICTs.
- Section 2 presents the preparation activities for the search and identification of best practice cases in CREA-like Summer Schools.
- Section 3 discusses how CREA's Education Model was developed, based on which a catalogue of best practices was documented in Section 5.
- Section 4 operationalizes our CEM model, leading to CREA's Didactic Framework which outlines the content, tools and methods proposed to be used in the CREA Summer Academies.

2. Conceptual roadmap

Our conceptual roadmap is depicted in Figure 1.1.

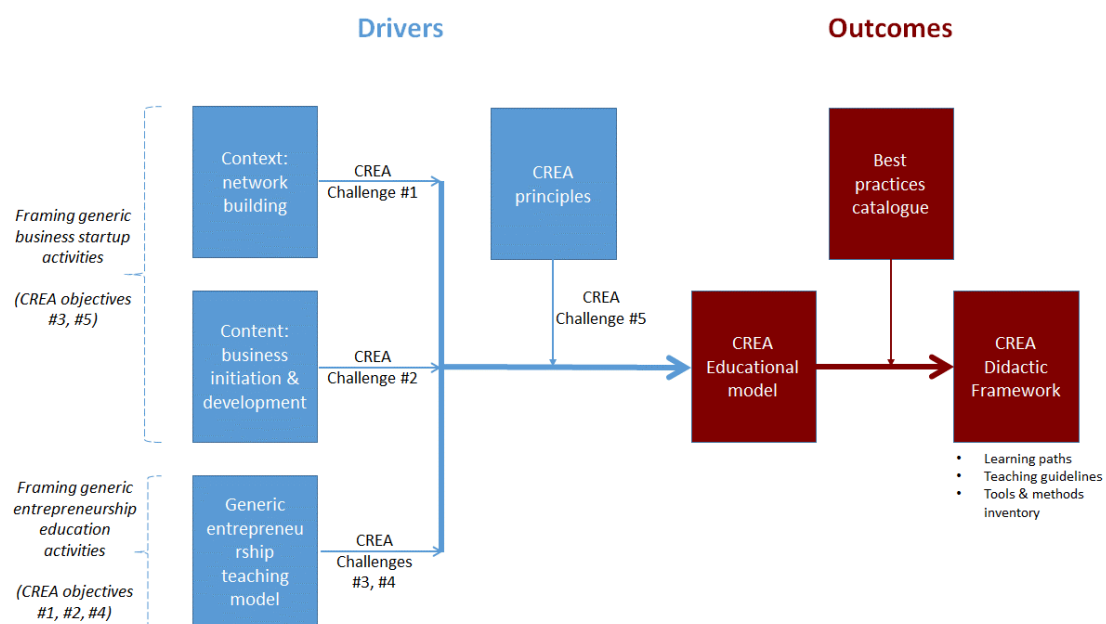


Fig 1.1. Conceptual roadmap



The conceptual roadmap is comprised of two parts: drivers and outcomes.

Drivers are the basis of our work and are comprised of objectives, driver descriptions and challenges.

Objectives provide the starting point of our work and link it to the project's aims and aspirations. They are defined in the CREA proposal document and can be broadly divided into the following categories:

- Objectives related to business startup activities, i.e. objectives #3 and #5
 - "Objective 3: To stimulate the development of new startup ideas boosting on ICT and creativity"
 - "Objective 5: To organize and promote ICT business idea contests addressed to University and high-school students"
- Objectives related to entrepreneurship education activities, i.e. objectives #1, #2, and #4
 - "Objective 1: To create European wide system of Summer Academies for university and last year high school students entirely focused on ICT entrepreneurship"
 - "Objective 2: To create a model of Summer Academy action oriented with a strong focus on ICT and entrepreneurial skills development and a rich offer of mentoring, support for business planning, matchmaking opportunities and generation of ICT related business idea"
 - "Objective 4: To complement and extend similar existing Summer Academy programs while strongly focusing on ICT and creativity entrepreneurship".

CREA objectives then act as a guide for our first part of research that is concentrated on three areas:

- Understanding the context of a business startup, with a focus on the ecosystems that are interlinked with a new venture from the first day of its inception
- Understanding the different approaches that entrepreneurs use when they embark in the initiation and development of a new venture
- Understanding existing approaches to entrepreneurship education.

The result is a set of challenges that drive (and are addressed by) the second part of our research - the development of CREA-specific solutions: the CREA Educational Model, the Best-Practices Catalogue of Entrepreneurship Education Initiatives, and the CREA Didactic Framework.

These challenges are:

- CREA challenge #1: to ensure that development and implementation of CREA summer academies' activities account for a startup's external network (such as the afore mentioned industry infrastructure model) as a key lever in the successful initiation and development of a new venture
- CREA challenge #2: to ensure that development and implementation of CREA summer academies' activities account for both predictive and creative approaches (whenever possible), setting best-practice standards through hybrid educational offerings



- CREA challenge #3: to ensure that development and implementation of CREA summer academies' activities are based on a clear definition of entrepreneurship education, and are driven by an effective teaching philosophy
- CREA challenge #4: to ensure that development and implementation of CREA summer academies' activities account for multiple participant profiles and multiple participant objectives, with the particular constraints imposed by the local CREA summer academies
- CREA challenge #5: to ensure that development and implementation of CREA summer academies' activities account for the unique characteristics and principles of the CREA project: a) the network concept of interlinked experts and organizations; b) the focus on the intersection of Entrepreneurship, Creativity and ICT.

The CREA Educational Model (CEM) is based on the model of (Fayolle and Gailly, 2008) and is comprised of four pillars:

- Scope
- Objectives & Learning Outcomes
- Structure, Content & Teaching Methods
- Evaluation.

By combining CEM with a Best-Practices Catalogue of Entrepreneurship Education Initiatives that we have documented, we finally developed the CREA Didactic Framework, which provides, among other elements:

- An arsenal of learning paths
- Relevant teaching guidelines
- An inventory of educational tools and methodologies.

2.1 Framing generic business start-up activities

A differentiator of the CREA project is a meticulous effort to develop teaching activities that reflect state-of-the-art research findings and concepts in the field of entrepreneurship. To that extent, we focus on two key areas, from a systems thinking viewpoint: a) the context of entrepreneurship, viewed as an external network of entities to which an entrepreneur needs to link for acquiring and managing resources; b) the content of entrepreneurship, viewed as business initiation activities, i.e. iterative activities of combining acquired and own resources into new products /services (and eventually, into a new business entity).

2.1.1 The context of entrepreneurship: network building

(Van de Ven, Polley, Garud and Venkataraman, 2008) boldly state that seldom can an individual entrepreneur alone control the resources needed to develop and commercialize an innovation. Entrepreneurship is a collective achievement that resides not only within a new firm but also in the construction of an industrial infrastructure that facilitates and constrains innovation. This infrastructure includes (see Figure 2.1): (1) institutional arrangements that govern startup development, including protection of intellectual property; (2) public resources, such as scientific knowledge, financing mechanisms, and skilled labor force; (3) markets; and (4)



venture-specific activities, such as research and development, manufacturing, production, and distribution functions.

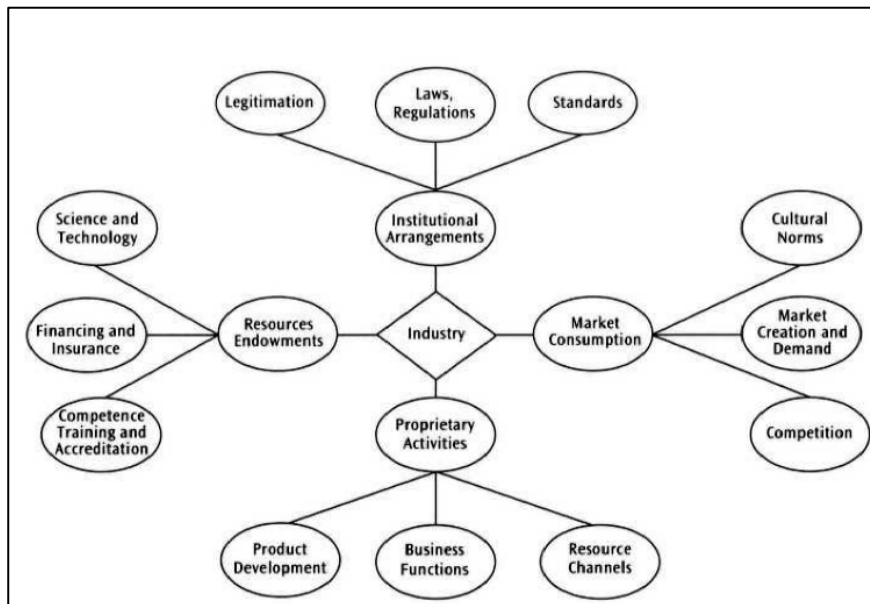


Figure 2.1. The infrastructure of an industry, as context for startup development

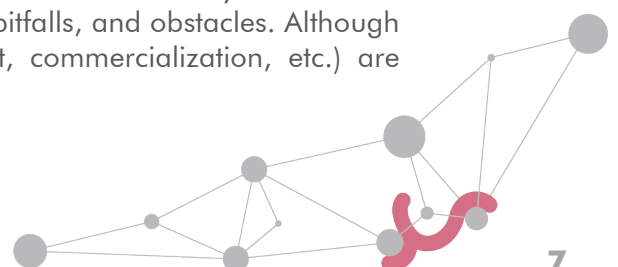
The practical implication of the network-building perspective is that entrepreneurs must not only focus on internal activities for developing a new product/service, but also focus on the creation of a wider system that is linked to ways of acquiring required resources. Furthermore, (Van de Ven, Polley, Garud and Venkataraman, 2008) believe that understanding innovation is deficient if it focuses exclusively on the characteristics and behaviors of individual entrepreneurs and if it treats the social, economic, and political infrastructure for innovation as merely external factors.

CREA challenge #1:

to ensure that development and implementation of CREA summer academies' activities account for a startup's external network (such as the afore mentioned industry infrastructure model) as a key lever in the successful initiation and development of a new venture

2.1.2 The content of entrepreneurship: business initiation and development

Innovation is an uncertain journey (Van de Ven, 1986; Van de Ven, Polley, Garud, & Venkataraman, 1999), during which entrepreneurs can fail many times. New ventures must tackle a number of diverse problems, pitfalls, and obstacles. Although some of the latter (e.g. new product development, commercialization, etc.) are



predictable (Kazanjian, 1988), many really are not. This differentiation (predictable vs unknown) has spurred two different approaches in business initiation and development: a) predictive approach; b) creative approach (Noyes and Brush, 2015).

The *predictive approach* emerges from the fact that many entrepreneurs often try to solve unpredictable problems through a venture-creation process. It is linked to predictive or causation logic, or what (Neck and Greene, 2011) refer to as a process view of entrepreneurship (rooted in the realm of business strategy). Predictive logic states that tested steps are taken to identify and evaluate a business opportunity, formulate a business model, quantify the resources needed, create a plan, and implement it (Honig, 2004; Rich & Gumpert, 1985; Robinson, 1979). In other words, an entrepreneur “works backwards” from fixed assumptions about the demands of exploiting an objective entrepreneurial opportunity and her activities should then focus on specifying, executing, and monitoring the plan (Chandler, DeTienne, McKelvie, & Mumford, 2011).

(Cha and Bae, 2010) further call “the series and combinations of entrepreneurs' autonomous, innovative, and unpredictable or improvised actions and interactions” the entrepreneurial journey. Several theories consider the entrepreneurial journey as a process of opportunity realization through the combination of resources: the “Innovation Journey” (Van de Ven & Engleman, 2004), “New Combination” (Schumpeter, 1942), “Dynamic Capability” (Teece, Pisano, & Shuen, 1997), and “Resource-based View” (Barney, 1991).

(Applegate, 2014) defines the entrepreneurial journey as a two-stage model, comprised of the following stages: a) Pursue Opportunities, b) Pivot to Growth.

In the Pursue Opportunities stage, the following activities take place:

- *Explore* potential opportunities and make the decision to become an entrepreneur and found a new venture; and
- *Experiment* to adapt and shape the opportunity as they clarify assumptions and reduce uncertainty as the new venture is launched.

Specific activities include recognizing and shaping of opportunities, writing and pitching a business plan, and financing the new venture.

In the Pivot to Growth stage, the following activities take place:

- *Engage* the ecosystem and transition from a startup to a sustainable business as the venture gains traction in their entry market and shifts from “burning cash” to “generating positive cash flow.”
- Exploit growth options as they scale the business and harvest value.

Specific activities include building a growth-oriented management team, scaling the entrepreneurial venture, and harvesting value.



In (Reynolds, 2000), a business start-up process is considered to have four stages, with three transitions. The first transition occurs when an individual decides to pursue a venture creation – the gestation stage.

The second transition occurs when the gestation stage is complete, firm birth has occurred, and an infancy-stage firm is in place as a running business. Unfortunately, for many entrepreneurs, the next stage is to abandon the effort. For the successful ones, though, the third transition is a passage into adolescence stage.

(Grilo and Thurik, 2005) refined these stages into seven engagement levels, comprised of:

- two nascent stages ("thinking about it" and "taking steps for starting up")
- two business stages ("having a young business" and "having an older business"),
- two exit stages ("gave up" and "no longer being an entrepreneur"), and
- an outsider stage ("never thought about it").

(Van der Zwan, Thurik, and Grilo, 2010) and (Van der Zwan, Verheul, Thurik and Grilo, 2013) further adjusted the aforementioned levels to a 5-steps entrepreneurial ladder, as answer categories to the question 'Have you ever started a business or are you taking steps to start one?':

1. No, it never came to my mind ('never considered').
2. No, but I am thinking about it ('thinking').
3. Yes, I am currently taking steps to start a new business ('taking steps').
4. Yes, I have started or taken over a business in the last three years and it is still active ('young business').
5. Yes, I started or took over a business more than three years ago and it is still active ('mature business').

Three side answer categories were also defined:

(2a) No, I thought of it or had already taken steps to start a business but gave up ('gave up').

(5a) Yes, I once started a business, but currently am no longer an entrepreneur since the business has failed ('failure').

(5b) Yes, I once started a business, but currently I am no longer an entrepreneur since the business was sold, transferred or closed ('sell-off').

To investigate the ease with which entrepreneurs climb the entrepreneurial ladder (i.e. moving from one step of the ladder to the next), and to identify the factors that may facilitate or slow down their progress, (Van der Zwan, Verheul, Thurik and Grilo, 2013) engaged in a survey based on the 2007 Flash Eurobarometer Survey on Entrepreneurship, Number 192, of the European Commission. Their survey consisted of 20,674 observations for twenty-five Member States of the European Union as well as Norway, Iceland, and the United States.



The Flash Eurobarometer data mostly refer to the prestart-up phase of a company. This pre-birth phase consists of three sub-stages ('never considered', 'thinking' and 'taking steps'). The firm birth itself takes place between the third ('taking steps') and the fourth ('young business') stages. Based on these data, they focused on understanding the influence of a number of variables in entrepreneurial ladder transitions (see table below)

Understanding such influences should also play a key role in developing the right educational activities that can help an individual appreciate the role of different variables as she is moving from one step of the ladder to the next.

Table 1. Description of all variables (individual, regional and country level)

Variable name	Description
Gender	Male (= 1) or female (= 0)
Age	Age of the respondent (years)
Education level ^a	Age when finished full-time education (years)
Entrepreneurship education	To what extent do you agree with the statement: 'My school education helped me to develop my sense of initiative (entrepreneurial attitude)?' Dummy variable with 'strongly agree' or 'agree' = 1 and 'disagree' or 'strongly disagree' = 0
Self-employed parents	Dummy variable with a value of 1 if the mother, father or both are self-employed and a value of 0 if neither of the parents is self-employed
Individual risk tolerance	To what extent do you agree with the statement: 'One should not start a business if there is a risk it might fail?' Value of 1 if 'strongly disagree' or 'disagree' is answered and a value of 0 if 'agree' or 'strongly agree' is answered. Individual values are subtracted from the specific country average
Individual stigma of failure	To what extent do you agree with the statement: 'People who started their own business and have failed should be given a second chance?' Value of 1 if 'strongly disagree' or 'disagree' is answered and a value of 0 if 'agree' or 'strongly agree' is answered. Individual values are subtracted from the specific country average
Individual perception of administrative complexity	To what extent do you agree with the statement: 'It is difficult to start one's own business due to the complex administrative procedures?' Value of 1 if 'strongly agree' or 'agree' is answered and a value of 0 if 'disagree' or 'strongly disagree' is answered. Individual values are subtracted from the specific country average
Individual perception of insufficient information	To what extent do you agree with the statement: 'It is difficult to obtain sufficient information on how to start a business?' Value of 1 if 'strongly agree' or 'agree' is answered and a value of 0 if 'disagree' or 'strongly disagree' is answered. Individual values are subtracted from the specific country average
Individual perception of a lack of financial support	To what extent do you agree with the statement: 'It is difficult to start one's own business due to a lack of available financial support?' Value of 1 if 'strongly agree' or 'agree' is answered and a value of 0 if 'disagree' or 'strongly disagree' is answered. Individual values are subtracted from the specific country average
Urban	Dummy variable with a value of 1 if an individual indicates that they live in a metropolitan or an urban area and a value of 0 if this individual lives in a rural area
Country-level risk tolerance	Country average of 'Individual risk tolerance'
Country-level administrative complexity	Country average of 'Individual perception of administrative complexity'
Country-level insufficient information	Country average of 'Individual perception of insufficient information'
Country-level lack of financial support	Country average of 'Individual perception of a lack of financial support'
Per capita income	Gross national income per capita, 2006, in purchasing power parity per US\$ <i>Source:</i> WORLD BANK (2008)
Labour productivity growth	Labour productivity growth per person employed in 2006. <i>Source:</i> European Commission; no information is available for Norway and Iceland

Gender. Gender has been found to influence entrepreneurial behavior at different stages of the process. For example, women tend to have a lower preference for entrepreneurship (Blanchflower et al., 2001; Grilo and Irigoyen, 2006) and are more reluctant to start up a business (Allen et al., 2008; Davidsson, 2006) than men.

In terms of the survey-in-focus, gender was found to be an important factor for achieving entrepreneurial progress: being a man increases the odds of being beyond, rather than being at, a specific engagement level. The significance of



gender in the 'overall' model can be attributed almost entirely to an advantage for men in the transitions from 'never considered' to 'thinking' and from 'thinking' to 'taking steps'.

Education (Education level/Entrepreneurship education). Empirical evidence shows that education level does not conclusively contribute to increased entrepreneurship activity.

In terms of the survey-in-focus, the results indicate that there is an overall positive effect of education level on entrepreneurial progress, indicating that stepping up the entrepreneurial ladder is enhanced by a higher level of education. The impact of education level is significantly positive for the first transition ('never considered' to 'thinking'), insignificant for the next transition ('thinking' to 'taking steps') and significantly negative for the final two transitions on the entrepreneurial ladder ('taking steps' to 'young business' and 'young business' to 'mature business'). This means that a higher level of education is important mainly in becoming aware of entrepreneurship as a possible career option, but appears detrimental for advancing to later stages of entrepreneurial ladder, where relevant experience and skills may become more important. Similarly, entrepreneurship education is important for forming entrepreneurial intentions; it does not have an effect on subsequent transitions.

Role models (self-employed parents). Role models, and in particular self-employed family members, appear important for predicting involvement in entrepreneurial activity.

In terms of the survey-in-focus, the results show that self-employed parents can positively contribute to transitions in the entrepreneurial process. Investigating the differential impacts of this variable across the engagement levels, it turns out that self-employed parents are of help during the early phase of setting up a business: they are important in the entrepreneurial intention and taking steps stages, but their role diminishes in value in the later stages of venture development. This is in line with (Davidsson and Honig, 2003), who found that while strong ties are particularly important for shaping children's preferences, in later stages weak ties are more influential.

Individual risk tolerance/individual stigma of failure. Studies by (Rosen and Willen, 2002) and (Norton and Moore, 2006) concluded that risk attitude is not an important consideration in the decision to start a business.

In terms of the survey-in-focus, risk tolerance does play a role in the transitions from 'never considered' to 'thinking' and from 'taking steps' to 'young business'. The stigma of failure has an impact on overall advancement in the entrepreneurial process, although to some extent it holds back individual's intentions to start up a business.



Creative approaches are based on a number of nearly opposite assumptions from the predictive approach. First, in a creative approach, entrepreneurs start with who they are and what they know - personal achievements and passion, experience, education, and other knowledge is the foundation for entrepreneurial activity (Fiet & Patel, 2006).

Second, it is assumed that the entrepreneurs initiate actions from a position of inclusion in a wider social framework (Granovetter, 1985, 1992). Observing and reflecting on her situation, an aspiring entrepreneur may ask, what can I do with my own resources? Who do I know that can lead me to other, much-needed resources?

Third, entrepreneurs create the venture's culture and overall operating environment through social relations (Alvarez & Barney, 2007), thus intrinsically taking into consideration the wider network of entities that they need to link with (as discussed in the previous section). Particularly, they bring along new people who reshape perceptions of the environment and modify beliefs about what is desirable, feasible, and viable. Venture stakeholders are not necessarily assembled based on some measurable fit with the objective target opportunity, but rather based on who demonstrates passion to act with the available means (Dew et al., 2009). Quite different than with a predictive approach, outside stakeholders self-select into or out of the venture, shaping its immediate aims and resources.

CREA challenge #2:

to ensure that development and implementation of CREA summer academies' activities account for both predictive and creative approaches (whenever possible), setting best-practice standards through hybrid educational offerings

2.2 Framing generic entrepreneurship education activities

Regarding entrepreneurship education, it seems that there is no common framework or agreed good practices regarding how to teach or educate (Brockhaus et al., 2001; Fiet, 2000a,b). (Bechard and Gregoire, 2005b) define a teaching model as "the representation of a certain type of setting designed to deal with a pedagogical situation in function of particular goals and objectives, that integrates a theoretical framework justifying this design and giving it an exemplary character". From this perspective, a teaching model integrates a number of ontological and educational focus areas, as shown in Figure 2.1 (Fayole and Gailly, 2008).



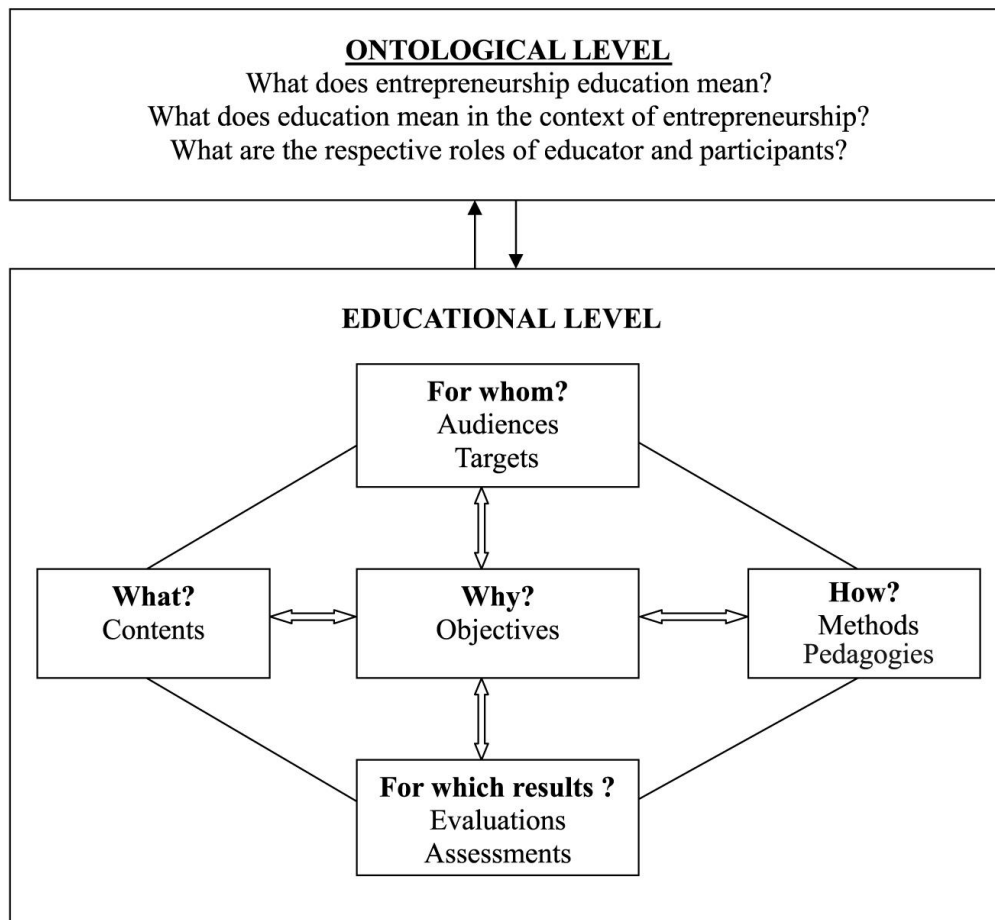


Figure 2.1. A framework for entrepreneurship education

At the Ontological Level, it is important to first adopt a definition of “entrepreneurship”, as a basis for developing educational activities. For example, (Shane and Venkataraman, 2000) define entrepreneurship as the “examination of how, by whom, and with what effects, opportunities to create future goods and services are discovered, evaluated and exploited”. Entrepreneurship education should then be defined as “knowledge transfer regarding how, by whom, and with what effects, opportunities to create future goods and services are discovered, evaluated and exploited”.

The next step is about agreeing upon the educational philosophy that will permeate the developed educational activities. This is often the debate of teaching vs educating (American Heritage Dictionary of the English Language, 2000):

- To teach: To impart knowledge or skill to; to provide knowledge of; instruct in; to condition to a certain action or frame of mind; to cause to learn by example or experience



- To educate: To develop the innate capacities of, especially by schooling or instruction; to stimulate or develop the mental or moral growth of; to develop or refine (one's taste or appreciation, for example).

We believe that both notions of "teaching" and "educating" should be combined in entrepreneurship courses and programs.

The previous steps should lead to a clear delineation and understanding of the respective roles of educators and participants. (Bechard and Gregoire, 2005b) propose the following:

- To teach, ranges from: to impart information; to ensure the appropriation of knowledge; and to converse with the students about knowledge.
- A teacher, ranges from: a presenter; to a facilitator and tutor; to a coach/developer.
- Students range from: passive recipients; to participants; to active participants in the co-construction of their knowledge.

CREA challenge #3:

to ensure that development and implementation of CREA summer academies' activities are based on a clear definition of entrepreneurship education, and are driven by an effective teaching philosophy

At the *Educational Level*, entrepreneurship education covers a wide variety of audiences, objectives, educational material and methods – all driven by the Ontological Level outcomes. In this context, the educational level aims at defining educational activities based on answers to the following problem-framing questions:

- Why (objectives, goals)?
- For whom (targets, audiences)?
- For which results (evaluations, assessments)?
- What (contents, theories)?
- How (methods, pedagogies)?

The 'Why' dimension. (Masaliba, 2010) reviewed existing publications devoted to entrepreneurship education and found that 32 per cent of the reviewed articles related entrepreneurship education to some kind of educational (or training) process that is aimed at influencing individuals' attitudes, behavior, values or intentions towards entrepreneurship. This educational view is an exhibition of scholars' partial convergence towards a behavioral view of an entrepreneur, but at the same time being skeptical to strictly associate it with new venture creation as a sole educational objective (Kuratko, 2005; Kirby, 2004). An equally strong group (at 32 per cent) related entrepreneurship education with the acquisition of personal skills in entrepreneurship, whereas others related it to new business formation (18 per cent),



opportunity recognition (9 per cent) and, managing of existing small firms (9 per cent).

The '*For whom*' dimension. Participants in entrepreneurship education programs have various socio-demographic characteristics and various levels of aspirations. Educators particularly have to understand their audience as early as possible in the design of educational activities and gather knowledge regarding the general psychological characteristics, the background and the social environment of the participants (Bechard and Gregoire, 2005b).

The '*For which results*' dimension. The issues and challenges regarding the assessment of entrepreneurship education programs relates on one hand to the selection of evaluation criteria and on the other hand to their effective measurement (Garavan and O'Kinneide, 1994; Hindle and Cutting, 2002; Honig, 2004).

The selection of evaluation criteria is linked to the diversity of objectives of entrepreneurship teaching programs (Gartner and Vesper, 1994). Such criteria can be related to specific knowledge, specific skills and tools, level of interest, degree of participation in the classroom, etc., based on what the programs' organizers want and are able to measure.

The '*What*' dimension. Although (Hynes, 1996) is of the opinion that both the course focus and content ought to vary in accordance with the specific requirements and needs of students, (Matley, 2005a,b) observed that the current variation is so wide as to make the general appropriateness and effectiveness of entrepreneurship courses questionable. This can be directly attributed to the variety of answers at the Ontological Level.

Drawing on (Hindle, 2007) and (Johannisson, 1991) levels of learning, we can distinguish three main axes for structuring the contents of entrepreneurship education: the professional axis, the spiritual axis and the theoretical axis.

For example, the professional axis of entrepreneurship education relates to three kinds of knowledge:

- Know-what: what one has to do in order to decide and act in a given situation. For example, what one must do in order to create a technological company, to validate an opportunity, to conduct a market study, etc.
- Know-how: how to deal with a given situation. For example, how to check the adequacy between a given project and one's personal profile taking into account accumulated experience, how to identify the risks and deal with them, etc.
- Know-who: who are the useful people and which are the useful networks in a given context. For example, being able to identify the generic actors of new venture creation in a business sector, locating those who may be



interested in or concerned by a project, identifying relevant venture capital agencies and business angels, etc.

The 'How' dimension. There is a wide range of pedagogical methods and approaches which have been tested and used for teaching entrepreneurship (Carrier, 2007; Hindle, 2007), such as case studies and role playing.

Overall, entrepreneurship education researchers categorize teaching methods into two groups, which are termed "traditional methods" (lecture-based) and "innovative methods" (action-based), also known as "passive methods" and "active methods", respectively. The latter require the instructor to facilitate learning and apply methods that enable students' self-discovery. (Masaliba, 2010) indicates that the three most-commonly used teaching methods in the realm of entrepreneurship are lectures, case studies and group discussions, which according to (Bennett, 2006) are passive and less effective in influencing entrepreneurial attributes. (Fiet, 2000a, b) explains that instructors rely on lecture-based methods because they can be easily accomplished, and also because they require less investment. Other methods used, but not as common as the previous group, include: a) business/computer or game simulations (Hindle, 2002); b) video and filming (Verduyn et al., 2009); and c) role models or guest speakers (Hegarty, 2006; Fiet, 2000a, b).

CREA challenge #4:

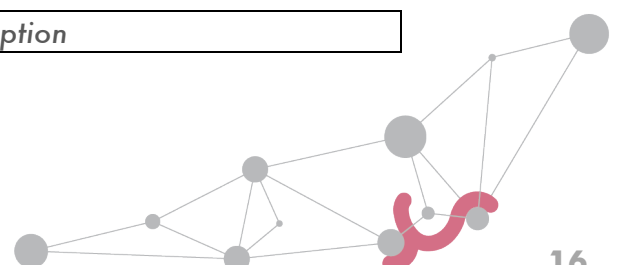
to ensure that development and implementation of CREA summer academies' activities account for multiple participant profiles and multiple participant objectives, with the particular constraints imposed by the local CREA summer academies

3. Accounting for CREA principles

The CREA project is driven by the following principles: a) the concept of a network of summer academies; b) the focus on educating students in the cross-road of Entrepreneurship, Creativity and ICT; c) the goal of establishing new best-practices in teaching entrepreneurship.

In order to appreciate the real-life importance of these principles, we embarked in empirical research activities, for a high-level mapping of the 'world of entrepreneurship education'. We focused on the start-up platform F6s.com, which lists 7,000 start-up programs and 2,200 events, of which 756 are held in Europe. The following table presents a list of different possible aspects of those 'start-up events' on F6s:

Variables	Description
-----------	-------------



Organizers	Accelerators, Incubators, Investment Funds, Schools, Companies
Target groups	Start-ups, entrepreneurs, students
Event format	Global start-up event, Chapter Meetings, Meet-up's, Sales workshops, start-up courses, competitions, Pitch events
Goals	Form a community, connect with investors, meet with venture capital firms, find mentors, networking, mentoring

Most of the F6s.com activities and offerings focus on start-ups that have already been founded (i.e. the latter steps of the entrepreneurial ladder, as discussed in the previous section). Hence, they focus on guidance, education and stimulation to make more entrepreneurs create successful businesses.

In parallel, the focus of academics and policy makers has been on stimulating and teaching entrepreneurship among the younger parts of the population. As a result, a lot of colleges and universities have included 'entrepreneurship' in their curricula and non-educational organizations have started 'entrepreneurship schools'.

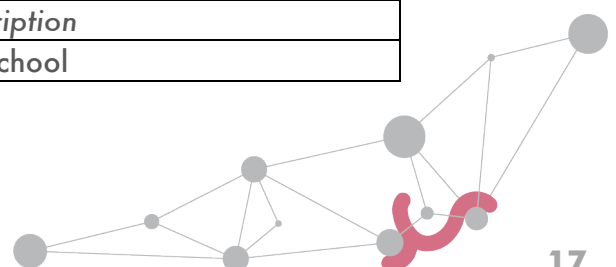
For example, searching for 'entrepreneurship course' in Google returns 60 million hits. The following table lists different aspects of such 'entrepreneurship courses' and 'entrepreneurship schools':

<i>Variables</i>	<i>Description</i>
Organizers	Business school, University, private college, consortium, start-up school, NGO
Target groups	Students (all or enrolled in a specific program, school or university), under-graduate or post-graduate students, entrepreneurs, intrapreneurs, business managers, high-potentials, start-ups.
Course format	Academic and theoretical courses, short courses, online courses, internships, accelerator programs, summer schools, executive course
Core topics	Financing Business, Entrepreneurial Business Management, Business Idea Development, Project Development, Starting and financing a new company, Grow your start-up, Start a start-up
Time	5 days - 1 year
Price	100 - 33,000 euros

We further investigated the field of courses/schools that specifically combine the CREA topics of Entrepreneurship, Creativity and ICT. The following table lists our findings.

I= innovation, C= creativity, E= entrepreneurship, M=management

<i>Variables</i>	<i>Description</i>
Organizers	university, school, business school



Target groups	(graduate of undergraduate) students
Format	Msc, Bsc
Core topics	ICE program, E and M in C industries, creative entrepreneurship, I and C in education, I and C in organizations, creative technologies

Closing in on summer schools focused on entrepreneurship, there is an abundance of offerings across the globe. For example, searching for 'entrepreneurship summer school' or 'entrepreneurship summer academy' in Google, 160,000 hits are returned for 2014 alone. These summer schools have different scope, objectives, structure and format, and are addressed to audiences with different needs and requirements.

Focusing on entrepreneurship summer schools in Europe, we browsed the platform www.summerschoolsineurope.eu. For the year 2015, there are 38 Summer Schools listed on it, as shown in the following table.

Topics	Count
Entrepreneurship	21
Creativity and entrepreneurship	1
Innovation and entrepreneurship	2
Entrepreneurship, Creativity and ICT	1 (CREA)
Entrepreneurship, Creativity and Engineering	1
Other topics in combination with Entrepreneurship: Intercultural, Society, Social, International/global, Sustainable, Intrapreneurship	12

CREA challenge #5:

to ensure that development and implementation of CREA summer academies' activities account for the unique characteristics and principles of the CREA project: a) the network concept of interlinked experts and organizations; b) the focus on the intersection of Entrepreneurship, Creativity and ICT

4. The CREA Educational Model (CEM)

Based on the framework for entrepreneurship education (Fayolle and Gailly, 2008) which we analyzed in section 1, and as a first step towards addressing the CREA challenges described throughout the previous sections, we developed the CREA Educational Model (CEM), which is comprised of four pillars (Figure 4.1).



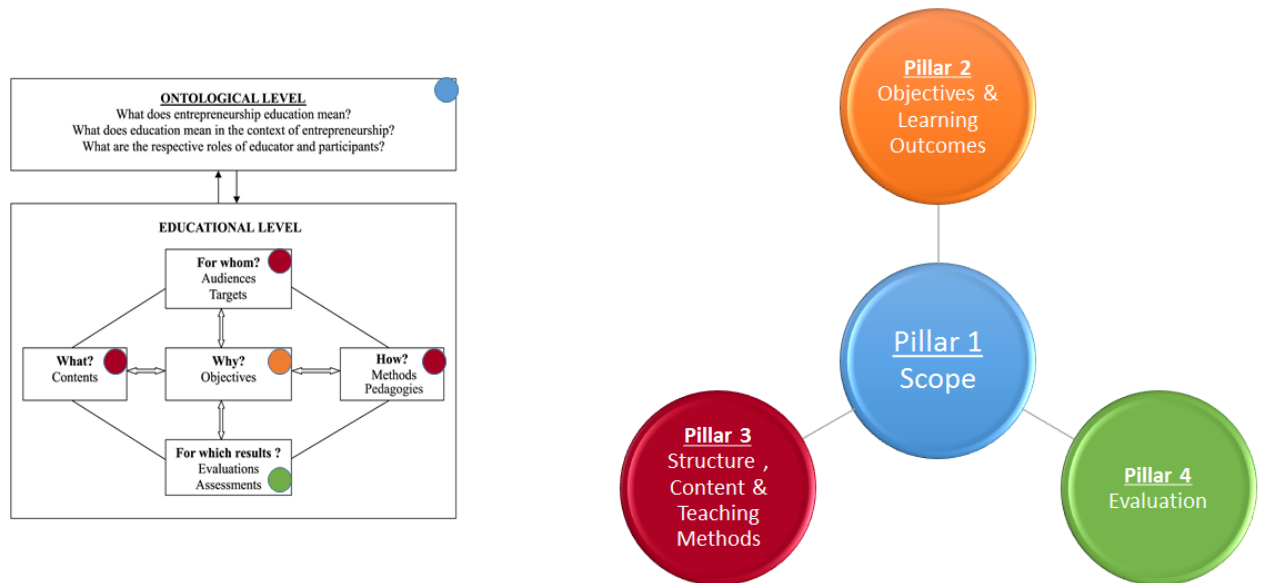


Figure 4.1. The CREA Educational Model (CEM)

4.1 Pillar 1 - Scope

The first pillar directly addresses CREA Challenges #2, #3 and #5.

The first element of this pillar is our chosen definition of entrepreneurship education: it is knowledge transfer regarding how, by whom, and with what effects, ICT- and creativity-driven business opportunities to create future goods and services are discovered, evaluated and exploited.

Based on this definition, each CREA summer school may be set around one or more of the following (indicative) goals:

- 1) Increase the entrepreneurial attitudes/culture of participants
- 2) Instill/enhance entrepreneurial competences and skills
- 3) Actively pursue new business formation and/or development
- 4) Raise awareness about and/or enhance societal aspects of entrepreneurship (e.g. help local entrepreneurs grow or promote social entrepreneurship ventures)
- 5) Other (specific) objectives.

Each CREA summer school should then be free to define for each entrepreneurship teaching course specific philosophical positions concerning key conceptions about teaching, the role of teacher and the role of student participants.



4.2 Pillar 2 – Objectives & Learning Outcomes

The second pillar directly addresses CREA Challenges #2 and #4.

Objectives may be set around one or more of the following guiding principles:

- *Teach about entrepreneurship:* Understand entrepreneurship as a phenomenon. In this case, the primary objective of a CREA summer school is to inform participants about entrepreneurship as a historical phenomenon and introduce them to new ways of conceiving, thinking, and understanding creativity, innovation, and entrepreneurship in various industrial and societal contexts.
- *Teach in entrepreneurship:* One becomes more entrepreneurial in what she already does. The courses designed based on this objective focus primarily on the issue of intrapreneurship. This is a form of corporate venturing that normally entails risk taking, innovation-led behaviors similar to those exhibited by individuals in traditional entrepreneurial settings. Intrapreneurship, therefore, focuses on the behavior of company executives and employees who enjoy the motivation, tolerance, and ability to behave like entrepreneurs expecting some form of reward while working within an organization. Although we do not preclude such cases from the objectives of a CREA summer school program, it would be fair to highlight that such an approach is often cultivated through company specific training and development schemes.
- *Teach for entrepreneurship:* Create a fresh league of enthusiastic and highly skilled entrepreneurs. The main objective of these Summer Schools is to stimulate entrepreneurial processes and to provide participants with the right “arsenal” to start a business. Such programs are expected to be particularly popular in hi-tech, academic and research environments, where young graduates need assistance to fine tune their research, to identify and exploit early business opportunities and get assistance in the form of personal training and coaching by business professionals.

Based on the Objectives, each CREA summer school should then be free to adopt second-order objectives, including:

- Target group or audience: Who are the primary candidates for participation in the Summer School? Who should be targeted by the CREA summer academies?
- Duration of the Summer School
- ECTS credits awarded
- Participation fees and special arrangements (if any) for particular categories of applicants (e.g. scholarships, waive of fees, early booking reductions, etc.)



Learning Outcomes for the CREA summer schools are defined¹ as “statements of what a learner knows, understands and is able to do upon completion of a learning process”. These statements are defined in terms of knowledge, skills and competences.

Knowledge refers to the outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of study or work. Relevant CREA activities may focus on the following:

- Participants acquire basic knowledge of business venturing, marketing and financial strategies necessary to start a company.
- Participants acquire basic knowledge of creative and innovation processes.
- Participants develop a basic understanding of technology trends in various contexts.

Skills refer to the ability to apply knowledge and use know-how to complete tasks and solve problems. Relevant CREA activities may focus on the following:

- Participants are able to apply entrepreneurial and design thinking in business development processes.
- Participants are able to use technology to address (societal) issues or propose new solutions to known problems

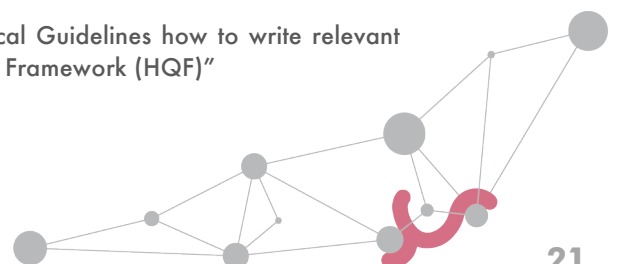
Competences refer to the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and/or personal development. Relevant CREA activities may focus on the following:

- Participants are able to identify and evaluate opportunities and risks.
- Participants are able to collaborate within an interdisciplinary team.
- Participants can demonstrate a capacity to turn ideas into action.
- Participants have problem-solving skills.
- Participants have the capacity to communicate concepts in a verbal and visual way to different audiences.

4.3 Pillar 3 – Structure, Content & Teaching Methods

The third pillar directly addresses CREA Challenge #4.

¹ Definitions in this part follow Mile Dželalića (2014) “Practical Guidelines how to write relevant and effective Learning Outcomes in the Hellenic Qualifications Framework (HQF)”



It refers to the thematic priority areas of a CREA summer school. Typical topics may then include creativity and idea formation, design thinking, lean start up, business models, business planning, business model canvas, pitching techniques, etc.

Teaching methods refer to the didactic tools and methods used, including lectures, class discussions, group exercises, video vignettes, workshops, team working sessions, invited talks, etc.

4.4 Pillar 4 – Evaluation

The fourth pillar directly addresses CREA Challenges #2 and #4.

It refers to criteria that need to be set for assessing the whole experience of a CREA summer school, such as:

- Relevance - compliance of CREA activities with the needs, requirements, and priorities of the majority of participants
- Effectiveness - the degree to which CREA activities achieved their scope and objectives (as stated in the description of the corresponding CREA summer school, but also in the eyes of participants)
- Impact - the positive (or negative) externalities of CREA activities upon an individual, a business, or a society at large
- Sustainability - the prospect of future self-sustainment of a CREA summer school, after its funding period expires.

5. Cataloguing and comparing best practices

Based on the CREA Educational Model (CEM), and accounting for the CREA Challenges, we initiated activities for cataloguing and comparing best practices on teaching entrepreneurship.

5.1 Methodology for collecting and selecting best practices

The collection of information proceeded in 3 rounds. In Round I, the following principles were applied:

- Focus on Summer School Programmes offered in English, in order to compare against international competition.
- The year of reference is 2015.
- Key words used in google search included: "entrepreneurship summer schools", "entrepreneurship summer programmes", "entrepreneurship summer camp", "entrepreneurial venturing summer programme".



As a result, we identified over 50 programmes offered in Europe and in the US with titles relevant to Entrepreneurship. Many of them were also found to be advertised on the web page <http://www.summerschoolsineurope.eu/>.

Given the scope and priorities set by the CREA Project, it was envisaged that the Best Practice cases could only be searched within those Programmes that have been classified as Teach for entrepreneurship Programmes.

Therefore, in Round II, the initial results were further refined according to the following principles:

- Programmes classified as Teach for entrepreneurship were selected.
- Given the lack of direct assessments from the actual stakeholders regarding the Summer School Programmes identified in Round I, a second best solution was proposed, according to which the 'good examples' were more likely to:
 - Be organized and/or hosted by prestigious or highly reputable Institution(s),
 - Include the involvement and blending of multiple stakeholders from the academic and/or corporate world.
 - Have a strong past record (number of times ran in the past) and are more likely to replicate their model at a global scale,
 - Follow the career paths of their graduates and alumni network.

A list of 11 Entrepreneurship Summer Schools was the result of this round.

In Round III, CREA consortium partners could add (local and international) good examples of Entrepreneurship Summer Schools and Summer Schools in languages other than English. Following our CEM model, we surveyed the CREA partners in order to gain a broad overview of the knowledge and expertise of the partners, and gain input on the way this knowledge and expertise can be effectively reflected in the Summer Academies that are offered through CREA.

The survey questionnaires are attached to this report, and they generally consisted of the following line of questioning:

Survey on prior knowledge and expertise

- Experience of the CREA Partners with organization of Summer Academies in general
- Experience of the CREA Partners with Summer Academies on Creativity, Technology and/or Entrepreneurship
- Examples of Summer Academies on Creativity, Technology and/or Entrepreneurship in the region of the CREA Partners



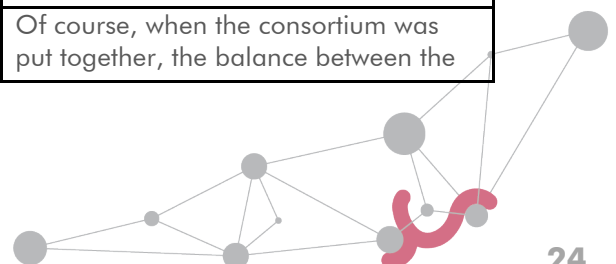
- Tools and didactics used by the CREA Partners in previous/ existing Summer Academies
- Topics of existing Summer Academies on Creativity, Technology and/or Entrepreneurship including the educational level (BA/MA) on which they are taught within the Summer Academy
- Involvement of regional partners and professional field in previous and/or existing Summer Academies
- Experience with student selection and enrollment
- Experience with mentoring and coaching, both offline and online
- Overview of faculty and knowledge and expertise within the university/ institution and knowledge and expertise that will be borrowed from other (regional) partners

Survey on design of summer academies

- Topics and 'umbrella' of Partner's Summer Academy
- Theme(s) of Partner's Summer Academy
- Learning outcomes of Partner's Summer Academy
- Macro structure of the Summer Academy
- Learning and teaching strategies & tools
- Summer Academy structure and program
- Role of faculty involved
- Guest teachers coming in from the CREA Network
- Structure and content of prototyping phase
- Input on Business Contest

Survey results are shown in the following table:

SURVEY TOPIC	GENERAL RESULTS	REMARKS
Previous experience with Summer Academies	Almost all partners have previous or current experience with organizing Summer Academies, either in the form of one or more Summer Academy programs at an educational institute (university) or through start-up or incubation programs. Through these experiences and beyond, all partners also have a broad experience with student selection and enrollment.	
Knowledge and expertise with	The knowledge and expertise of the CREA Partners is well	Of course, when the consortium was put together, the balance between the



Creativity, Technology and/or Entrepreneurship	balanced throughout the triangle of Creativity, Technology and Entrepreneurship.	different areas of knowledge and expertise was taken into account. Already, partners have a good idea on exchange of knowledge and expertise between them and on teachers' exchange for the Summer Academies
Tools and didactics	Tools and didactics used by the partners are generally overlapping. Tools like the Business Model Canvas are used by all of the partners. On the level of didactics, there are some differences in the naming of certain types of didactics.	The Glossary (also part of WP3) is an important tool to make sure the names of the didactic forms are tuned throughout the Network. Also, in the General Didactic Framework, we already put in a list of didactic forms with an explanation.
Topics and 'umbrella'	Topics that partners deem important for the Summer Academies are generally overlapping. The general way of working (having students work in teams on a business idea, which will be supported by lectures and interactive sessions) is agreed upon by every partner.	
Themes	Themes differ from partner to partner, and reflect their area of expertise. Some partners chose not to focus on a specific theme.	
Mentoring and coaching	Through their experiences with previous and current Summer Academies, or through other educational activities, all partners have a broad experience with mentoring and coaching. There is less experience throughout the Network when it comes to online mentoring.	Research on, and gaining experiences with online mentoring is a part of the CREA Project, so all partners are expecting to gain more knowledge and experience through the project, and will invest in that as well.
Design of Summer Academies	The input for the Summer Academy programs, learning outcomes, type of didactics and topics that were suggested by the partners to design their Summer Academy, for the large part matched really well to the overall framework.	Based on all this input, the General Didactic Framework was put together. After all Summer Academy programs were put together, all CREA Partners received additional input from HKU, based on the General Didactic Framework to improve their program and make sure all programs fit the shared approach and Framework.



The combined list from previous steps was then refined according to the following principles:

- The **Place on the entrepreneurial ladder** (as defined in section 2) is an indication of which stage of entrepreneurship is being stimulated. The entrepreneurial ladder, we use here, consists of the following steps:
 1. never considered starting a business;
 2. thinking about starting a business;
 3. taking steps to start a business;
 4. running a young business (less than 3 years);
 5. running a mature business (more than 3 years).
- The **Scope** (as per our CEM model) should be:
 - 'Instill/enhance entrepreneurial competences and skills'
 - 'Actively pursue new business formation and/or development'

Overall, looking at the objective of CREA to stimulate the early stages of entrepreneurship, Summer Schools were selected that Teach for entrepreneurship, that aimed at the first steps of the ladder (a,b,c), and include in their objectives the second and third Scope of our CEM model.

The final result is a list of 15 Summer Schools on Entrepreneurship (see Table 5.1). This list, in turn, is used for the determination of tools and methodologies that good examples of Summer Schools use.

Table 5.1: A selection of good examples of Entrepreneurship Summer Schools

	Country	Organizers	Title
1	Germany	University of Business Leadership	Entrepreneurship in a dynamic world
2	Germany	Technische Universität Berlin	Startup Crash Course:from idea to reality
3	Germany	Global Entrepreneurship Summer School	Social Entrepreneurship
4	Austria	INNES	How to start a startup in two weeks
5	Austria	INNES	Creatvity and Entrepreneurship in Engineering
6	France	European Innovation Academy	European Innovation Academy
7	Netherlands	Utrecht University	Business Innovation and Lean Launch Pad
8	UK	London Business School	The entrepreneurship Summer School
9	UK	Judge Business School, University of Cambridge	IGNITE



10	UK	Imperial College London Business School	The Entrepreneurial Smart Camp
11	Italy	MIP Business School of Politecnico di Milan	Start-up Program
12	US	Mind the Bridge Foundation	Mind the Bridge Start Up program
13	US	Stanford Graduate School of Business	Stanford Ignite - Full time
14	Different locations in EU	Wilfried Martins Centre for European Studies	The Entrepreneurship School
15	Different locations in EU	EIT Digital	EIT Digital Summer School 8 different themes

Table 5.2 provides details on the characteristics of each one of the 15 good examples, in terms of our overall selection criteria.

Table 5.2: Analysis of selected 'good examples'.

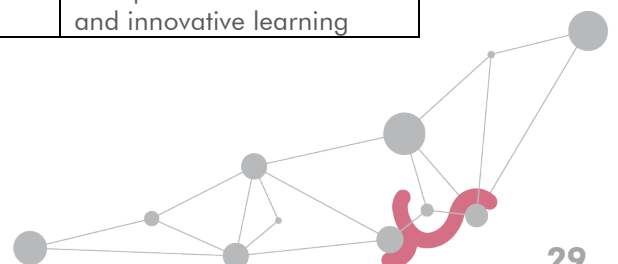
No	Title	Scope	Teach for	Entrepreneurial ladder
1	Entrepreneurship in a dynamic world	1 2 4 4: case studies on services and technologies related to environment friendly mobility	develop your business plan	b to c You always wanted to develop your own business Final: develop your business plan
2	Startup Crash Course: from idea to reality	1 2 3	be able to form a business plan; * know which steps to undertake in order to launch a business; *be aware of entrepreneurial dynamics	b,c *anyone who wants to launch a startup and has an idea already *to decide whether he/she would like to become involved in startup scene Final: scheduling steps and come in contact with incubator
3	Social Entrepreneurship	1 3 4 sustainable business ideas youth	*develop ideas that have a self-sustaining, profitable business model. *develop their own sustainable business ideas	b c final: business plan and explain their project to a selected audience of investors, entrepreneurs and educators



		unemploy ment		
4	How to start a startup in two weeks	1 2 3	*develop and refine a business model for a specific technology *strong understanding of what it takes to enter the startup scene. *detailed knowledge of how to turn his or her business ideas into reality	b c have an idea for a start-up but don't know how to start Final: detailed knowledge of how to turn a business ideas into reality. pitch and presentation on the final day of class to the Austrian startup community
5	Creativity and Entrepreneurship in Engineering	1 2	*develop an idea into a promising opportunity *generate, evaluate and implement a novel business idea thereby gaining valuable entrepreneurial skills.	b c generate, evaluate and implement a novel business No business plan. Final: Pitch new venture ideas
6	European Innovation Academy	2 3	* launch new IT innovations to the market *experiential learning of startup life	b, c future entrepreneurs *Final: business model, the application prototype and the VC pitch
7	Business Innovation and Lean Launch Pad	1 2	*the innovation skills to re-invent the business / the skills that are required to start your own innovative new business *to develop the mindset, reflexes, agility and resilience * learning how to turn a great idea into a great company.	a, b, c *your experiences on this programme will help you decide whether a career as an entrepreneur is right for you. *explore a business opportunity in a practical format. *Final: presentations to panels of investors and successful entrepreneurs accustomed to assessing entrepreneurial opportunities
8	The entrepreneurship Summer School	2	aims to help participants succeed as entrepreneurs by giving them the skills they need to choose which business opportunities to pursue and how to develop those ideas into workable businesses.	a, b, c *your experiences on this programme will help you decide whether a career as an entrepreneur is right for you. *explore a business opportunity in a practical format. *Final: presentations to panels of investors and successful entrepreneurs accustomed to assessing entrepreneurial opportunities
9	IGNITE	1 2 3	the tools, contacts and	b, c , d



			confidence to transform your idea into a successful business project or venture. help you to assess and validate the commercial feasibility of your business plan and better define its potential for success.	for those who already have a business idea or early stage venture *Previous participants include entrepreneurs who have been in business for 1-3 years,
10	The Entrepreneurial Smart Camp	1 2	to build a road-map guiding the way for aspiring entrepreneurs *to develop entrepreneurship skills – the ability to recognize, pursue and exploit opportunities regardless of the resources which they currently control.	b, c *fine-tune their early business concepts *communicating the hardships of being an entrepreneur * for aspiring entrepreneurs and making them more resilient towards failure.
11	Start-up Program	1 2 3	* strengthen the entrepreneurial skills of the participants *share experiences and stories entrepreneurial particularly significant in the Italian	b, c * concretely support the participants in the development of their business plan and in finding the necessary financial resources
12	Mind the Bridge Start Up program	1 2 3	learn core coursework and entrepreneurial skills, attend networking events, and visit Silicon Valley icons	c d At the end of the program, participants will be required to effectively communicate their value proposition orally and in writing
13	Stanford Ignite - Full time	1 2	provides the business fundamentals necessary to succeed at any entrepreneurial or intrapreneurial venture. learn business skills as they gain experience commercializing a new venture in an educational environment	b, c Venture projects are not expected to be developed to the point of securing funding at the conclusion of the program.
14	The Entrepreneurship School	1 2 3	allow young entrepreneurs to network and learn from the best entrepreneurs	b, c Develop your entrepreneurial idea and present it to potential partners and investors. aims to bridge the gap between entrepreneurial education and innovative learning



15	EIT Digital Summer School - 8 different themes	2 4 Themes: Urban Life & Mobility / smart energy systems /health and wellbeing	we want to inspire them to consider technology and business together, to teach advanced topics related to algorithms and platforms for Big Data as well as to enhance the innovation and entrepreneurial awareness	a, b, c work on a business case and develop a project proposal on a ICT application perform market studies, analyze competitors, and explore social and usability aspects of the proposed project. Perform market studies, analyze competitors, and explore social and usability aspects of the proposed project.
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5.2. Comparing best practices

The questions that we focus on in this analysis are:

- How to stimulate entrepreneurship in an early stage of 'becoming an entrepreneur'?
- Where to put the emphasis and through which tools and methods?
- In which way is CREA an addition to the existing field of entrepreneurship education and stimulation?

In line with these questions, the pillars of our CEM model were narrowed down to make the collection of data feasible.

Hence, our comparative framework is formed, as shown in figure 5.1, taking into account the first three pillars of our CEM model, and the selection criteria that led to the list of 15 good examples (discussed earlier in this document).

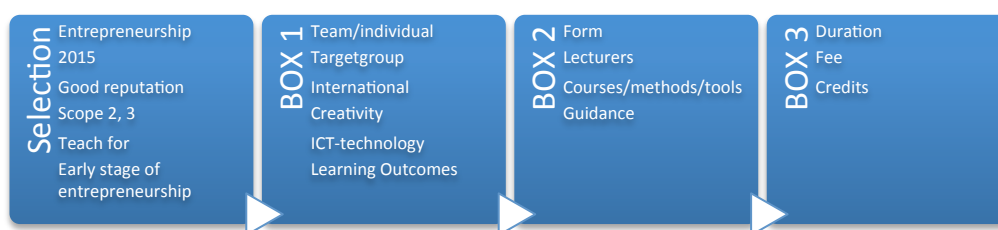


Figure 5.1.: A practical framework for analysing Entrepreneurship Summer School Programmes



The rest of this section provides our findings (as a series of tables) of applying the comparative framework on the selected summer schools. Wherever applicable, a table is accompanied by key findings/take-away lessons.

Table 5.3: Box 1 comparison - team/individual, target groups, international.

No	Title	Team/individual	Target groups	International
1	Entrepreneurship in a dynamic world	working in groups	international students	intercultural management and communication
2	Startup Crash Course: from idea to reality		anyone	intercultural training in career week
3	Social Entrepreneurship	build teams	outstanding students from all over the world be enrolled in any university and be aged between 18 – 27 years -	international and interdisciplinary teams
4	How to start a startup in two weeks		students, graduates (20-25 participants)	international network
5	Creativity and Entrepreneurship in Engineering	students work organized in teams	students (as future engineers, entrepreneurs, managers and innovators)	global and intercultural context
6	European Innovation Academy	possible to build your own team prior to the event on the virtual EIA platform	anyone	global, multicultural interdisciplinary teams
7	Business Innovation and Lean Launch Pad	second part work in teams	students from all levels (Bachelor and Master)	international
8	The entrepreneurship Summer School	individual	individuals who want to research the feasibility of a new business idea. *people who are thinking of starting a new venture within their organization. *those who are trying to decide if they want to pursue the entrepreneurial life.	international



9	IGNITE	teamwork	*researchers and managers from established organizations with business ideas *Students, graduates or academics considering your own venture. *Directors of existing young businesses that are seeking to commercialize a new product or service.	International
10	The Entrepreneurial Smart Camp	working in groups	advanced students and equivalent to a final year undergraduate course	working with peers from across the globe
11	Start-up Program	team work on business ideas of the participants	start-upper	
12	Mind the Bridge Start Up program	individual and teams *faculty will organize the group into startup teams.	pre-revenue start-ups + more mature businesses	*participants from 15 countries *International marketing & research
13	Stanford Ignite - Full time	team venture projects work in teams of five or six	for working professionals and graduate students. If you have an MBA, graduate degree in management, and/or extensive managerial training, you are not eligible to apply.	
14	The Entrepreneurship School	work in teams	young and motivated people	international
15	EIT Digital Summer School - 8 different themes	most time will be spent on group work	priority is given to students of the Master School.	

Key findings:

- Almost all programmes are **team-oriented**, with an international group of student participants. However, only two of them pay attention to cross-cultural competencies by giving courses on Intercultural Management, Intercultural Communication or by having an intercultural training.
- **Applications for all programs are accepted from individual participants.** One program makes it possible for students to build their own team prior to the event on a virtual platform.
- Almost **half of the Summer Schools is for students only.** The rest have a much broader scope for applicants.



Table 5.4: Box 1 comparisons - Creativity, ICT or technology

No	Title	Creativity	ICT or technology
1	Entrepreneurship in a dynamic world	an innovative, creative and cultural workshop. From creative ideas to a marketable innovation.	Innovation & Technology
3	Social Entrepreneurship	brainstorming about innovative ideas	
5	Creativity and Entrepreneurship in Engineering	understanding of the process of developing creative technology-based (engineering) ideas	combination of engineering/ business creativity/ design/ co-creation
6	European Innovation Academy	designers participate	IT innovations, Apps
7	Business Innovation and Lean Launch Pad	idea generation includes design thinking	
10	The Entrepreneurial Smart Camp	Empathic design (IDEO Human centered design)	
11	Start-up Program	creative thinking and creative behavior.	creative innovation
13	Stanford Ignite - Full time	Design Thinking	
15	EIT Digital Summer School - 8 different themes		our mission is to foster digital technology innovation and entrepreneurial talent for economic growth and quality of life in Europe.

Key findings:

- Four entrepreneurship Summer Schools combine creativity and ICT or technology. Only one combines Entrepreneurship, ICT and Creativity, namely the European Innovation Academy. During the latter, Creativity refers to participation of designers, an Art Hackathon and 3D printing competition.
- Only the Summer School on "Creativity and Entrepreneurship in Engineering" includes in its program 'Understand the links among entrepreneurship, creativity, innovation and value creation'.



Table 5.5: The Creativity aspect of the select summer schools

No	Title	Creativity topics	Methods and tools
1	Entrepreneurship in a dynamic world	an innovative, creative and cultural workshop. *from creative ideas to a marketable innovation.	introduction in Human-Centered Design
3	Social Entrepreneurship	Brainstorming about innovative ideas	
5	Creativity and Entrepreneurship in Engineering	understanding the process of developing creative technology-based (engineering) ideas	apply different creativity and creative problem solving techniques *What is creativity and why is it important? *Teamwork & creativity: whole brain approach *creative problem solving (CPS) process (complete 5 steps) *describe some of the underlying principles of creativity from psychology and other disciplines.
6	European Innovation Academy	designers participate	Art Hackathon, 3D Printing Competition,
7	Business Innovation and Lean Launch Pad	idea generation / design thinking	Napkin Sketches & Ad Libs
10	The Entrepreneurial Smart Camp	Empathic design (IDEO Human centered design)	
11	Start-up Program	creative thinking and creative behavior.	
13	Stanford Ignite - Full time	Design Thinking	

Table 5.6: The ICT aspect of the select summer schools

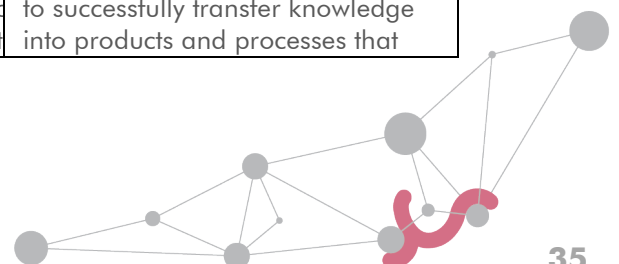
No	Title	ICT or technology	Topics, methods, tools
1	Entrepreneurship in a dynamic world	Innovation & Technology	*Innovation & Technology *Megatrends Hype Cycle *modern tools to develop future technologies for the market vision as well as use known trends *Innovation Management *Technology Management
5	Creativity and Entrepreneurship in Engineering	combination of engineering/ business creativity/ design/ co-creation	Innovative thinking *Know how to foster creative and innovative groups. *Generate and develop innovative new venture or product ideas *Course on 'Keywords of knowledge society: globalization, innovation, sustainability *Science, technology and engineering-interdependences and differences *How engineering changed the world
6	European Innovation	IT innovations , Apps	IT Hackathon *Invent your App (Paper prototyping) *UI validation by CDO *develop



	Academy		your app *launch App
11	Start-up Program	Creative innovation	
15	EIT Digital Summer School - 8 different themes	our mission is to foster digital technology innovation and entrepreneurial talent for economic growth and quality of life in Europe. *big part of programme is technical -ICT	be exposed to new developments, that have a strong Innovation & Entrepreneurship component *different Innovation themes that are ICT centered. *technical realization aspects

Table 5.7: Box 1 comparisons - intended learning outcomes

No	Title	Knowledge	Skills/Competencies
1	Entrepreneurship in a dynamic world		Communication and Presentation, Business Idea Development and Intercultural Management.
2	Startup Crash Course: from idea to reality	be aware of entrepreneurial dynamics and startup scene structure / knowledge of how to go about launching a startup	be able to form a business plan; know which steps to undertake in order to launch a business
3	Social Entrepreneurship	learn about entrepreneurship	develop their own sustainable business ideas and build a long-lasting network
4	How to start a startup in two weeks	detailed knowledge of how to turn his or her business ideas into reality	Skills to turn an idea into reality
5	Creativity and Entrepreneurship in Engineering	an understanding of the process of developing creative technology-based (engineering) ideas in global and intercultural context	valuable entrepreneurial skill generate, evaluate and implement a novel business idea
6	European Innovation Academy		launch new IT innovations to the market.
7	Business Innovation and Lean Launch Pad	learn methods to re-invent business learn how to gain deep empathy for a customer segment and understanding of uncovering customer problems	the skills that are required to start your own innovative new business. to develop the mindset, reflexes, agility and resilience
8	The entrepreneurship Summer School	insights you need to research your target market and industry know what it takes to turn your idea into a viable business.	skills you need to research your target market and industry develop the skills necessary to assess and shape an opportunity
9	IGNITE	the tools to transform your idea into a successful business project a venture. contacts and confidence	to prove what does work and how to successfully transfer knowledge into products and processes that



		transform your idea into a successful business project or venture	benefit society.
10	The Entrepreneurial Smart Camp	a road-map guiding the way for aspiring entrepreneurs	to develop entrepreneurship skills – the ability to recognize, pursue and exploit opportunities regardless of the resources which they currently control.
11	Start-up Program	entrepreneurial experiences and stories particularly significant in Italy	strengthen the entrepreneurial skills of the participants
12	Mind the Bridge Start Up program	learn core coursework strong foundation in the theory of Lean Startup methodology	entrepreneurial skills skills to communicate your business model.
13	Stanford Ignite - Full time	provides the business fundamentals necessary to succeed at any entrepreneurial venture	general entrepreneurial skills
14	The Entrepreneurship School		to refine their business plan and develop a go-to-market strategy
15	EIT Digital Summer School - 8 different themes		general entrepreneurial skills

Table 5.8: Box 2 comparisons - form and lecturers

No	Title	Form	lecturers
1	Entrepreneurship in a dynamic world	interactive workshops	
2	Startup Crash Course: from idea to reality	lectures, case studies, interaction with real players, three main parts: the structured approach, communication and real-time experiment. the structured approach will be given through lectures and serve as a compass.	academic, high-placed people of the field of entrepreneurship or bootcamps.
3	Social Entrepreneurship	a set of lectures and assignments	renowned entrepreneurs as well as by experts from science, industry and politics
4	How to start a startup in two weeks	each course session will be supplemented by case studies based on successful startups that have passed through the INITS incubator a field trip to INITS, where they will have the opportunity to interact with mentors, experts, and entrepreneurs	the lecturers for the summer sessions are members of higher educational institutions, international companies or governmental institutions.



		from current startups	
5	Creativity and Entrepreneurship in Engineering	lectures, project work, team work, team building, excursions	the lecturers for the summer sessions are members of higher educational institutions, international companies or governmental institutions.
6	European Innovation Academy	50+ unique sessions such as Art Hackathon, 3D Printing Competition, IT Hackathon, Sleep and Food Hacking, Venture Capital Investment Competition, Growth Hacking *uses EIA platform.	educated by 100 industry leaders and professors speakers, mentors and venture capitalists from 65 different nationalities
7	Business Innovation and Lean Launch Pad	a combination of experiential learning (testing assumptions in front of real customers) *a flipped classroom in which you bring your outside-the-building back into the classroom *Visits to diverse incubators, accelerators and corporate enterprise programs	lecturers are experienced entrepreneurs and start-up coaches
8	The entrepreneurship Summer School	one week of intensive study followed by several weeks of field research *explore a business opportunity in a practical format *case discussion or other exercise; solo (or in small teams), as you work to assess and shape your own opportunity. *highly experiential programme .	numerous panelists and guest speakers
9	IGNITE	a blend of practical teaching sessions, expert clinics, mentor sessions and experienced advice and support from leading entrepreneurs and innovators, *lectures, workshops keynote sessions, one-to-one clinics, group clinics *there is a set theme for each day	each day starts with an inspirational keynote presentation delivered by a highly successful entrepreneur or innovator.
10	The Entrepreneurial Smart Camp	a mix of face-to-face lectures, tutorials/ guest lectures and facilitated group discussions *practical and academic classes *an interactive online teaching and learning hub – the Summer School Hub	guest lectures from sector experts and receive feedback on their ideas from industry leaders.
11	Start-up Program		
12	Mind the Bridge Start Up program	workshop run by professionals, mentoring and weekly presentation critique. core coursework and entrepreneurial skills, attend networking events, and visit Silicon Valley icons	



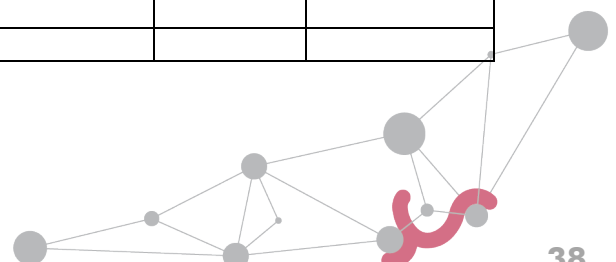
13	Stanford Ignite - Full time	a combination of lectures, case evaluations, small group discussions, workshops, panels, and team projects. A significant component of the program is the network that is developed with entrepreneurs, executives, and venture capitalists	renowned faculty that teach the Stanford MBA Program
14	The Entrepreneurship School	presentation from successful entrepreneurs on different subjects *bridge the gap between entrepreneurial education and innovative learning	first school without professors, only successful entrepreneurs
15	EIT Digital Summer School - 8 different themes	a learning-by-doing approach. *a business plan development project and thematic presentations, company visits	frontal lectures held by the top experts with worldwide reputation from academic world and industry.

Key findings:

- Almost all programs are a combination of some of the following components: **transfer knowledge, innovative learning, experiential learning, learning-by-doing, field trips.**
- Two of them use a digital platform to stimulate interactive online learning and share knowledge.
- The lecturers are experts from the academic world, from the industry or from the start-up world. Half of the Summer Schools include academic experts in the program. The other half uses only (successful) entrepreneurs and experts from the start-up field or industry.
- A lot of the Summer Schools introduce the students to the start-up community or entrepreneurs. Half of the Summer Schools introduce their students to incubators or investors by letting them pitch their ideas in the end or by using incubators or VC's as mentors.

Table 5.9: Box 2 comparisons - Entrepreneurship education

No	Title	Business Modelling	Business idea development	Management	Finance	Marketing
1	Entrepreneurship in a dynamic world		x	x	x	x
2	Startup Crash Course: from idea to reality	x				
3	Social					



	Entrepreneurship					
4	How to start a startup in two weeks	x	x		x	x
5	Creativity and Entrepreneurship in Engineering	x	x			x
6	European Innovation Academy	x	x		x	x
7	Business Innovation and Lean Launch Pad	x	x			
8	The entrepreneurship Summer School	x	x			
9	IGNITE		x		x	x
10	The Entrepreneurial Smart Camp	?				
11	Start-up Program					
12	Mind the Bridge Start Up program	x	x		x	x
13	Stanford Ignite - Full time	x		x	x	x
14	The Entrepreneurship School	unknown				
15	EIT Digital Summer School - 8 different themes	x	x		x	x

Key findings:

- Most programs combine Business Modelling, Business Idea Development, Finance and Marketing. Since these Summer Schools focus on the early stage of 'becoming a start-up' only two include Management.
- Only three Summer Schools include parts that are especially aimed at developing soft skills, like:
 - leadership -'a good business case needs an excellent leader'.
 - building self-confidence;
 - develop the mindset, reflexes, agility and resilience an entrepreneur needs to search for certainty in a chaotic world;
 - tapping into other people's skillset.
- Three Summer Schools include courses that create more entrepreneurial awareness:



- Course on 'Why should you be interested in starting a start-up?';
- Aims to 'Develop students self-awareness about the suitability of entrepreneurship for them as individuals';
- Course on 'Philosophy of being an entrepreneur'.

Table 5.10: Box 2 comparisons - topics, tools and methods on Business Modelling, Business Idea Development and Management

	<i>Business Modelling</i>	<i>Business Idea Development</i>
Topics	Business Plan Business Model Analysis	analyze: industries, market and competitors validation: assumptions underpinning the business model. techniques of idea engineering market and customer studies explore social and usability aspects of business model
Methods Tools	Business Model Canvas Lean start-up Dynamic Business Modelling Pivoting Agile business design Value Maps Value preposition Business Story	Competitive Analysis Customer Development Product Market Fit Business Intelligence Customer Safari The Customer Wall

Key findings:

- The methods used by the majority of the selected summer schools are quite similar and they are centered around business model development.
- Only two of the Summer Schools are paying attention to 'the social and usability aspects of the business model' and ' how to successfully transfer knowledge into products and processes that benefit society'.



Table 5.11: Box 2 comparisons - topics, tools and methods on Finance and Marketing

	<i>Finance</i>	<i>Marketing</i>	<i>Other</i>
Topics	Entrepreneurial Finance Financing strategy Validation and resource allocation structure funding contracts and exit decisions Exit strategy Growing your business, Fundraising and being prepared for investors revenue stream and pricing Finance reporting and forecasting Accounting Cash flow Cost of capital	Marketing, PR, Sales in early phase start-up PR, Branding and social media Market research	IP issues - How to protect my idea? IP and legal stuff The building and testing of a series of minimal viable products
Methods Tools	Venture Capital Investment Competition Private sessions with accountants Accelerators (navigating the startup landscape)	Storytelling Sales Learning Curve Private session with marketing experts Marketing plan	meet start-ups field trips to startup centers Darwinator Pitch (attract collaborators)

Key findings:

- It seems that there is diversity in approach when looking at courses on Finance. Some include in the program the day-to-day finance, others look at growing the business, at fundraising, and even at exit strategy.
- Only two Summer Schools include **Intellectual Property** in their program. One Summer School mentions explicitly: "Marketing and PR and Sales and how these classic business fields are applied in an early phase start-up". One Summer School has advanced topics like 'Venture Capital Investment' and 'Growth Hacking'. One Summer School has added 'private sessions with accountants and marketing experts' without teaching the subject.



Table 5.12: Box 2 comparisons - Guidance

No	Title	Guidance
1	Entrepreneurship in a dynamic world	
2	Startup Crash Course: from idea to reality	
3	Social Entrepreneurship	each team will be accompanied by coaches who will provide feedback and assistance
4	How to start a startup in two weeks	feedback during coaching sessions
5	Creativity and Entrepreneurship in Engineering	Individual work supported by supervisor.
6	European Innovation Academy	
7	Business Innovation and Lean Launch Pad	
8	The entrepreneurship Summer School	we match each team with a mentor who helps you to think through your business idea, helps you overcome stumbling blocks and serves as a sounding board *mentor from the entrepreneurial community * open doors for you
9	IGNITE	surrounding you with the knowledge and experience of highly regarded industry mentors. The mentors work with each delegate, acting as a sounding board for ideas and providing specialist advice on practical issues.
10	The Entrepreneurial Smart Camp	venture coaches from academia and industry
11	Start-up Program	
12	Mind the Bridge Start Up program	yes
13	Stanford Ignite - Full time	guest speakers from leading companies become mentors and valuable resources for participants.
14	The Entrepreneurship School	
15	EIT Digital Summer School - 8 different themes	guidance of experienced business tutors and lecturers.

Key findings:

- Nine Summer Schools use mentors or coaches for (one or more of) the following purposes: feedback, sounding board, support, advice and to add resources and contacts. A part of the coaches are entrepreneurs and others are academics or lecturers.



Table 5.13: Box 3 comparisons - duration, fee and credits

No	Title	Duration	Fee	Credits
1	Entrepreneurship in a dynamic world	3 wk 120 hrs	2300-2500	10 ECTS
2	Startup Crash Course: from idea to reality	2,5 wk	1850	
3	Social Entrepreneurship	1,5 wk	119	
4	How to start a startup in two weeks	2 wk (40 hrs)	600-950	6
5	Creativity and Entrepreneurship in Engineering	2 wk (50 hrs)	800-1050	8
6	European Innovation Academy	3 wk	1799-1999	6
7	Business Innovation and Lean Launch Pad	5 wk	1415 incl accom	10
8	The entrepreneurship Summer School	1 wk + field research	free for internal 8400 ext.	
9	IGNITE	1 wk	1700	
10	The Entrepreneurial Smart Camp	3 wk	?	7,5
11	Start-up Program		?	
12	Mind the Bridge Start Up program	?	?	?
13	Stanford Ignite - Full time	4 wk	1300 intern. 13.000 ext.	
14	The Entrepreneurship School	1 wk	100-350	
15	EIT Digital Summer School - 8 different themes	2 wk	0	4

6. The CREA Didactic Framework (CDF)

In order to build a strong network of CREA Summer Academies around Europe, we engaged in the final step of our conceptual roadmap: operationalizing all previous steps through the development of a didactic framework, as shown in Figure 6.1



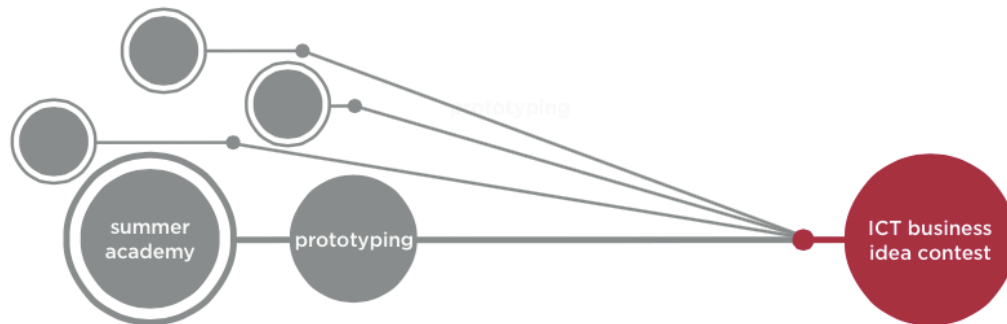


Figure 6.1. The CREA Didactic Framework (CDF)

The CDF is comprised of the following key components:

- **Summer Academy.** The student gets an insight of what is needed to be an entrepreneur and to found a start-up. At the end of the two-weeks programme, a qualified jury selects the two best business ideas emerging from each of the six national Summer Academies, which can then participate in the ICT Business Idea Contest.
- **Mentoring and Prototyping.** The student teams with the selected business ideas keep developing their idea in the following months. In doing so, they receive support through online mentoring. Between October and November the students are invited to a Rapid Prototyping Event to develop a first prototype of their idea.
- **ICT Business Idea Contest.** Finally, the selected students and their teams from each national Summer Academy can participate in the ICT Business Idea Contest and are given the opportunity to pitch their idea in front of possible investors. Winning participants have the chance to be introduced to incubators all over Europe.

6.1 Didactic strategy

Our CEM model provides the overall strategic direction. Based on that, a key choice for CREA academies has been that of practicing student-centered learning. The students as entrepreneurs, their processes and their plans are at the center of the CREA Summer Academy. Strong emphasis lies on the students' self-motivation, independence, curiosity, co-creativity, pro-activity, collaborative multidisciplinary



working and teamwork. CEM's flexibility allows CREA academies to leave room for students to learn and co-create on the basis of what they already know or are able to do, and to focus on the knowledge and skills needed – both locally and internationally, through the network of CREA.

The students' plans form the backbone of their development throughout a CREA academy. At the beginning and end of each one, students formulate and evaluate their individual goals and progress. As the students meet teachers, supervisors, experts and entrepreneurs from the professional field, the latter teach the necessary knowledge and skills as well as coach them while working on their plans. Lecturers introduce the students to relevant theories and practices. Experts, stakeholders and entrepreneurs are invited to the course for their specific expertise, which is offered through collaborative workshops, field visits, master classes and consultancy in relation to the students' specific project. Supervisors monitor and supervise the content and development process of the students' plans.

Students participate actively in co-creating the high quality of the CREA Summer Academy: not only by directing the knowledge and skills they learn through individual and team choices for specific approaches offered, but also by reflecting on their learning process and by supporting their colleague students through collegial consultancy and models for critical dialogue and feedback.

As Reflective Practitioners/Creative Entrepreneurs students engage in an ongoing process of development, experiment, evaluation, design and valorization. They make plans and reflect on their creative process. They learn how to use short-cycle to long-term cycle iterative design strategies in the context of their plans. They learn how to progress from development to realization and valorization.

This strategy has certain unique characteristics, stemming from the nature of the project. In CREA, academic and business perspectives come together through a European partnership among Universities, Incubators, Regional Development Agencies and Business Support Initiatives. Currently CREA offers six Summer Academies at leading Universities in Germany, Italy, the UK, the Netherlands, Slovenia and Estonia, and more partners are welcome to join in the future.

With the students' ideas as a starting point, the participants study and apply topics such as business modeling and planning, design thinking, market research, access to finance, pitching and crossover practices. In teams, the students then turn their idea into a project with a business model and present the idea to different successful entrepreneurs and international experts who provide feedback and advice. In doing so, the students further improve their project and prepare the set-up of their own company. If the project is selected as one of the best after the two-week course, the students can pitch their idea to a jury of international investors.

Each national Summer Academy follows this shared approach and combines it with its own specialty themes, subjects and learning outcomes, representative of its area



of expertise. This enables students to select the course that fits their interest and specific needs best, as well as offers knowledge and skills in which they want to learn to excel in order to develop their business idea further.

6.2 Innovation themes

To ensure that CREA supports the development of fresh venture ideas that have true potential to become a successful start-up business, we select ideas that meet the new and changing needs in society, and thus match one or more of our innovation themes:

new products and new markets

Ideas for new needs and new targets, such as: disadvantaged categories (kids, elderly, disabled, etc.) and new emerging markets (the new middle class of extra-European countries such as China), etc.

social innovation

Ideas for products or services which address social needs and specific issues, such as unemployment, social inclusion of certain groups of people (migrants, elderly etc.), gender issues, environmental issues etc.

service innovation

Ideas for new or improved services (commodities or public services), for new or improved ways of designing and producing services or for improved management processes within service organisations.

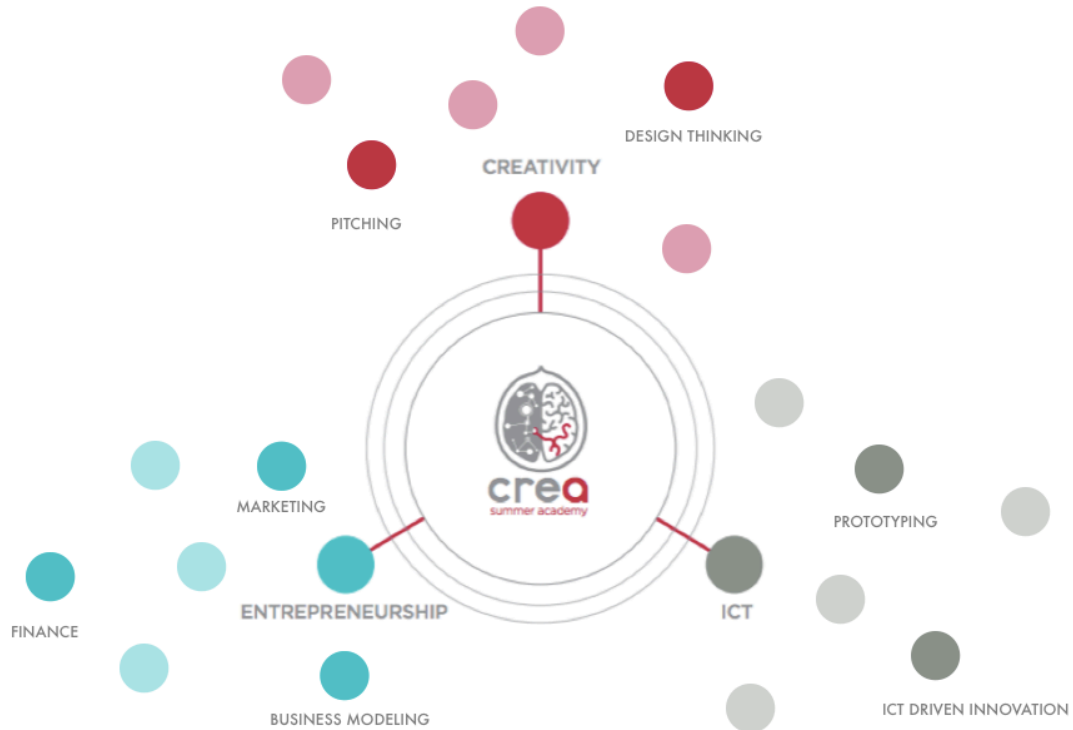
technology and meaning driven innovation

Ideas and applications in which the use of technologies create new business and product or service development opportunities for entrepreneurs from both traditional and creative sectors.

6.3 Course content

The course content that CREA offers consists of general subjects that are taught and applied in all courses, complemented in each Summer Academy with subjects that cover its specific expertise.





6.4 Learning outcomes

CREA has established shared learning outcomes for all Summer Academies. In addition, each university identifies special learning outcomes that relate to the expert theory and practices of their course.

knowledge and understanding

The student has basic knowledge of entrepreneurial, marketing and financial strategies necessary to start a company.

The student has basic knowledge of creative and innovation processes.

The student has a basic understanding of technology trends in various contexts.

cognitive skills

The student is able to apply entrepreneurial and design thinking in innovation and business development processes.

The student is able to connect the use of ICT and creativity in the solving of (societal) problems.



practical and professional skills

The student has the capacity to perform the role of designer/entrepreneur in a business development process critically and inventively.

The student is able to identify and evaluate opportunities and risks and adapt to occurring needs and challenges.

The student is able to perform on a professional level within an interdisciplinary team.

key- and transferable skills

The student demonstrates a specific creative signature in his/her ideas and plans.

The student has problem-solving skills and the capacity to turn ideas into action.

The student has the capacity to convincingly communicate concepts in a verbal and visual way to different audiences.

6.5 Syllabus

Practice-based approach: all theory should directly support the development of the business plan and put into practice through team work, mentoring and coaching, leading by example through field trips and expert feedback.

Two-weeks course

60 hours in total

Taking place in June, July, August, September

Structure:

Week 1: introduction, team building, initial idea and business plan development theory on business building blocks, theory on specialty subjects, team work and putting the knowledge and skills gained into practice

Week 2: further idea and business plan development, pitch training, closing with selection for prototyping phase, theory on pitching, team work, expert feedback and putting the knowledge and skills gained into practice.

Social events play a key networking role for the duration of the course.

After the Summer Academy: the two best teams from each national Summer Academies proceed to the ICT Business Idea Contest, part of which is prototyping their project through online mentoring.



6.6 Didactic inventory

Based on the General Didactic Framework, we also designed the so-called Specialty Framework (see Appendix 3). This Specialty Framework is an open format, which can be filled in by any (current or new) partner to the Network and serves as a checklist to make sure a CREA Summer Academy structure, learning goals, program, tools and didactics follow our CEM model and CDF framework.

After the Summer Academy programs of the current partners were put together, the programs were checked using this Specialty Framework. Based on that exercise, all CREA Partners received additional input from HKU to improve their program and make sure all programs fit the shared approach.

Specific predictive activities (as per our CEM model) may include:

LECTURES- teaching theory by lecturer: teacher or field expert

KEYNOTES- talks, lectures and/or discussions by a leading expert in the field

WORKSHOPS- co-collaborative, practice-based group sessions in which the theory is applied into practice, under the supervision of teachers and mentors

LABS- independent practice-based development of the idea in teams, with the stand-by support of mentors/coaches

TEAM WORKING SESSIONS- independent practice-based development of the idea (peer-to-peer support)

CONSULTANCY (INDIVIDUAL OR GROUP)- consultation sessions of the teams with teachers and/or experts from the field

GAME- interactive group/team-based sessions in the form of a game

MENTORING / COACHING- individual sessions in which the teams are coached on specific topics and questions by lecturers or field experts (also online)

BEST PRACTICES- leading examples from the working field

FIELD VISITS- visits to organisations, companies, start-ups or other relevant places outside of the summer academy, supporting the learning process in practice

PITCH AND PRESENTATIONS- ability to present your idea and its learning orally and visually to different target groups

Beyond predictive activities, CREA summer schools may engage in a range of creative activities.

Indeed, the founding teams of many new ventures start with limited resources (money, industry connections, networks, technology), do not have an organizational foundation to start with (brand, systems, facilities, staff), and face competitors with established business models that are costly to replicate. Instead of spending a lot of time analyzing the opportunity, determining resources and writing a business plan, entrepreneurs (often unknowingly) employ a creative approach, starting with what they know, who they know, what they can afford to lose and how to put existing



resources together. Many of our student participants, especially undergraduate students, have a similar starting point. Most schools do a quality job of teaching predictive logic through business planning and opportunity analysis in entrepreneurship coursework, but less often do we teach creative logic, which is often a better fit to the situations in which students are first exposed to entrepreneurship.

Creative Activity 1. A sample exercise (Noyes and Brush, 2015), that also addresses CREA Challenge #1, is about helping students appreciate the wider network of their social relationships for identifying potential stakeholders for the new venture. The principle behind this exercise is that social contacts can assist entrepreneurs in resource acquisition (information, talent, financing). Every entrepreneur has a unique social network (i.e., of friends, family, and professional contacts) that can be a competitive advantage when initiating a new venture.

A relevant exercise in a CREA academy may be the following:

1. Ask all students in the class to write down all the people they know who may be interested in joining or supporting a student's endeavor in the business world; e.g. undertake initial market research, help develop an initial prototype, or provide initial funds. Involvement may further range from joining as a business partner (high involvement) to providing critical feedback on an entrepreneurial opportunity and/or assisting with securing various resources (lower involvement).

Do alert the students to list every family, personal, and professional contact they know. Figuring out how or why each individual could join or support the new venture is not an issue at this stage.

2. Next, ask them to list the types of resources (e.g., information, technology, money) they might seek and find in their network of personal contacts. They should consider both their immediate personal contacts (direct ties) as well as "friends of friends" (indirect ties).
3. Next, ask them to consider who they would like to collaborate with (i.e., because of personal chemistry or intellectual admiration) and who may want to work with them? Whose thinking and opinion do they value?

To debrief the exercise, the instructor should pick four to five students to share their network inventories with the whole class.

Creative Activity 2. Another sample exercise (Noyes and Brush, 2015), which directly addresses CREA Challenge #2, is linked to the lean startup concept. Entrepreneurship students often immerse themselves in secondary research reports and fail to talk to a single potential customer to test their ideas.



In order to address that, the following activity may be undertaken in a CREA academy:

The challenge is to design and conduct three sequential market experiments (with funds of 10–100–500 euros) to better understand the needs of target customers. The first step is to design and execute a simple experiment requiring no more than 10 euros to test an idea or assumptions about an idea. What is a small creative investment, or type of untraditional market research, one might make to explore or test a specific concept?

After repeating and completing these three escalating experiments, students and teams should be able to:

- apply the logic of affordable loss to an entrepreneurial learning challenge;
- explore opportunities with customers and stakeholders;
- develop increased comfort in proceeding in the face of highly uncertain or unknowable environments.

7. Conclusions

Looking at the triangle of Entrepreneurship, Creativity and Technology, the knowledge and expertise of the CREA Network partners is well balanced throughout the Network. The partners share their knowledge and expertise with the other partners as well through the network and the Summer Academy programs, from which all partners and attending students benefit. This way, the sum of the CREA Network becomes more than the individual parts and we can provide substantial added value to students and teams through CREA. This will hopefully be confirmed by the evaluation of the first series of Summer Academies, after which we will improve the General Didactic and Specialty Frameworks as well as the individual Summer Academy programs.

According to the best practice analysis and after the clear identification of the CREA Educational Model and the Didactic Strategy we can identify the position of CREA Summer Academies in the system of courses and programs mapped in the best practice analysis (see section 5).



Best Practices Index

EDW	Entrepreneurship in a dynamic world	Germany	University of Business Leadership
SCC	Startup Crash Course: from idea to reality	Germany	Technische Universität Berlin
SE	Social Entrepreneurship	Germany	Global Entrepreneurship Summer School
HSS	How to start a startup in two weeks	Austria	INNES
CEE	Creativity and Entrepreneurship in Engineering	Austria	INNES
EIA	European Innovation Academy	France	European Innovation Academy
BILLP	Business Innovation and Lean Launch Pad	Netherlands	Utrecht University
ESS	The Entrepreneurship Summer School	UK	London Business School
IGNITE	IGNITE	UK	Judge Business School, University of Cambridge
ESC	The Entrepreneurial Smart Camp	UK	Imperial College London Business School
SUP	Start-up Program	Italy	MIP Business School of Politecnico di Milan
MBSU	Mind the Bridge Start Up program	US	Mind the Bridge Foundation
SIFT	Stanford Ignite - Full time	US	Stanford Graduate School of Business
ES	The Entrepreneurship School	EU	Wilfried Martins Centre for European Studies
EIT	EIT Digital Summer School 8 different themes	EU	EIT Digital

Figure 7.1 List of best practice cases mapped and compared with CREA

The first level of positioning of CREA would understand the relationship among the balanced approach on individual skill building and team building and the international or local point of view.

Observing the cases mapped we can see CREA Summer Academies present a good balance among local impact and international point of view. This strength allow to push local values and expertise but connected with several international opportunities and elements: experts exchange, multicultural approach to participants, international events etc. (see Graphic 7.1).





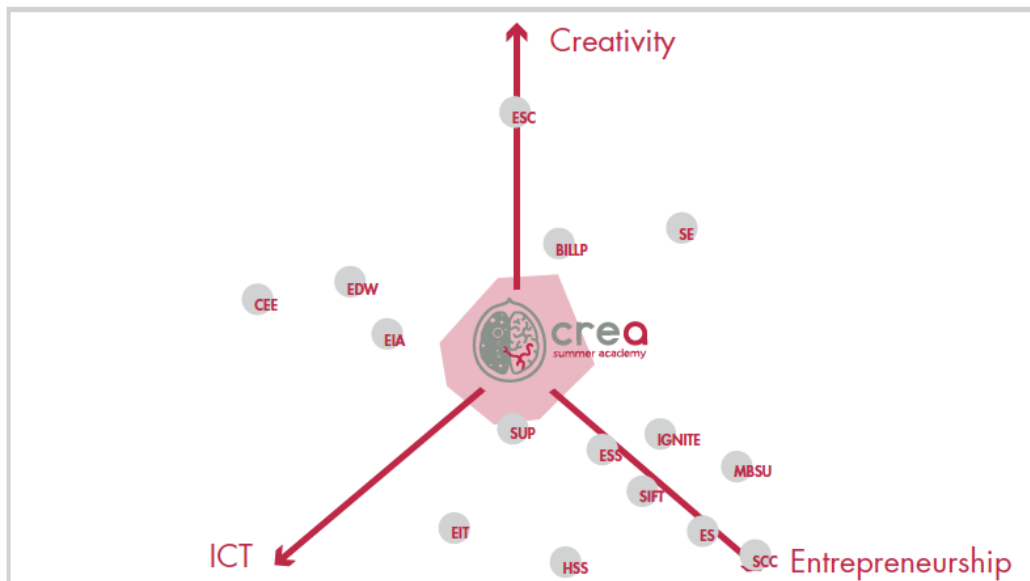
Graphic 7.1: Individual vs Team + Local vs International

The second level of positioning for CREA is connected with the three main pillars at the base of the whole summer academy process: Creativity, ICT and Entrepreneurship. The best practices mapping highlight there are many courses and programs focus on the combination of two of these three pillars:

- ICT and Entrepreneurship
- Creativity and ICT
- Creativity and Entrepreneurship.

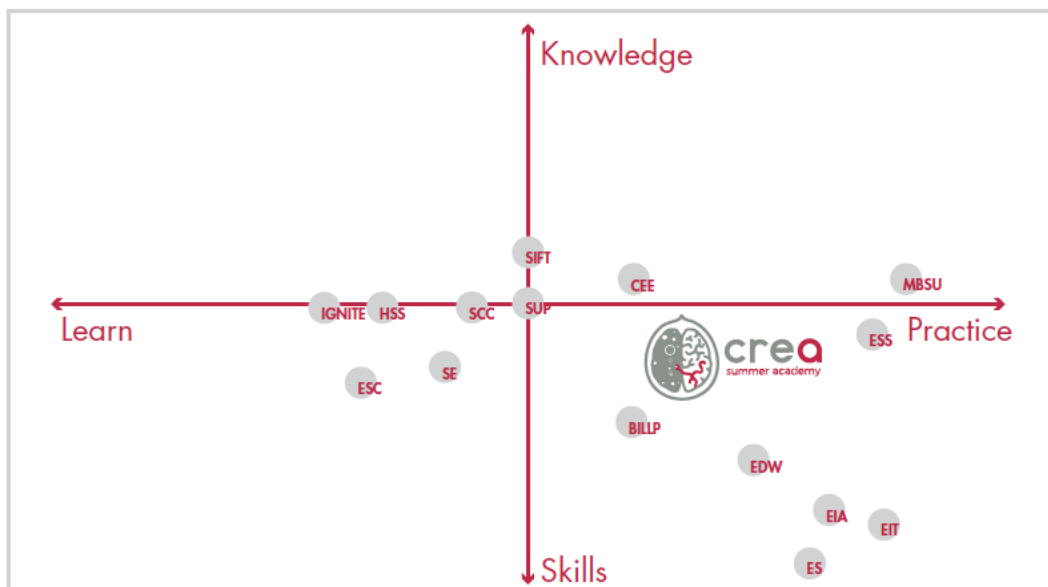
CREA is the first program that combines all these pillars generating a new point of view in the European training panorama (see graphic 7.2)





Graphic 7.2: the three pillars (ICT, Creativity and Entrepreneurship)

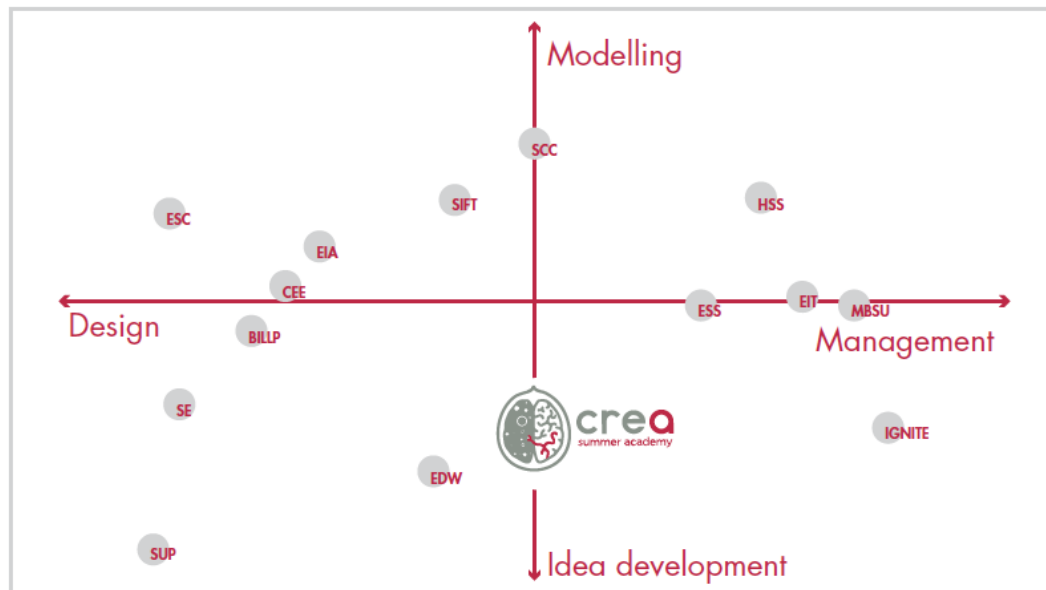
The third level of positioning for CREA is connected with tools and methods adopted. As we can see in the graphic 7.3 more than 50% of best practices analyzed are focus on a practical and skill building approach. This is in line with what students need (see deliverable 3.1.3 – In depth research) and the reason why also CREA chose to stress practice approach but a good balance among knowledge transfer (lectures, best practice cases, keynotes etc.) and skill building.



Graphic 7.3: knowledge vs skills + learn vs practice



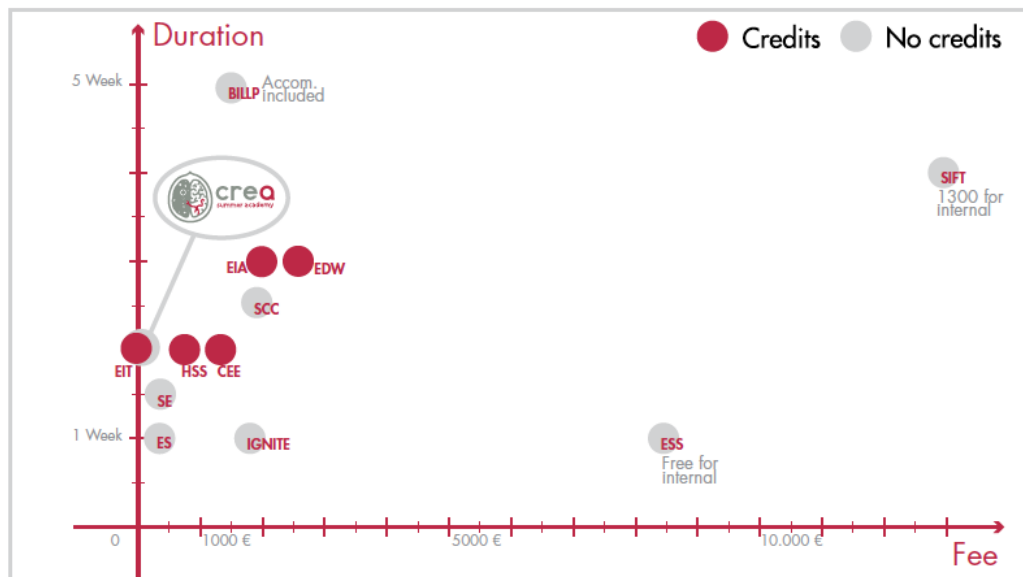
The fourth level of positioning for CREA is connected with the balancing among design approach to the business idea development and management of the business model. On the other hand CREA Summer Academies have a strategic position on the early stage of business development, the nascent stage (Grilo and Thurik, 2005). Than the idea development approach is the most relevant in the whole activity program (graphic 7.4).



Graphic 7.4: idea development vs modelling + design vs management

Finally CREA Summer Academies is in line with the general trend of best practice cases concerning the duration of the intensive training program: half of courses and programs focus on two or three weeks of duration.





Graphic 7.5: Duration and costs

The last evaluation we've done concerning the costs of these programs. The price range is very large: from 0 to 13,000 Euros. But most of the cases focus on 1.000-3.000 Euros. It is an useful information for the Business Model of the CREA Summer Academies after the expired of the EU funds.



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8. Appendix 1: Survey of Prior Knowledge and Expertise

Dear CREA Partner,

The questionnaire below is designed to gather information from all partners that will help us design the best possible format for the Summer Academy on ICT, Creativity and Entrepreneurship at our Universities.

GENERAL

- 1) Do you have experience in organizing Summer Academies? If yes, please briefly describe the Summer Academies your institution has already organized (also see questions 4 and 5 for this). When possible, provide links and further reference
 - a. Since how many years are there Summer Academies at your University?
 - b. How many attendees do you have on average each year?
 - c. How many professors/mentors are involved in the preparation of the Summer Academy? How many are involved during the Academy (also see question 19)?
- 2) Organization & Preparation: which methodologies/instruments/approach do you use for the organization and preparation of your existing Summer Academies? Please provide any details you think may be useful for the replication of such a model.
- 3) Didactics: what types of educational tools, activities, work forms and materials do you use in your existing Summer Academies? What forms would you recommend for the upcoming Summer Academy on ICT, Creativity & Entrepreneurship and why?

ICT, CREATIVITY & ENTREPRENEURSHIP

- 4) Do you currently run Summer Academies on ICT, Creativity & Entrepreneurship or on one or more of these topics? If yes, please give for each course a small description and some further reference (resources, links, course material). Use the table below.

TOPIC of SUMMER ACADEMY	SHORT DESCRIPTION	LINK FOR FURTHER REFERENCE

- 5) Are there already any other Summer Academies on ICT, Creativity & Entrepreneurship (or just one of these topics) available in your region/country (but not organized by your Institution)? Please list them in the table below

UNIVERSITY / FACULTY	TOPIC of SUMMER ACADEMY	LINK FOR FURTHER REFERENCE
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		REFERENCE

- 6) Which subjects are taught in your Summer Academy on Entrepreneurship, ICT and/or Creativity (if any)? On which level do you teach these subjects (secondary school/BA/MA)? Which of these topics should be in the CREA Summer Academy? Please use the table below.

TOPICS	LEVEL	USEFUL FOR CREA? (WHY?)

- 7) Is the professional field (companies, entrepreneurs, incubators, startup centers, other organizations) involved in your Summer Academies on ICT, Creativity and Entrepreneurship? If yes, please list them in the table below.

8)

PARTNER/ COMPANY	ROLE IN SUMMER ACADEMY	LINK FOR FURTHER REFERENCE

ENROLLMENT & STUDENTS

- 9) Which procedure do you use to let students enroll in your Summer Academy Program? (e.g. candidature, open call, any other kind of selection). Please provide details.
- 10) How do you deal with the potential language barrier for international students? Do you include language criteria with the application?
- 11) How do you evaluate the satisfaction of students and the impact that the summer Academy had on their academic/professional path? Please provide details and any further reference that may be useful.



- 12) After the Summer Academy, are students encouraged to join an incubation program? How?

MENTORING & COACHING

- 13) Do you provide any individual or group coaching in your existing Summer Academies (or in your general education programs)? How is it structured? Please provide any details you think may be useful for the replication of such a model
- 14) Do you have experiences with providing mentoring and/or coaching online? If yes, what tools do you use? Please provide any details you think may be useful

STAFF & EXPERTISE

- 15) Which areas of expertise are covered within your faculty? (e.g. ICT, Technology, Creativity, Management, Design Driven Innovation, Business etc..)
- 16) Which expertise would you eventually borrow from other Universities?
- 17) Please list the number of people involved in the definition of the Summer Academy Program describing their expertise and their role. Use the table below

STAFF	EXPERTISE	ROLE IN SUMMER ACADEMY

- 18) Will the staff of your faculty be available for a staff exchange in the framework of the CREA Summer Academy? Which conditions should be fulfill to make the staff exchange happen?

OTHER

- 19) Do you provide any recreational program during your existing Summer Academies (if any)? How is it structured?
- 20) Do you already have cooperation with other European Universities for the organization of Summer Academies?
- 21) Does your University already belong to a Summer Academy Network?
- 22) Do you already have certification/ECTS Credits recognition for people attending the Summer Academy program at your University? If yes, can you explain in details how it works?



9. Appendix 2: Survey on Design of CREA Academies



1. TOPICS: Which are the max 5 main topics in your summer academy curriculum? (e.g. Leadership, Businessmodelling, Marketing etc.)

2. SYSTEM: What is the systematic umbrella approach behind it? (e.g. Strategic Design, Soft Skills, Creative Context)

3. THEMES: List the themes that you want to mention in your call to attract the students you are looking for? (e.g. Food, Transport, E-Health etc)

4. LEARNING GOALS

Point of reference for learning goals and outcomes is the end of the Summer Academy.

Four categories. 1) What does the student know, what knowledge has he/she gained?

2) What is he/she able to apply in practice? 3) What is he able to do concretely, and 4) with which attitude, how?

1. Knowledge and understanding: For instance: "A clear grasp on marketing strategies" or "A specific knowledge of xxx"



2. Cognitive skills: For instance: "The ability to apply entrepreneurial thinking in xxx" or: the ability to interrelate theory and practice in xxx
 3. Practical/professional skills: For instance: "The ability to operate effectively in a leadership role" "An articulate idea which engages xxx)
 4. Key and transferable skills: For instance: "To communicate professionally with xxx" "Entrepreneurial ability in xxx"
5. MACRO STRUCTURE: Please give in 1 sentence a summary of goal and content per week of your Summer Academy.
6. TEACHING STRATEGIES: Which strategies do you use and indicate the number of hours per strategy:
Lectures, Keynote, Workshop, Lab, Team working session (independent), Consultancy individual/group, Fieldvisit, Game, Pitch and presentation, online learning, etc.
7. PROGRAM: What do you propose as the program in detail for your Summer Academy?
8. ROLE OF FACULTY: Teacher, Team teacher, Coach, Co-creator, Professional/Guest from the professional field, Expert, etc etc.
9. GUEST TEACHERS FROM THE CONSORTIUM: Who would you like to be in your Summer School as a guest teacher or mentor from one of the partners in the Consortium? What expertise should they have?
10. PROTOTYPING PHASE AND BUSINESS CONTEST:
- How do you encourage students to enter the next prototyping phase?
 - What is the main activity in the proto typing phase?
 - How do you structure this phase?
 - Where and when do you organize this phase?
 - Who is involved (staff/incubators/professionals) in this phase?
 - What type of mentoring do you provide?
 - How do you encourage students to enter the Contest? What do you do? How? Planning?



10. Appendix 3: Specialty Framework

INTRODUCTION

The profile of each national CREA Summer Academy is established by combining the general didactic framework –derived from each partners’ input- with its own specialty themes, subjects and learning outcomes, representative of its area of expertise. This allows for a shared frame of reference to evaluate and to use for further quality and content development in general, while respecting the specific vision, national context and organisational culture of each partner. Furthermore, this enables students to select the national Summer Academy that fits their interest and specific needs best, as well as offers knowledge and skills in which they want to learn to excel in order to develop their business idea further.

Please fill in the checklist below to start designing your Summer Academy.

GENERAL INFORMATION

PLEASE FILL IN THE INFO ABOUT YOUR ORGANISATION

NAME OF UNIVERSITY / INSTITUTION:	
ADDRESS	
WEBSITE	
EMAIL	
PHONE	
CONTACT PERSON	

YOUR SUMMER ACADEMY

PLEASE FILL IN THE INFO ABOUT YOUR SUMMER ACADEMY



NAME OF SUMMER ACADEMY	
SUBTITLE OF SUMMER ACADEMY	
DATES OF SUMMER ACADEMY	

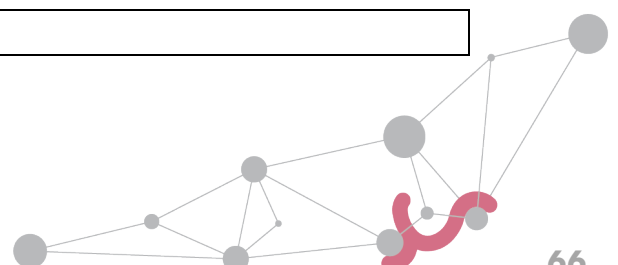
INNOVATION THEMES

WHICH THEMES DO YOU COVER IN YOUR SUMMER ACADEMY?

INNOVATION THEME	YOUR SPECIALTY (PLEASE SPECIFY)
<input type="checkbox"/> NEW PRODUCTS AND NEW MARKETS Ideas for new needs and new targets, such as: disadvantaged categories (kids, elderly, disabled, etc.) and new emerging markets (the new middle class of extra-European countries such as China), etc.	
<input type="checkbox"/> SOCIAL INNOVATION Ideas for products or services which address social needs and specific issues, such as unemployment, social inclusion of certain groups of people (migrants, elderly etc.), gender issues, environmental issues etc.	
<input type="checkbox"/> SERVICE INNOVATION Ideas for new or improved services (commodities or public services), for new or improved ways of designing and producing services or for improved management processes within service organisations.	
<input type="checkbox"/> TECHNOLOGY AND MEANING DRIVEN INNOVATION Ideas and applications in which the use of technologies create new business and product or service development opportunities for entrepreneurs from both traditional and creative sectors.	

COMMENTS

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SUBJECTS

WHICH SUBJECTS DO YOU COVER IN YOUR SUMMER ACADEMY?

GENERAL SUBJECTS	SPECIALTY SUBJECTS (PLEASE SPECIFY)
CREATIVITY <input type="checkbox"/> Pitching <input type="checkbox"/> Design Thinking	
ENTREPRENEURSHIP <input type="checkbox"/> Business Modeling <input type="checkbox"/> Finance <input type="checkbox"/> Marketing and Communication	
ICT <input type="checkbox"/> ICT Driven Innovation <input type="checkbox"/> Prototyping	

COMMENTS

LEARNING OUTCOMES

WHICH LEARNING OUTCOMES HAVE YOU DEFINED?

KNOWLEGDE AND UNDERSTANDING

- ☐ The student has basic knowledge of entrepreneurial, marketing and financial strategies necessary to start a company.
- ☐ The student has basic knowledge of creative and innovation processes.
- ☐ The student has a basic understanding of technology trends in various contexts.

SPECIALTY LEARNING OUTCOMES (OPTIONAL- PLEASE SPECIFY)

COGNITIVE SKILLS



- ☐ The student is able to apply entrepreneurial and design thinking in innovation and business development processes.
- ☐ The student is able to connect the use of ICT and creativity in the solving of (societal) problems.

SPECIALTY LEARNING OUTCOMES (OPTIONAL- PLEASE SPECIFY)

PRACTICAL AND PROFESSIONAL SKILLS

- ☐ The student has a basic understanding of technology trends in various contexts.
- ☐ The student has the capacity to perform the role of designer/entrepreneur in a business development process critically and inventively.
- ☐ The student is able to identify and evaluate opportunities and risks and adapt to occurring needs and challenges.
- ☐ The student is able to perform on a professional level within an interdisciplinary team.

SPECIALTY LEARNING OUTCOMES (OPTIONAL- PLEASE SPECIFY)

KEY- AND TRANSFERABLE SKILLS

- ☐ The student demonstrates a specific creative signature in his/her ideas and plans.
- ☐ The student has problem-solving skills and the capacity to turn ideas into action.
- ☐ The student has the capacity to convincingly communicate concepts in a verbal and visual way to different audiences.

SPECIALTY LEARNING OUTCOMES (OPTIONAL- PLEASE SPECIFY)



CURRICULUM

WHICH DIDACTIC STRATEGIES/APPROACH DO YOU USE IN THE SUMMER ACADEMY?

REQUIREMENTS

- ☐ Practice-based approach
- ☐ Two-weeks course
- ☐ 60 hrs in total
- ☐ Taking place in June, July, August and/or September

LEVEL

- ☐ BA
- ☐ MA
- ☐ PhD

SPECIALTY APPROACH (PLEASE SPECIFY)

USED DIDACTIC TOOLS

NR. OF HRS

- ☐ Lectures
- ☐ Keynotes
- ☐ Workshops
- ☐ Labs
- ☐ Team working sessions
- ☐ Consultancy (individual or group)
- ☐ Game
- ☐ Mentoring / Coaching
- ☐ Best practices
- ☐ Field visits
- ☐ Pitch and presentations

COMMENTS



ROLES OF STAFF

- ☐ Lecturers
- ☐ Experts / Professionals from the field
- ☐ Mentors / Coaches
- ☐ Investors
- ☐ Representative Incubators
- ☐ Consultant

COMMENTS

WORKING LANGUAGE

- ☐ English
- ☐ Other

PLEASE SPECIFY:

STRUCTURE

SCHEDULE YOUR SUBJECTS AND DIDACTIC STRATEGIES ACCORDING TO THE REQUIREMENTS AND MACRO STRUCTURE

STRUCTURE WEEK 1

- ☐ Introduction
- ☐ Team building
- ☐ Initial idea and business plan development
- ☐ Theory on business building blocks
- ☐ Theory on specialty subjects
- ☐ Team work
- ☐ Putting the knowledge and skills gained into practice

STRUCTURE WEEK 2

- ☐ Further idea and business plan development
- ☐ Theory on pitching and pitch training



- ☐ Team work
- ☐ Expert feedback
- ☐ Putting the knowledge and skills gained into practice
- ☐ Closing with selection for the prototyping phase

OPTIONAL

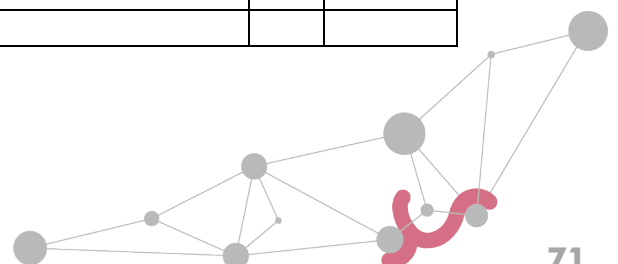
- ☐ Social events

SUMMER ACADEMY PROGRAMME WEEK 1

	MORNING		AFTERNOON		EVENING
DAY	SUBJECT	HRS	SUBJECT	HRS	
MON					
TUE					
WED					
THU					
FRI					
SAT					
SUN					
TOTAL OF HRS			TOTAL OF HRS		

SUMMER ACADEMY PROGRAMME WEEK 2

	MORNING		AFTERNOON		EVENING
DAY	SUBJECT	HRS	SUBJECT	HRS	
MON					



TUE					
WE D					
THU					
FRI					
SAT					
SU N					
TOTAL OF HRS			TOTAL OF HRS		

COMMENTS

PROFILE

Please provide additional details on the profile of your Summer Academy and institution here.



