Imaging the future of entrepreneurship education: scenarios building as shuttles to the future.

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Introduction

Entrepreneurship Education is fostered by all governments because it is considered as a major source of social and economical value creation. Indeed there has been a boom in the number of programs at university level in the last 20 years. Following that movement, pedagogical research about its final goals, its impact and its methods is now recognized as an important field in entrepreneurship research. Naia and al. (2014) conclude from their literature review of the field that most researches produce knowledge about WHAT to teach in entrepreneurship, HOW (with what kind of activities or methods) or FOR WHICH RESULTS (impact studies). But there is a lack of understanding about WHY we should teach entrepreneurship: What are the final goals of entrepreneurship education? Does entrepreneurship education imply a new way of learning? Moreover, although educational practitioners like Gibb (2002), Surlemont and Kearney (2009) or Jones (2011) outline that future entrepreneurs need to be socialized within the entrepreneurial ecosystem, we haven't found any clear indication in the literature about WHERE entrepreneurship education should take place: in what kind of educational institution or specific learning environment?

If we consider that there is such a gap between societal needs and available knowledge in entrepreneurship education, we propose to use a creative route to design entrepreneurship education

of the future. Drawing on Polak (1973:1) suggestion that society is “pulled forward by its own magnetic images of an idealized future and pushed from behind by its realized past”, we tried to investigate “pull-forward” creative visions of the future that are carried out by teachers, researchers, students in entrepreneurship as well as entrepreneurs and coaches in entrepreneurship. Could all these stakeholders reach a common understanding of what is desirable in entrepreneurship education? Do these creative visions give an answer to the WHY and WHERE questions?

For this purpose the scenario building method has been tested as a ...cradle for imagining the future of education. We concretely organized 7 creative workshops with the three populations aiming at letting participants elaborate scenarios for the future of entrepreneurship education. This communication analyses the preliminary results of these scenarios. First we expose the theoretical framework of this explanatory research. The second part of our communication presents the workshop design and the methodology for scenario analysis. The third part displays our results. The conclusion offers a discussion and future paths for research.

1) Theoretical framework

Entrepreneurship education can be defined broadly as “any pedagogical program or process of education for entrepreneurial attitudes and skills” (Fayolle and al., 2006). But the absence of a unified, accepted theory or definition of entrepreneurship education is a problem that remains to be solved (Sexton and Bowman, 1984; Hills 1988; Fiet, 2000). Fayolle and Gailly (2008) argue that there is a lack of a precise definition of entrepreneurship as a teaching field, where philosophical conceptions about teaching, the role of the teacher and the role of the students should be clarified in each course. In fact, the number of entrepreneurship education programs has shown an impressive progression in all countries, and this boom in pedagogical programs was supported by an increase in the diversity of pedagogic approaches, from traditional transmissive approaches in full academic courses to more experiential learning approaches, with case studies, business plans (fictive or real, or in support to a real entrepreneur), interviews with entrepreneurs, guest speakers, business games, internships, development of small businesses or startups in project approaches…These approaches usually meet success with students who appreciate more active pedagogies, enjoy to have the opportunity to speak to “real” entrepreneurs and be challenged with projects…One could be satisfied with this: a lot of work, a lot of energy and imagination to propose those attractive pedagogical sytem. As a matter of fact narrative reviews lead to contradictory findings about the supposed positive link between entrepreneurship education and various entrepreneurship-related human capital assets. Recently some interesting metaanalysis were conducted. For instance Martin, McNally and

Kay (2013) have studied 42 rigorous studies about the impact of Entrepreneurship Education Programs in Higher Education institutions. Their results show that entrepreneurship education has a global positive effect on entrepreneurial knowledge, skills and intentions as well as on the number of start-ups and their performance. Academic courses show a higher impact on firms' numbers and performances but there is no significant impact difference between both categories on human capital criteria. Despite these developments, the lack of precise understanding of what really works in education to reach desirability and feasibility perceptions towards entrepreneurial life and activities is pointed out by many researchers (GEM[1] 2010, GEM 2013).

What are the learning and teaching processes that can raise specific self-efficacy perceptions, self-esteem, or entrepreneurial values and attitudes? Which are the achievable learning goals at different ages, for different target groups? What are the adequate contents and activities? Are there more appropriate methods than others? Are there relationships between pre-post satisfaction rates of a particular program, learning outcomes and longer term behavioral transfer? A rather provocative question is raised by Fayolle (2013): Do we really know what we are doing when we teach or educate people in entrepreneurship? The recent research of Naïa and al. (2014) seems to give him reason. They studied 60 articles of peer-reviewed articles over the period 2000-2011 using the theoretical framework proposed by Mialaret (2005/1976), Béchard and Grégoire (2005) and Fayolle and Gailly (2008) to design and implement an education programme: objectives, contents, audience, methodologies and evaluation. Surprisingly, two dimensions appear not to be addressed directly: the objectives (why?) and the audience (for whom ?). The question “why” can be analysed with two levels of learning objectives: individual (or micro) and socio-economical (or macro) objectives. They are related with the development of an entrepreneurial mindset, the transmission of techniques to create new ventures and the improvement of the society mindset concerning the entrepreneurial phenomenon. Finally, we can only list the main insights into best practices for entrepreneurship educators: experiential learning rather than transmission of knowledge, diversity of educational experiences, learner’s active participation, etc. So there’s a urge in researching the why question.

Facing these difficulties, how can we invent new solutions if we, as professors, designers of educational cursus and researchers in entrepreneurship remain stuck to our routines and mental representations? In fact the amount of collective experience is huge but, at this point of the framing of the field, it’s necessary to find means to take some distance with implicit pedagogical models.

[1] Global Entrepreneurship Monitor: gemconsortium.org.

How could we create a fertile space of imagination in order to reinvent the entrepreneurship education with its present stakeholders?

For this purpose, we decided to reflect from a prospective point of view in order to create a distance from the present contingencies and to mobilize the imagination resources: as Csikszentmihalyi puts it, the flow of creativity needs forgetting Self, Time, and Surroundings. A few attempts were made in entrepreneurship research to study narrative imaginative resources. For instance Hindle (2010), on a proposition of Gartner who launched this original initiative, develops and tests a comprehensive model of entrepreneurial process utilizing content analysis of the book *The Republic of tea, How an Idea Becomes a Business*? This text presents in detail a venture creation and how the founders dreamed of their future company. Polak (1973) studies how images of the future has always helped *Homo Sapiens* to shape the future. The exercise to elaborate images of the future allows to draw boundaries in the thought-realm: it is only by redrawing the boundaries of the unknown that man can increase his knowledge. The entrepreneur, as "a visionary activist" manages to create the future, on the of its vision and holistic guiding images of future possibilities (Nyström, 1995).

In order to help developing images of the future, we found that it could be interesting to use scenario building, a collective method traditionally used for strategy (Boaventura & Fishman, 2008). Scenario planning consists in trying to imagine the future and its different options: in this way this method implies to fly away from the actual situation. Our analyse of the literature on scenario planning shows that they can be used into different contexts and objectives: planning tools (Schoemaker, 1995), methods to check the consistent of a vision (Boaventura & Fischman, 2008), thought experiments preparing action (Aligica, 2005), ways to try to control the future (Ringland, 2010; Miller &Waller, 2003; Glykas, 2013) or tools to work on ethics perceptions (Nguyen and al. 2008, Persons, 2009). Control an unpredictable future, free imagination...scenario building can also lead, to the point of view of certain researchers, to change organizational culture (Korte and al. 2007): this proactive tool has the potential to help developing alternative possible cultures. Organizational culture is usually viewed as set of underlying assumptions, beliefs and norms governing how individuals should act in a specific context. Understanding shared cognition helps to initiate change in these deep representations.

We launched a research program based on the design and animation of a creative workshop open to educators, researchers and entrepreneurs involved in educational entrepreneurship programs. The participants were proposed to explore new ways by imagining the future of entrepreneurship

education. The workshop design is based on prospective thinking, creative imagination (Csikszentmihalyi, 1996, Nyström, 1993, Fillis & Rentschler, 2005), "experimental fumbling" (Freinet, 1937), "Empty Habitable Frameworks" (Fourcade and Krichewsky[2]), "Bricolage" (Stinchfield, Nelson and Wood, 2013) and Effectual pedagogy (Sarasavathy and Venkataraman, 2011).

2) Methodology

Data were collected during four sessions of this workshop, between January 2013 and February 2014, gathering a total of 176 persons and 65 scenarios (see table 1annexes for more details).

The workshop was structured in 3 parts. The first phase (1h) was dedicated to creative designing of Entrepreneurship Education (EE) in 2044. Participants sitting in groups of 6 were asked to imagine EE in 2044 through a brainwriting procedure. Each person wrote the first sentence of a scenario starting with *"Once upon a time in 2044…"* and passed this story starting point to his neighbour who was asked to follow the story; The procedure went on until each of the 6 members had added one sentence to the story. Then the group chose his best story and prepared a poster of the scenario. During the second phase (45 mn) each group presented his poster to all participants of . Thirdly, the researches, as facilitators, helped to formulate a synthesis and a critical reflective analysis on the major common features of the scenarios which had been produced (30 mn). A common discussion took place with participants to explore either philosophical features (learning principles, EE final goals or teacher-students stands), didactic features (specific activities, learning outcomes, audiences or assessment), environmental features (images and organization of learning space, institutional aspects), or characteristics of posters (main messages conveyed, visualization properties).

The 65 scenarios were then systematically analyzed by researchers. This analysis was conducted following the grounded theory methodological principles. A first list of anchors was produced by two independent researchers after reading all 65 scenarios. This list of 15 anchors was then organized in 4 main concepts (philosophical meaning of scenario exploring the WHY questions, didactic features of scenario exploring the HOW questions, environmental features of scenario exploring the WHERE questions, and also narrative features of scenario). These 4 concepts were inspired by different bodies of literature. The 3 educational concepts were borrowed from Fayolle and Gailly (2008) entrepreneurship teaching model, Biggs (1999, 2003) constructive alignment model, from Carré (1992) 3 macro/meso/micro levels for observing an educational system and from

[2] To be published.

Nunes and McPherson (2004) Educational Management Action Research Model. The fourth concept about narrative features of scenario was inspired by Bremont (1966) semiologic analysis of narratives, emphasizing the importance of the improvement goal and of obstacles and setting 3 possible active or passive roles (agent-hero, allies and adversaries). The third step of our analysis was to refine our coding by systematically applying the 15 anchors and 4 concepts-grid to all scenarios. Two independent researchers coded all scenarios through NVivo, compared and corrected their codings so as to reach a satisfactory Cohen's Kappa coefficient of inter-rater reliability (71% codings above 0.41). 260 codings emerged out of the 65 scenarios. They were grouped in 4 broad categories of nodes, with 15 subnodes. These subnodes help draw out a coherent picture of the most important messages conveyed by creative scenarios about the future of entrepreneurship education.

3) First Results

- **Relevant categories to investigate scenarios regarding entrepreneurship education**: ***Philosophical, Didactical, Environmental and Narrative levels.***

Scenario interpretation brought out very detailed categories on most nodes. (see table 2 below)

The philosophical level appears to be the most detailed one, with very clear codings implicitly referring to active pedagogy educational principles (PHI 1) but also to a large view of human development finalities (PHI 2). Not surprisingly a large diversity of activities are described on the didactic level, but with little development of learning goals, assessment or audience. The learning environment is balanced between organizational technological, timeframe and spatial meanings. Narrative striking characteristics of scenarios are not very much developed: we could only distinguish heroes from obstacles (rarely human) and an ideal tone as opposed to a catastrophic tone.

Level 1	Level 2	Level 3	Level 4
PHILOSOPHICAL MEANING OF SCENARIO WHY ?	PHI 1 - Principles about education and learning	PHI 1 A - Experiential learning	PHI 1 A 1 - Problem solving
			PHI 1 A 2 - Generating new ideas
			PHI 1 A 3 - Experimenting-trying-acting
		PHI 1 B - Transformative learning	PHI 1 B 1 - Taking iniatives - making free choices
			PHI 1 B 2 - Personalized learning
			PHI 1 B 3 - Developing oneself - changing-growing up
		PHI 1 C - Reflexive learning	PHI 1 C 1 - Philosophy - critical thinking
			PHI 1 C 2 - Learning to learn
		PHI 1 D - Collaborative learning	PHI 1 D 1 - Observing - modeling
			PHI 1 D 2 - Collaborating with others
		PHI 1 E - Transmissive learning	PHI 1 E 1 - Attending classes and conferences
	PHI 2 - Finalities and values of Entrepreneurship Education	PHI 2 A - Sustainable development	PHI 2 A 1 - Ecology - protect planet & nature
			PHI 2 A 2 - Survive and adapt oneself
		PHI 2 B - Eco-political growth	PHI 2 B 1 - Develop market and economical value
			PHI 2 B 2 - Become more mighty and powerful
		PHI 2 C - Innovation, development of exchanges	PHI 2 C 1 - Develop innovation & regeneration forces
			PHI 2 C 2 - Develop global eco-social exchanges
		PHI 2 D - Human & knowledge development	PHI 2 D 1 - Humanism - produce a better life for all
			PHI 2 D 2 - Develop a universal language
			PHI 2 D 3 - Build knowledge on entrepreneurship
		PHI 2 E - Professional development	PHI 2 E 1 - Help students to find work
			PHI 2 E 2 - Develop a new conception of work (no work..
	PHI 3 - Roles and stands of different stakeholders	PHI 3 A - Teacher-learner relationship : learner centered model	
		PHI 3 B - Role of other educators (peers,...)	
		PHI 3 C - Entrepreneurs roles	
DIDACTICAL MEANING OF SCENARIO HOW ? WHAT ? FOR WHOM ? FOR WHICH RESULTS ?	DIC 1 - Learning objectives	DIC 1 A - develop creativity and imagination	
		DIC 1 B - other learning objectives	
	DIC 2 - Learning activities	DIC 2 A - space building	
		DIC 2 B - leisure - recreative activities	
		DIC 2 C - Projects	
		DIC 2 D - Real startup projects	
		DIC 2 E - Journeys	
		DIC 2 F - Meetings	
		DIC 2 G - Games & simulations	
		DIC 2 H - Artistic activities	
		DIC 2 I - Classes and conferences	
	DIC 3 - Assessment	DIC 3 A - Assessment criteria	
		DIC 3 B - Assessment procedure	
	DIC 4 - Audience	DIC 4 A - Diversity of participants	
		DIC 4 B - Status of participants	
ENVIRONMENTAL MEANING OF SCENARIO WHERE ?	ENV 1 - Technology and technopedagogy	ENV 1 A - Technology	
		ENV 1 B - Technopedagogy	
	ENV 2 - Educational institution	ENV 2 A - Finance and budget of institution	
		ENV 2 B - Reputation of institution	
		ENV 2 C - Business Model and governance of institution	
	ENV 3 - Learning space		
	ENV 4 - Timeframe		
NARRATIVE FEATURES OF SCENARIO	NARR 1 - Heroes		
	NARR 2 - Obstacles		
	NARR 3 - Tone	NARR 3 A - ideal tone	
		NARR 3 B - catastrophic tone	
	NARR 4 - Emotions	NARR 4 A - positive emotions	
		NARR 4 B - negative emotions	

Table 1: Analytic levels and nodes related

- **Dominant nodes:** ***Environmental Level and Philosophical Level***

We applied the “Tree Map” analysis to show visually how our coding is distributed (comparison of

nodes) and the density within nodes (number of references they contain). The greener the node is, the more significant it is.

Results presented below indicate that the future of entrepreneurship education is related to a **Learning Space** where learners can **experiment** with a particular **relationship between learner and teacher**.

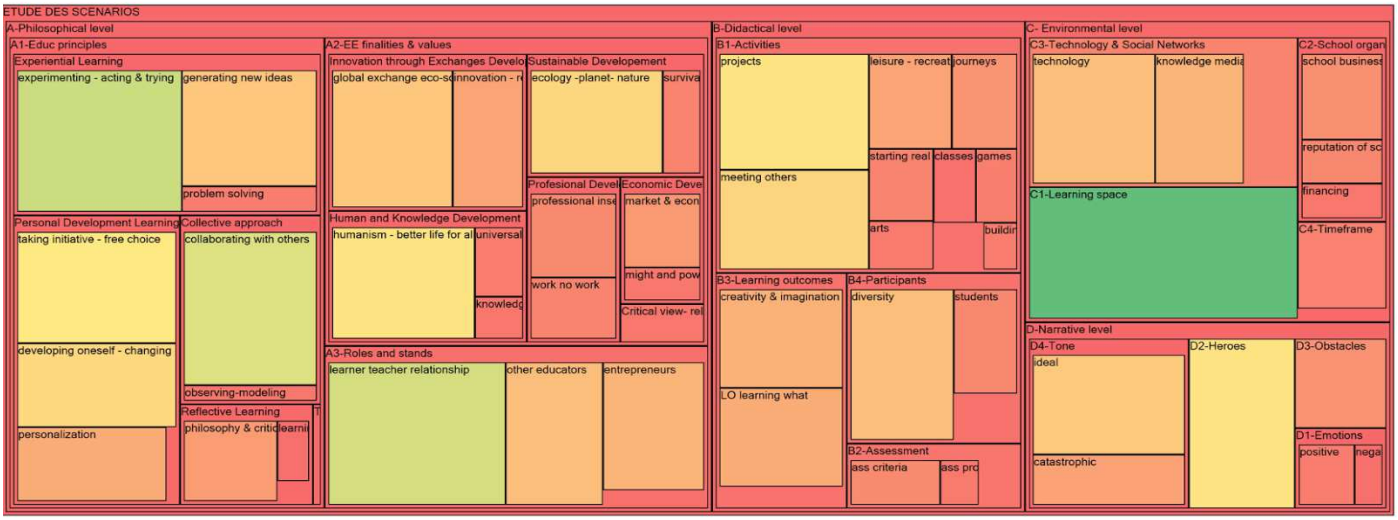

Figure: Tree Map Analysis -comparing number of references by encoded nodes.

Those three themes dominate the scenarios content:

- "**Learning Space**" -Environmental Level: 62% of scenarios / 103 encoded references. This node describes where the learning may emerge. It deals with either concrete spaces (garden, under the sea, on a boat, a big entrepreneurship house, on the beach) or with virtual spaces (bubble spaces, spaceship, flying structure, through dreams, intelligent clothes). *(We will detail the content of this node in the following paragraph)*

- "**Experimenting- Acting and Trying**"- Philosophical Level: 51% of scenarios / 68 encoded references. This node belongs to the "Experiential Learning" node which is centered on real activities (projects, building schools, practical workshops, laboratory) and approaches (practicing, applying, learning by doing, entrepreneurial effectuation method) that can be useful to learn entrepreneurship. Participants insist on the possibility to try and to fail by transforming directly ideas into concrete business: "*There will be no content anymore, just exchanging and reflecting between people. They will use an ideas modeling room which leads to an action room that helps to launch ideas.*"

- "**Learner and Teacher Relationship**"- Philosophical Level: 51% of scenarios / 67 encoded

references. This node expresses the relationship that exists between the learner and the teacher: the roles (learning facilitators, actors of their own learning, openers of possibilities, help to reveal talents, explore learner's mind, adapt to learners), who the teachers are (robots, serial entrepreneurs, experts, wise people) , the nature of interaction (cooperation, exchanges, mentoring, tutorship, meeting in various places), the frequency of the interaction (sometimes, just when it is needed, new teachers appearing).

- **Encoded level by population:** ***Action (Coaches and Entrepreneurs) versus Reflection (Researchers and Students)***

We wanted to compare the encoded references depending on the population profile: who talks about what ? The table below highlights the levels encoded by points of view. We apply a smoothing factor to ensure that each population is well represented whatever its size during the data collection.

Populations who are daily in action mode (Entrepreneurs and Coaches in Entrepreneurship) use less easily the narrative level than those who are more in reflection mode (Students in Entrepreneurship and Researchers). We observe that Researchers and Students in entrepreneurship can easily project into the Learning Space and can use a narrative level (heroes, overcome obstacles, emotions, particular tone) to describe their scenarios compared to the others populations. However there is little difference concerning the didactic level. From the philosophical level, we observe that researchers and entrepreneurs seem to be more visionary.

Ratio by population	A-Philosophical level	B-Didactical level	C- Environmental level	D-Narrative level	
1 : Coaches in entrepreneurship	1,8	2,0	0,8	0,5	Average = 1,6 * Significant > 1,6
2 : Researchers in entrepreneurship	2,8	2,0	2,0	1,2	
3 : Entrepreneurs	2,7	1,8	1,3	0,4	
4 : Students in entrepreneurship	2,0	1,8	1,8	1,0	

Table 2: Encoded references by population and broad category of code (level 1)..

- **Learning Space** : ***a facilitator for experimenting, dreaming, achieving finalities***

This request helps us to underline the elements (the nodes) with which the Learning Space is often associated. The results below show that Learning Space (Environmental Level) is mainly linked to the Philosophical Level (50% of references), then to the Didactic Level (38% of references) and finally to the Environment Level (12% of references).

Code	Nœuds	C1-Learning space
PHI1A	2 : Experiential Learning	17
NARR3A	47 : ideal tone	13
ENV1	39 : technology + knowledge media	13
PHI3A	13 : learner teacher relationship	11
PHI1B	3 : Personal Development Learning	10
PHI2A	11 : Sustainable Developement	9
DIC2E	20 : journeys	9
PHI2D	8 : Human and Knowledge Development	7
DIC2B	21 : leisure - recreation	7
DIC2F	22 : meeting others	7
DIC2C	23 : projects	7
DIC4B	33 : students	6
DIC4A	32 : diversity	5
NARR1	44 : D2-Heroes	5

Table 3: Crossing Learning Space node with its mains linked nodes

This table reveals that the Learning Space helps to achieve the Educational Principles (Experiential Learning, Personal Development Learning) and Entrepreneurship Education final goals (Human and Knowledge Development, Sustainable Development…). It also provides a space where activities can be led (projects, journeys, leisure -recreation, meeting others) by learners (students, diversity) who live adventures (Narrative Level: ideal tone and heroes) in a techno-pedagogic environment (intelligent clothes, virtual class, big data).

- **Learning Space :** ***Main images used within the scenarios***

The Learning Space node includes 103 encoded references among the 40 scenarios. We highlight here the main images which have been used by the participants to describe the Learning Space. Four main images emerge from data:

- **"Ephemeral sites"**. The Learning Space helps participants (learners, teachers…) to travel from one place to another one (spaceship, flying machines, teletransportation): *"the students built a spaceship to go to another planet and create a school"*. It encourages also to learn by travelling where the activity happens: *"Students travel from third-space to others in order to meet various groups of people and they refused to settle a base-camp"*. The learning space has no frontier to help developing freedom of movements.

- **"Harmony with Nature"**. The Learning space is frequently associated to the nature (ocean, beach, mountains, countryside, garden) and to its participants: *"All the building suspend in the sky, move around and fly. The school will look like a garden"*. They live, they change together: *"Children can*

be on a mountain or closed to the sea. Depending on their biotic environment, children can create the place in which they feel like small fishes".

- **"Technological tools"**. The Learning Space is equipped with different technologies that should help to improve learning (*"Massive Open Course on the web": "intelligent cloth"*), travelling (*"flying carpets"; "a transport mean has been invented to explore the solar system")*, experimenting (*"This is not a school, but a laboratory, a workshop"; "experiment spaces thanks to the instantaneous transfer"*)

- **"Caring and stimulating environment"**. The Learning Space is described as a place where people can learn comfortably (*"a soothing and relaxing place"*) and experiment freely new ideas being protected by different systems : *"soap-bubbles; bubbles-city; entrepreneurship's sanctuary"*. Or they can create their own space that will be shared : *"Everyone creates a life-space in which everyone can look for original and fantastic ideas which have been cooked by the owner (...). No one is gonna judge, we give, we exchange, serving the idea production"*.

4) Conclusion

We trace a path from critical reflective analysis (Mezirow, 1991) of existing higher education institutions and their educational practices to pedagogical refoundation (Fayolle, 2013).

The scenario building method appeared to be an efficient shuttle towards the future of entrepreneurship education with different stakeholders and different contexts. The results were quite surprising in the sense that scenarios were not as divergent as we could have expected: a few categories emerged quite easily from the first reading as relevant to the grounded theory. When a deeper analyse was conducted, we found that, as Naia and al. (2014) demonstrated, the pedagogical activities were described with precision and variety but little development was noted on the subject of learning goals, assessment or audience.

The main result relies on the fact that we finally managed to explicit the controversial most of the time implicit "WHY" debate about the final goals and educational principles associated with entrepreneurship education (see the "Philosophical Level" node).
The second main result concerns the description of the "Learning Space" that has been imagined by participants, which was deeply linked to the future of entrepreneurship education. This Learning

Space appears close to Krichewsky and Fourcade “Empty-Habitable Framework” because it : 1) allows learners to explore possibilities by trying and failing thanks to ephemeral sites 2) stimulates harmony between learners and their environment, 3) offers technological tools to access and open knowledge, 4) provides a caring and stimulating environment.

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Annexes

Date / place	Number	Participants	Data collected
January 2013, Chambéry (France)	23 persons (1 workshop)	Mixted: 13 professors and/or researchers, 1 entrepreneur, 6 coaches in entrepreneurship, 3 consultants.	18 scenarios
September 2013 Paris (France)	111 persons (4 workshops)	Master Students, french and english speaking.	18 scenarios
October 2013 Fribourg (Switzerland)	26 persons (1 workshop)	Researchers attending the french entrepreneurship association annual conference.	13 scenarios
April 2014, Lille (France)	16 persons (1 workshop)	Mixed: 4 coaches in entrepreneurship, 12 entrepreneurs.	16 scenarios
TOTAL	176	Researchers, Entrepreneurs, Students in Entrepreneurship, Coaches in Entrepreneurship.	65

Table 1: Data collection