Sketching Social and Sustainable Entrepreneurship Education (SSEE)

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Abstract

This review of the literature on education for social and sustainable entrepreneurship is presenting its results under the metaphor of ecosystems. We develop an overview of the co-existence of entrepreneurship, social and sustainable entrepreneurship and sustainable development as distinct but connected ecosystems in education. We describe the resilience of those three different ecosystems using the adaptive-cycle model and design the interrelations between them through the panarchy model (Holling, 2001), which conceives the behaviour of ecosystems in a dynamic perspective (Folke and al., 2002). Doing so, we wish to unveil the underlying paradigms: the preconceived teaching intentions of each ecosystem, the tools that are deemed adequate to reach them, as well as the legitimate stakeholders. This dynamic model shows how transformations are experienced in each ecosystem and the potential influence these changes have on other ecosystems. More specifically, our research highlights the dimensions of learning and teaching that could be considered as "specific" in social and sustainable entrepreneurship education. This research shows a collection of pedagogical intentions belonging to a variety of stakeholders and some weaknesses of alignment between all their expectations. This statement is an opportunity for further development as our article identifies some gaps for future research in the development process of the SSEE programme and more specifically in the practice and teaching of "social learning processes".

Keywords: Ecosystem, social ecological system, panarchy, social and sustainable entrepreneurship education, social learning processes.
Introduction

Sustainable entrepreneurs are entrepreneurs driven by a triple bottom line – i.e., commercial, social good, and environmental protection – (Schlange, 2006). They focus on developing opportunities with economic and non-economic gains to individuals, the economy, and society (Shepherd & Patzelt, 2011). Their missions are defined as the creation of commercial ventures with a balanced weighted of environmental protection and social justice (Muñoz & Cohen, 2018). In this paper, we share this vision of sustainable entrepreneurship associated to a combination of a triple bottom line.

In parallel with research on social and sustainable entrepreneurship, the teaching of this field also started gaining momentum (Awayssheh & Bonfiglio, 2017) notably influenced by students requests (Worsham, 2012). As a result, research on social and sustainable entrepreneurship education has been gaining visibility for the last decade (Yunxia Zhu and al., 2016). Even though this young educational area is still in its idea stage, it is building on more mature fields such as entrepreneurship education (Higgins and al., 2013; Nabi and al., 2017; Sirelkhatim and al., 2015) and sustainable development education (Barth and al., 2007; Karatzoglou, 2013).

For instance, Lans and al. (2014) suggest that teachers can aggregate views from sustainable development education and entrepreneurship education to develop a new SSEE curriculum. Other researches propose to extend existing programs, such as the social entrepreneurship program that has existed in university since the late 1990s (Boschee, 1995; Dees, 1998). This field characterized by a double bottom line: -societal and commercial- can technically be extended to become a social and sustainable entrepreneurship program by endorsing extra environmental perspectives. This tendency is expressed in the literature when the three pillars of sustainable entrepreneurship education are developed in teaching social entrepreneurship (Brock & Steiner, 2009; Kickul and al., 2018; Jill Kickul and al., 2012).

These practises have as consequences that teachers import teaching intentions and tools from others fields of education. In doing so, they do not realize that it may conflict with student’s expectations, e.g. teaching ways to solve problems, but suggesting a market-based solution from classical entrepreneurship education (EE) (Roundy, 2017) when new generation of students may expect to develop values, intellect, social engagement and performance (Hinchliffe & Jolly, 2011).

Conceptual framework

In order to untangle the interrelations between fields, as well as their specifics in terms of teaching intentions, programs, tools and actors, we conceptualize each field as a distinct but related ecosystem. Doing so, we align between others with Toutain and al. (2014) in entrepreneurship education and with Bloom and Dees (2008) in social entrepreneurship, when they use the metaphor of “ecosystem” to describe parallels between biological and human systems. Their intention is to shape in a framework the manner ecosystem stakeholders are adapting their choices taking into account a wide evolving environment and other players within their ecosystem.

More broadly, we also build on research about “social-ecological system” (Folke, 2006) which is an associated literature. This choice oriented our observation on dynamic evolution of ecosystem that adds a time dimension and its interrelation with other ecosystems that enlarges the space dimension. As such, we use the ecosystem metaphor as a conceptual tool to synthetize the literature review on SSEE as well as its relationship with its social, economic and environmental parent fields (Manring, 2014).

Exploring the concept of “resilient ecosystems” and the notion of “disturbances” described in the literature we should first introduce the dynamic side of the model through the concept of “adaptive cycles” (Folke, 2006). Adaptive cycles show how an ecosystem is adaptive and transformable in addition to resilient.

- An ecosystem is resilient if it can absorb and cope with disturbances.
- An ecosystem is adaptive when it has the capacity to tolerate and deal with changes that emerged out of his self-organization.
- An ecosystem is transformable by its ability to pass from its current state into a more desirable one, through cross-scale dynamic interactions.
When a disturbing event happens inside a resilient ecosystem, adaptive cycles formalize the time it takes for the ecosystem to absorb disturbances by going through a succession of phases to adapt and transform itself (figure 1). This succession of phases is represented by a loop and characterized by four functions – i.e., exploitation, conservation, release and reorganization.

**Fig. 1** Adaptive cycles and its four functions (adapted from Gunderson and Holling, 2002).

In the result section of this article, we illustrate the all process of the adaptive cycle’s model to show how the entrepreneurship education (EE) ecosystem could be described as resilient, adaptive and transformable when facing disturbances. We use as “disturbance” the example of the social and sustainable learning intentions of students in EE twenty years ago.

Using this model is the first step of our systematic literature review analyses about SSEE. In particular, we mobilize the concept of -adaptive cycles- to model the ability of individual ecosystems to cope with external shocks and trends (disturbances). In a second time, we use the -panarchy model- (Holling, 2001) to combine several ecosystem’s -adaptive cycles- together.

This second model combines different ecosystems and allows to show their transformation as dynamically organized and structured within and across scales of space and time (Allen and al., 2014). Doing so, we shed light on the roots of pedagogical initiatives that can be specific, adapted or shared in SSEE programme. Our objective is to show the wide variety of visions presented in the literature, as well as identify potential tensions and inconsistencies to study in future researches in SSEE.

**Methodology**

To collect and analyse the content of our literature review, we applied a systematic and tool-supported method (Gaur & Kumar, 2018) adaptable to any discipline (Bandara and al., 2011). We proceeded in 4-phases: (1) identify relevant articles, (2) highlight significant content and pre-codification scheme, (3) classify and analyse (4), interpret the findings and write the overall report (Duriau and al., 2007). To use a methodical, clear and reproducible research, our data analysis was supported by using QSR NVivo 12 as data management tool (Vázquez-Carrasco & López-Pérez, 2012), Endnote X7 as Personal Reference Database programs and Adobe Acrobat Reader DC 2019 to read, search and index contents.

**Phase 1: Data collection**

To identify our target articles we ran queries in selected databases using the following keywords: (educat* and entrepreneur* and (social or sustain*)) in English. Based on the title, abstract and keyword,
we spotted articles that focus specifically on our topic; those are referred as primary papers (Excel file available) and we found 212 references.

At this stage, we collected papers from English literature using Scopus. We selected the most relevant journals based on our subject areas, peer-reviewed literature and classified “A” by HCERES or in top 2 journals from the AJG 2018 (list of journals available). This represented 72 articles.

In the discussion, to be more complete we also integrated secondary papers that were linked to the subject mainly in the body of their text but not focused on it.

After the selection operation, we created a library in Endnote and uploaded the articles in Nvivo to screen methodically their content.

**Phase 2: Preparation for analysis**

First, we organised our pre-coding classification in NVivo by creating cases, attributes and nodes based on topics appropriate for most literature reviews (A). In a second time we added thematic’s nodes from the panarchy model as we planned to design the structure of our literature reviews based on this model (B).

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**Table 1. NVivo’s cases, attributes and nodes**

We pre-coded our readings in NVivo. The purpose of this pre-coding analysis was to read all the materials and to test our first coding classification as proposed in table 1.

Once all readings will be screened and pre-coded, a second set of coding analyses will be performe to ensure that all content was coded. It will permit to adapt the classification structure based on a more in-
depth understanding of the material. This systematic research method is rich and must be fully exploited to identify new classification nodes emerging from the data analysis such as the identification of a diversity of “pedagogical intentions”. So far, we have read and coded 35 articles on 72.

**Phase 4: interpret and write-up**

The fourth and final phase is the interpretation and the description of the results, using the panarchy model as a conceptual guide for the review redaction. Preliminary findings are presented in the next section.

**Results**

1. **Adaptive cycles of the entrepreneurship education ecosystem**

Several research papers point out that student’s demand is one of the trigger elements for the creation of social and sustainable entrepreneurship curriculum (Brock & Steiner, 2009; Tracey & Phillips, 2007; Worsham, 2012) (Fichter & Tiemann, 2018). Satisfying this demand is a driver for universities (Fichter & Tiemann, 2018; Kickul and al., 2018). Therefore, we assume that social and ecological demand of students makes them becoming agents of change (Fielding, 2001) in entrepreneurship education and that by absorbing this demand the ecosystem was resilient. We use resilient such as Folke (2006, p. 259) in the social-ecological system literature described “the opportunities that disturbance opens up in terms of recombination of evolved structures and processes, renewal of the system and emergence of new trajectories”.

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Students as sources of disturbances in entrepreneurship education adaptive cycle

As explained, SSEE is based on social, sustainable and commercial pillars and we clearly identify the same stream in our literature review about SSEE.

From the commercial literature, an overview of mainstream entrepreneurship curricula contents (Sirelkhatim and al., 2015) reveals that opportunity recognition and assessment are generally developed in entrepreneurship education (Morris and al., 2013). It is a place where students develop personal projects based on opportunities perception including in social and sustainable spheres.

In the sustainable entrepreneurship education, literature explains how student’s interest and demand for sustainability have a strong influence on curriculum development (Fichter & Tiemann, 2018). For decades, a major source of student’s projects opportunities has come from sustainability, questioning educational adjustment (Lans and al., 2014). Furthermore a recent study reveals that students consider sustainability competences as a must for their future carriers (Grindsted, 2016).

From the social entrepreneurship literature, the father of social entrepreneurship education, Gregory Dees, describes how students who wanted to work with non-profit ventures during their studies created disturbances at Harvard Business School in early 1985. He relates also the difficulty for teachers to get out of their comfort zone facing students’ social entrepreneurial intentions (Worsham, 2012).

Based on these testimonies, we assume that student’s initiatives have been endogenous disturbances in the adaptive cycle of the entrepreneurship education ecosystem. We referred to student’s projects based on ecological products—social venture, participative or democratic governance or recycling supply chain. To illustrate these disturbances on the entrepreneurship education adaptive cycle model, we shaped the loop and incorporated the path of student’s initiatives as follow (Manring, 2014) (Worsham, 2012):

1. The cycle starts first by its exploitation function where the entrepreneurship teachers are using their daily device to teach entrepreneurship as usual.

2. Moving from r to K, students are suggesting disturbances and teachers are trying to keep a status quo in their teaching methods. It is the second phase and the conservation function, when education ecosystem stakeholders are resistant to the change students are bringing through social and sustainable projects (Painter-Morland and al., 2015). In Dees interview, it relates how his proposal of a new course on social entrepreneurship in the early nineties was flatly rejected by Harvard Business School even if students were looking for it. His research director thought this direction might be a “career suicide”.

   Slowly it is the time for small acceptances and a slow inclusion of changes (Audebrand and al., 2016). We are moving from K to Ω and education stakeholders are slightly considering students’ expectations. They grant some space in their teaching content to include students’ suggestions on social and sustainable entrepreneurship. For instance, Dees changed up to 25% of the case studies in his lectures to insert some social entrepreneurship cases.

3. Third, the phase from Ω to α is the phase of release and creative destruction of the status quo where social and sustainable concerns are introduced in the pedagogical device at multiple levels and scales (Fichter & Tiemann, 2018). Concretely this can be done by inviting social and sustainable entrepreneurs to testimony during lectures or the addition of teaching concepts that are specific to social and sustainable entrepreneurship. This is what Dees did in the nineties in his new course called “Profits, Markets, and Values”, in which he was not teaching social entrepreneurship as such but innovative ways to bring values into markets.

4. The fourth phase, from α to r, involves the reorganization of the ecosystem to formalise changes and allows the exploitation phase to start again. At this time, the entrepreneurship education ecosystem defines the limit of a classical entrepreneurship education program and the starting point of social entrepreneurship education (Jensen, 2014; Painter-Morland and al., 2015). In Dees’ experience, a new team of colleagues was created and asked to design a new program called “Initiative on Social Enterprise”.


Resilience of the entrepreneurship education ecosystem

This description of the adaptive cycle of the entrepreneurship education ecosystem shows the resilience, adaptation and transformative capacity of this ecosystem.

- First the absorption of the disturbances welcoming social and sustainable entrepreneurship intentions of students as opportunities.
- Then its adaptive capacity when accompanies students with social and sustainable projects in classical entrepreneurship programme.
- Finally, its transformation capacity while integrating some concepts from social entrepreneurship in entrepreneurship education and creating a new program specific to the social entrepreneurship education ecosystem.

This last perspective illustrates also the process of the formal birth of a new specific ecosystem dedicated to SSEE as a limit to the resilience of entrepreneurship education when facing social and sustainable challenges. To illustrate this new ecosystem we introduce the model of panarchy (Holling, 2001) to connect a second loop representing social and sustainable entrepreneurship education ecosystem on our model. It will be the subject of the next point, illustrated through a model of several loops showing dynamic interactions between them.

2. SSEE in a panarchy model of ecosystems

In the previous section, we show an example of how the resilience of the entrepreneurship education ecosystem is tested by the evolving needs of some stakeholders (students, professors, entrepreneurs, etc.) focused on social and sustainable aspirations (Roundy, 2017).

The limit of this resilience is the creation of a specific programme for social and sustainable entrepreneurship educational ecosystem. The coexistence of several ecosystems and the cross interactions between them require the panarchy model for a multilevel representation.

Hierarchy in panarchy

Before developing effects of interconnection in multilevel adaptive cycles, we need to present the hierarchy position of the different adaptive cycles in the panarchy model. This position depends on how fast an ecosystem can progress in its resilience process i.e. passing through disturbances and reorganising itself. The fastest loops are placed below on the figure 3 i.e. entrepreneurship education ecosystem, while the slowest ones take place above i.e. sustainable development education ecosystem.

In social ecosystem, the speed measurement is based on its capacity to foresight, to adapt its methods and to exploit opportunities. It also takes into account internal regulation, communication flow and the use of technologies (Holling, 2001). Some of those speed criteria apply to entrepreneurship education

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**Fig. 2** Entrepreneurship education resilience facing disturbances (adapted from Gunderson and Holling, 2002).

**Student’s initiatives**

- Social ventures
- Ecological products
- Recycling supply chains
- Greenwashing strategies
- Participative governance
which allows us to qualify entrepreneurship education as a fast adaptive ecosystem.

Less organised and looking for consensus SSEE ecosystem (Jill Kickul and al., 2012) is represented on a slower resilient loop than entrepreneurship education and placed above it. The sustainable development loop is at the top of the picture, as the organisation of this ecosystem is broad, less organised and slower than the social and sustainable entrepreneurship education. The decision to create a cross-disciplinary curriculum includes various degrees of institutional hierarchy and is recommended by scholars (Akrivou & Bradbury-Huang, 2014) but not generalised in the field yet. This slow transformation capacity is due to the inclusion of a wide variety of stakeholders and depends on their abilities to collaborate (Krasny and al., 2010) and to find a consensus facing disturbance in creating a strong education ecosystem in sustainable development (Kyrö, 2015; Painter-Morland and al., 2015).

![Sustainable development education ecosystem](adapted from Gunderson and Holling, 2002).

Note that using the entrepreneurship education ecosystem, as a starting point is a punctuation choice, meaning that we could have started the discussion with another key ecosystem, namely the sustainable development education ecosystem. This ecosystem is dedicated exclusively to the education of sustainable development and opened to interdisciplinary perspective (Thomas K.D., 2014).

### Interconnection between ecosystems

Two types of interconnections are particularly significant at times of change in our three-levels panarchy model: the revolt and the remember effect.

Assimilated to a creative destruction, the “revolt” effect goes bottom-up and occurs when critical changes have affected one ecosystem while having also transformative effects on an above larger and slower ecosystem. We illustrate this revolt effect by the desire of some stakeholders to integrate more social and sustainable topics into entrepreneurship education that causes a critical shift on an upper cycle creating social and sustainable education ecosystem. On the figure 4, it starts from Ω in entrepreneurship education and goes to K in social and sustainable entrepreneurship education.

The second effect is a top-down connection and called "remember" effect. It facilitates renewal cycle of an ecosystem by drawing on the potential accumulated and matured in a larger and slower cycle placed above. We identify a “remember” effect, when stakeholders from SSEE benefit of the
environmental engagement from the sustainable development education. It facilitates the natural expansion of the social entrepreneurship double bottom line that slowly shifts toward a triple bottom line by adding in its mission “environmental protection” as an answer to include sustainability in education. This effect is described as piggy-backing in the work of Painter-Morland and al. (2015). This remember connection starts from K in sustainable development education, where it has been accumulated and stored, and cascades to the phase α in social entrepreneurship education. The ecosystem of social entrepreneurship education becomes -social and sustainable entrepreneurship education- and needs to reorganise itself to formally integrate the subject in its curriculum (Kickul and al., 2018).

![Diagram of Panarchy model]

**Fig. 4** Panarchy, a model of nested adaptive cycles emphasizing cross-scale interplay (adapted from Gunderson and Holling, 2002).

As such, panarchy integrates SSEE as part of multiple adaptive cycles model and illustrate how an ecosystem should be innovative by taking advantage of opportunities from other ecosystems (?). Each ecosystem evolves at its own rhythm, influenced from above by slower levels of maturation and stimulated from below by faster innovation cycles. The panarchy presents the creative and conservative spirit of ecosystems as well as the origin of their transformative potential through their continuous interactions.

3. **SSEE ecosystem major learning and teaching intentions**

Following this contextualisation of close but distinct ecosystems, we are now observing the learning and teaching intentions of stakeholders in the SSEE ecosystem cycles. To be faithful to the three pillars of SSEE and to our panarchy model, we include the three streams of educational literature when they address a contribution to of SSEE: social education, education for sustainable development and education for entrepreneurship.
Students learning intentions

Students are regularly cited as a trigger factor for SSEE development (Fichter & Tiemann, 2018). SSEE programs have arisen in university curricula worldwide responding to student’s desire for more meaningful education and desires to make a difference in the world (Miller and al., 2012). Students are primary stakeholders in the SSEE ecosystem.

First, we consider the SSEE literature addressed by the education for entrepreneurship. It represents more than 70% of the collected articles. Researches that question the student population, are not frequent. They mainly assess students’ progress on specific aspects of their learning process. Some qualitative researchers focus on students entrepreneurial skills development in a learning by doing context where teams are assigned social entrepreneurship projects (I. H. Smith & Woodworth, 2012) or fund raising projects (Chang and al., 2014). Kwong and al. (2012) question postgraduated business students to compare the use of a social business plan activity rather than a case study approach. Finally, graduated students are cited when testifying that their SSE class based on a paradoxical leadership model help them after their studies in their social entrepreneur carrier (W. K. Smith and al., 2012). This model helps them to integrate a deep understanding of commercial and social logics that appears to be a major issue while working on social problems with students in business school. We should also mention quantitative researches focused on identifying drivers for entrepreneurial intention through learning experiences (Bacq & Alt, 2018; Hockerts, 2018).

The second stream of SSEE literature coming from the sustainable development education field reveals that a majority of students value sustainable competencies regarding the future labour markets. They consider SSE as an option to faith their values and their carriers at the same time (Grindsted, 2016). Ploum and al. (2018) find that students’ pro-environmental behaviour and moral development are antecedents to a sustainable entrepreneurial carrier. Finally, a third article questions students about competencies they develop in SSE. It compares the mainstream entrepreneurship education and SSE and stresses the distinction between “individual self-interest” for the first one and collective/societal aspirations for the second. It also insists on the importance of interdisciplinary perspectives (Lans and al., 2014).

A very small part of the SSE literature is addressing by social education literature, the main issue investigated about students is their perception of social entrepreneurship as a carrier. A recent study reveals that social work students from underrepresented minority are appealing by social entrepreneur vocation due to job market difficulties (Archibald and al., 2016). Another contribution highlight students’ view of the commercial aspect as an associated idea for taking advantage of beneficiaries. It conclude by underlining the importance of developing student's commercial skills through social entrepreneurial projects in order to empower them to create enterprises that respect their sense of ethic (Bent-Goodley, 2002). Here again developing the distinctive value of social well-being and business success as integrated and complementary logics is pointed (Y. Zhu and al., 2016).
After this first analysis, we find that very little researches have interviewed students from the SSEE ecosystem and none focused on their learning intentions when joining a SSEE program. However, authors from the social and entrepreneurial spheres of education are moving towards a consensus on the next challenge for SSEE. According to them, educators have to train students to engage themselves in cross-fertilization dialogue between social and economic issues (J. Kickul and al., 2012). This reflection is complemented by the sustainable literature that recommends to place this dialogue in an inter- and transdisciplinary context in addition to an emphasis for environmental dimensions (Cincera and al., 2018).

**Stakeholders teaching intentions**

SSEE teaching intentions call for new mental models to change the linear framework where conflict logic ends by the victory of one at the expense of the others (W. K. Smith and al., 2012). As mentioned above, students have not been directly questioned about their learning intentions but literature recommends to develop their capacities to engage in a dialogue where commercial, social and environmental emphases are cross-fertilising. To be coherent with this view shared by the stakeholders of the SSEE, we are presenting a first collect of teaching intentions coming from all the categories of actors from the ecosystem.

Considering the governmental contribution to the subject, European and National Governments are encouraging social, sustainable and entrepreneurship education through policies (Bent-Goodley, 2002; Fichter & Tiemann, 2018; Kurth-Schai, 2014) and local government are supporting financially SSEE initiatives (Grindsted, 2016; Howorth and al., 2012).

On the field, social and sustainable entrepreneurs are questioned to identify competences needed in SSEE (Bent-Goodley, 2002; Howorth and al., 2012; Lans and al., 2014) and play a direct role when interacting with students as jury members, mentors or during work on field experiences (Chang and al., 2014). NGOs are often present for the same reasons than entrepreneurs but produce also researches and pedagogical tools for SSEE (Fichter & Tiemann, 2018; J. Kickul and al., 2012; Pache & Chowdhury, 2012; I. H. Smith & Woodworth, 2012). To be complete about stakeholders’ collaborations we should also relate the voice of others such as social investors, foundations, social enterprise associations, microfinance organizations, sponsors that influence the practices in SSEE as they are also consulted by students for their expertise (Chang and al., 2014; J. Kickul and al., 2012).

In the education literature, researchers and academics are close partners or even the same people with a double hat. Regardless of their field of affiliation, education practitioners testified that their role is to teach contents through various methods such as case studies, modelling, field actors’ testimonies, active learning and teams’ productions. However, they also insist on the difficulty to coach students in learning by doing activities in this context of multiple logics practises. Tensions in teams are expressed and it is commonly expected from participants to operate a mind-set transformation to develop a harmonious system of contained conflicts (Y. Zhu and al., 2016). By engaging in this direction, educators feel challenged to favour cognition by accompany student teams in their dialogue constructions trough social learning processes (Chang and al., 2014; Pless and al., 2011). We assume that this configuration of collective projects development will be more and more familiar to education practitioners as they are themselves advised to engage in multidisciplinary reflexions (Archibald and al., 2016; Cincera and al., 2018; J. Kickul and al., 2012).

All these stakeholders’ participation into SSEE design has a real impact on universities as institution that leads top-down processes. They must deploy strategies to support and scale SSEE programmes (J. Kickul and al., 2012) and organise inter- and transdisciplinarity in teaching and learning (Cincera and al., 2018). Concerning students, they should offer opportunities to have global learning experiences (I. H. Smith & Woodworth, 2012) and provide students with practical and direct experiences with social and sustainable enterprises (Y. Zhu and al., 2016). In addition to research and teaching, as SSE may address societal needs in an innovative way, universities should be ready to assume tasks such as technology transfer and patenting (Fichter & Tiemann, 2018).

**Discussion - Social learning practices**

Teaching in a SSEE programme offers a choice among multidisciplinary contents and multiple methods. The intention is to develop students’ professional identity based on a logic of complementarity between social, environmental and commercial responsibilities. To ensure that every student engages in this
complex process where numerous paradoxes coexist, literature recommends between others the use of experiential learning (Welsh & Krueger, 2009). In this context of collective aspirations, developing students’ social learning process is more than suggested.

At this time of our literature review, we see that educators common methodology is to assess students’ team to pursue business and societal objectives in interaction with the SSEE ecosystem stakeholders. The risk for educators in this configuration may be to evaluate teams’ final production as a tangible proof of success and to miss the social learning process. Some authors have highlighted this possibility and are suggesting to accompany students’ in their social practices (Cincera and al., 2018). To them, educators should adopt a ‘transformative’ language and encourage activation of learning from situations (Spais & Beheshti, 2016).

They put the emphasize on teaching students’ interpersonal communication skills (Miller and al., 2012) and the use of collaborative learning approaches (Chang and al., 2014). They propose that students engage in the co-construction of a community of practice (Howorth and al., 2012; J. Kickul and al., 2012) and develop their quality of mind through practice-based wisdom perspective and meaningful reflective learning (Y. Zhu and al., 2016). They recommend transformative learning (Cincera and al., 2018) through small “transformation groups” (W. K. Smith and al., 2012) and they also underline the importance of waring students against overconfidence in their understanding (I. H. Smith & Woodworth, 2012).

These recommendations send a strong signal that if SSEE should be based on experiential learning approached teaching intentions have to be coherent. The first tendency of our findings reveals that far from competing with each other, methodologies are complementary. They are all oriented toward social learning process where students learn from their peers and from the field. In this context, the main challenge for educators is to facilitate students learning process in this wide environment of knowledge and practices (Spais & Beheshti, 2016).

Social learning process is also a reality for educators when they organise interdisciplinary reflexions or jury for their students’ projects contest. At this time they are sharing their role of expert with other stakeholders from the SSEE ecosystem and even with others ecosystems. It is a second challenge for them to master aspects of social learning practices as they set an example in their interactions.

Under these conditions, educators should open the dialogue with students and ensure that they develop appropriate cognition from what they are experiencing. It is also an appropriate time to discuss students’ learning intentions, which could confirm that the process in place is consistent with their expectations.

Conclusions

Until now, educators from social and sustainable entrepreneurship draw on implicit finalities from multiple co-evolving education ecosystems. It creates tension (Laukkkanen, 2003) and potential inadequacies between -student’s expectation- and -teaching tools and objectives-. Moreover, it might hinder the realization of the full potential of SSEE.

In this paper, we mobilize the panarchy model to see how the SSEE ecosystem is connected with parent ecosystems and to trace the interrelations using adaptive cycles. Our educators, researchers, academic-practitioners, students and other stakeholders from different ecosystems could use it to see how the model will absorb their pedagogical innovation proposal that are sometimes seen as disturbances by their ecosystem and that influence also other ecosystems (Roundy, 2017).

Our ambition will be to pursue this this literature review, to propose a tool that facilitates the mapping of previous, actual and future research about the specificities of teaching SSE. The first result of our literature review makes us consider “social learning process” as one specificity to develop in social and sustainable entrepreneurship education (Biberhofer and al., 2018). Future research might examine and validate “social learning process” as a key concept for SSEE.
References


