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Social innovation education: Towards a framework for learning design

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Abstract

Purpose—This paper proposes a theoretical framework to support the embedding of social innovation education in existing academic programmes.
Design/methodology/approach—By adopting Conole et al.'s (2004) methodological approach to reviewing, mapping and modelling learning theory, this study addresses four research questions: 1) *How can social innovation education be defined?* 2) *Which learning theories best support social innovation education?* 3) *How do such learning theories relate to existing models of learning in higher education?* and 4) *What implications does a social innovation pedagogy have for learning design?*
Findings—Findings suggest that social innovation education is supported by a praxis that is grounded in critical learning theory, transformational learning theory and epistemological development. By extending Conole et al.'s (2004) model of learning theory, the present study proposes a 'zone of pedagogical praxis for social innovation education' that supports learning design on a more critical plane.
Research limitations/implications—The proposed model of learning may be of interest to other universities as they work towards stronger thinkers and stronger communities.
Practical implications—Using a theory-informed model for learning design nurtures a pedagogical praxis and underpins the development of a practical toolkit for designing social innovation education.
Originality/value—The findings of this study will provide a point of reference for other higher education institutions as they look for guidance on embedding principles of social innovation into their curricula.
Keywords: Social innovation education, Changemaker attributes, critical pedagogy, transformational learning, epistemological development, curriculum design
Paper type: Research paper

Background

In 2010 the University of Northampton embarked on the development of a new institutional strategy that put social innovation at the centre of its activities. Strategically, such an explicit commitment to positive social change helps to differentiate the University within a competitive and dynamic marketplace. Alongside this aspiration, the University has a mission "to transform lives and inspire change". Considered together, these objectives reflect the University's overarching vision to be a catalyst for stronger thinkers and stronger communities.

In 2013, the University was recognised as the UK's first AshokaU Changemaker Campus. AshokaU, which is part of the global Ashoka[2] network for social entrepreneurship, works specifically to nurture social innovation across university campuses. At present, there are approximately 30 university campuses within this particular network, and most of these are based in North America. The designation as a Changemaker Campus has validated the University of Northampton's efforts as a champion for positive social change and has been a source of pride and continued momentum towards its vision.

As the University seeks ways to embody principles of social innovation as an institution, it is vital to consider how to embed 'Changemaker' themes into the curriculum. Social innovation features as a topic across various extra-curricular and co-curricular activities. Despite several excellent examples of social innovation in the taught provision (see Alden Rivers and Smith, 2014) these are not commonly embedded across all of the disciplines and levels of learning.

The University's Institute of Learning and Teaching (ILT) is leading a two-year project to embed principles of social innovation in the curriculum. As part of this project and with financial support and

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mentoring from the UK Higher Education Academy, ILT is developing a toolkit to support the embedding of social innovation education through the design and redesign of academic programmes. This paper presents a theoretical framework to underpin the toolkit, currently being piloted at the University of Northampton, and provides some discussion questions for how these theories may inform learning design. Not only will the toolkit support the embedding of Changemaker themes across the University of Northampton's academic provision, but also, as a theory-informed resource, the toolkit will nurture a pedagogical praxis towards social innovation education.

Introduction
This study proposes a theoretical framework for embedding social innovation education through the design and redesign of academic programmes. First, the study rationalises a set of principles to support an ontology for social innovation education. Second, the study follows Conole et al.'s (2004) methodological approach for reviewing, mapping and modelling learning theories in order to construct a meaningful theoretical model for social innovation education. Finally, the paper outlines several implications for using this theoretical model to support the embedding of social innovation education.

This investigation is guided by four research questions; each of which is addressed in the body of this paper.
1. How can social innovation education be defined?
2. Which learning theories best support social innovation education?
3. How do these learning theories relate to a general understanding of learning in higher education?
4. What implications does a pedagogical praxis for social innovation have for designing learning?

Defining social innovation education
Articulating a definition of social innovation education is challenging for several reasons. First, the terms social innovation, social entrepreneurship and social change, all of which are commonly referred to in the context of higher education, are ill-defined (Schmitz, 2015). Second, despite several emerging academic programmes for social innovation, there is no definition of social innovation *education* in the literature. Third, as yet there is no specific theoretical framework for considering social innovation education for the purpose of developing a pedagogical praxis.

This papers argues for a subtle, yet clear, distinction between related terminologies to underpin the ontology of social innovation education. By adopting the definitions of "social innovation" as supporting "changes in … society which enhance its collective power resources and improve its economic and social performance" (Heiskala, 2007, p. 59) and of "social entrepreneurship" as "entrepreneurial activity with an embedded social purpose" (Austin et al., 2006, p. 1), it is possible to conceptualise social innovation as a driver of systemic social betterment in a broad sense, which may or may not require extensive entrepreneurial skills. Acknowledging the definition of "social change" as any action "whether progressive or regressive, and whether effective or not, in changing particular outcomes" (Pratto et al., 2013, 139), it possible to clarify further that social innovation (i.e. *being a Changemaker*) involves a sustainable approach to improving society by taking positive action to address social problems. AshokaU's "unifying principles for changemaking", shown in Table 1, corroborate these views of social innovation (Curtis, 2013).

Table 1: Unifying principles for changemaking (adapted from Curtis, 2013)

1.	Believe in a responsibility to make positive changes in society.
2.	Have the power and resources to make a difference (tangible and intangible).
3.	Take initiative to bring about innovative change, local and systemic.
4.	Work with others to maximise impact, working in groups and networks.
5.	Know and live authentically according to one's values.
6.	Practise empathy by engaging in another person's world without judgement.

Although a clear definition of social innovation *education* does not exist in the current literature, previous research carried out with University of Northampton staff and students suggested there are 14 Changemaker Attributes, as shown in Table 2 (Alden Rivers et al., 2015a). Through an in-depth literature review, Alden Rivers et al.'s (2015a) study built on the principles for changemaking in Table

1 and a set of teachers' conceptions of changemaking from their previous research (Alden Rivers et al., in press) to understand the qualities of a 'Changemaker Graduate'. The present paper supports the view that conceptually, social innovation education aims to develop these Changemaker Attributes among university students. However, this approach to social innovation education does not exclude those of other institutions that promote social innovation without belonging to the group of Changemaker universities.

Social innovation is an extremely important aspect of social policy both in the UK and in Europe. Importantly, the Changemaker Attributes overlap considerably with the University's 10 Employability Skills (Irwin, 2014). For the University, this signifies an important relationship between its ethical responsibilities towards workforce, economic and social development and its mission of social betterment through social innovation. Table 2 depicts possible ways that students who are developing Changemaker Attributes may also be able to demonstrate the University's 10 Employability Skills.

Additionally, it is important to note that there is significant overlap between the Changemaker Attributes and what is commonly cited in the literature as 21st century skills—or the competencies people need "to function effectively at work, as citizens and in their leisure time" (Ananiadou and Claro, 2009, p. 6). Although these skills are not new (Rotherham and Willingham, 2010), they have become "newly important" (Silva, 2009, p. 631). There are multiple drivers for institutions to nurture the development of 21st century skills (Bellanca and Brandt, 2010), including a call for more sophisticated levels of multi-media literacy (Black, 2009) and stronger orientations to ethical practice and social impact (Ananiadou and Claro, 2009). Many references to 21st century skills development within the literature focus on school curriculum (e.g. Metz, 2011; Griffin et al., 2012; Beamish and McLeod, 2014; Lambert, 2015). However, there is limited literature on what these skills mean for higher education institutions. The American Association of Colleges and Universities (2007) offered a set of 21st century skills that all university graduates should be able to apply. These include intellectual and practical skills, personal and social responsibility, and interdisciplinary learning (AACU, 2007; Dede, 2010). The UK Association of Graduate Recruiters published a report on "Skills for Graduates in the 21st Century" in 1995, which considered the implications for education.

Despite some commonalities between the Changemaker Attributes, employability skills and 21st century skills, there are clear areas of variance. Changemaker Attributes reflect greater empathy, more creative problem-solving, deeper and more critical reflection, enhanced civic responsibility, superior social and emotional intelligence, advanced skills at overcoming adversity, extreme optimism, and significant self-regulation. In this respect, social innovation education can be defined by a sophisticated skill set that subsumes employability skills and 21st century skills, and that promotes learning on a more critical and socially impactful plane.

As a way to define social innovation education, the following guiding principles are proposed.
1. Social innovation education promotes systemic and sustainable approaches to improving society through positive social change.
2. Social innovation education aims to develop qualities for positive changemaking in students, such as those referred to as Changemaker Attributes.
3. Social innovation education subsumes the development of employability skills and 21st century skills, while working towards a more sophisticated set of competencies.
4. Social innovation education promotes learning on a more critical and socially impactful plane than traditional undergraduate education.

Social innovation education can therefore be defined as the complex process of developing graduates who aspire to change the world for the better, regardless of career path. These individuals are knowledgeable, socially and ethically responsible, as well as emotionally intelligent innovators, leaders and communicators.

Table 2: Possible ways that Changemaker Attributes can demonstrate the University of Northampton's 10 Employability Skills

Changemaker Attributes and description (Alden Rivers et al., 2015)		10 Employability Skills (Irwin, 2014)
1. Self-confidence	• in having and sharing one's point of view • in challenging others' assumptions • in being able to instigate change • to deal with issues when they arise • to work with others	Communication Team work Positive work ethic Leadership Influencing, persuading and negotiating
2. Perseverance	• be optimistic • have resilience to engage in ill-structured tasks • adapt in positive ways to changing circumstances • practice tolerance to stress and ambiguity • have grit • work to thrive in the face of adversity	Positive work ethic Organisation and action planning Influencing, persuading and negotiating
3. Internal locus of control	• be self-regulated in monitoring progress against a plan • work in a self-directed way, without supervision • collect and maintain up to date records of achievement	Positive work ethic Self-management and reflective learning
4. Self-awareness	• have awareness of own strengths and weaknesses, aims and values • believe that personal attributes are not fixed and can be developed • be independent • be willing to learn and develop • have an understanding of one's learning style • be a "self-author"	Self-management and reflective learning
5. Action orientation	• take action unprompted • engage in action planning • set goals • have ambition	Positive work ethic Organisation and action planning Leadership Self-management and reflective learning Opportunity recognition
6. Innovation and creativity	• be original and inventive and to apply lateral thinking • be a future-thinker	Problem-solving, analysis and investigation Opportunity recognition
7. Critical thinking	• be motivated and skilled to locate, interpret and evaluate a range of evidence, using tools where appropriate • understand knowledge as uncertain and contextual • evaluate methods for problem-solving • question assumptions	Problem-solving, analysis and investigation
8. Empathy	• be motivated to consider others' perspectives • develop an aptitude for understanding another's perspective	Communication Team work Networking Influencing, persuading and negotiating
9. Reflective	• be motivated to engage in active reflection for problem solving • work as a reflective practitioner • use learning logs, journals, blogs or diaries	Problem-solving, analysis and investigation Self-management and reflective learning
10. Communication	• possess high level of literacy, numeracy and digital literacy • share findings and good practice with others • have awareness of communication across other cultures • influence, persuade and negotiate to positive ends • be a networker • co-construct meaning with others • learn cooperatively	Communication Team work Networking Influencing, persuading and negotiating
11. Emotional intelligence and social intelligence	• be socially aware • understand the role of emotions when working with others • use emotion in positive ways	Communication Team work Leadership Influencing, persuading and negotiating
12. Problem solving	• recognise problems • develop a strategy for problem solving • evaluate the strategy for problem solving	Problem-solving, analysis and investigation Opportunity-recognition
13. Leader	• inspire others and secure commitment • make decisions • look for the big picture • articulate your vision • implement change	Leadership
14. Values-driven	• be ethical • be a global citizen • be an environmental steward • be an advocate for social justice and wellbeing	

Developing a theoretical framework for designing social innovation education
This paper aims to propose a theoretical framework for embedding social innovation education through the design and redesign of academic programmes. It is vital that models for learning design remain "flexible, customised and empowering" to learners (Nair, 2014, p. 2) and that the activity of learning is not compromised for the "ephemeral pursuit of skills" (Rotherham and Willingham, 2010, p. 17). Sound instructional design needs to be underpinned by learning theory (Jacobs, 2008) and these beliefs about learning need to be articulated throughout the design process (Sandoval, 2014) in a way that nurtures pedagogical praxis. Without praxis (the interplay between practice and theory), "theory become abstraction" and "practice becomes ungrounded activity" (Darder et al., 2003, p. 15).

This paper intends to lay the groundwork for developing a toolkit for embedding social innovation education. Toolkits are described as a "pragmatic approach to applying theory to practice" that offer a set of theory-informed resources for decision making (Conole and Oliver, 2002, p. 2). There are many examples of toolkits to support various aspects of learning design. For example, Rapp et al. (2015) proposed a toolkit for embedding social media into higher education teaching and learning, and the Higher Education Academy (2013) published a toolkit for supporting effective feedback on student assessment. In proposing a theoretical framework for social innovation education, this paper moves closer towards developing a toolkit to support learning design and pedagogical praxis.

Method
This study adapts Conole et al.'s (2004) methodological approach to "supporting and enabling theory-informed design" (p. 18). The following stages have been adapted from Conole et al.'s methodology for the purposes of guiding the present study.
1. Reviewing learning theories that are highly relevant to social innovation education
2. Identifying common characteristics across these learning theories
3. Constructing a model using these characteristics
4. Applying and testing the model while developing a toolkit for embedding social innovation education

Stage 1—Learning theories for social innovation education
Social innovation education, if embedded into any subject area, enhances the core curriculum through a focus on creative social problem solving. Skills and behaviours associated with developing students as changemakers are indicative of a more critical learning experience—in terms of experience, knowledge and reflection. The criticality of learning that is required for social innovation education is underpinned by three particular learning theories: critical learning, transformational learning and epistemological development. For this study, Stage 1 of the methodological approach involved a thematic literature review that drew on both classic and contemporary writing on these three theories.

Critical learning theory
Critical learning theory is commonly associated with a radicalisation of pedagogy in the 1970s and 1980s, which emerged in response to "the ideology of traditional teaching practice" (Giroux, 1988, p. xxix). A critical pedagogy, therefore, is one that questions assumptions, considers identity and social agency, and theorises on the role of education in supporting a more democratic society (Freire, 1970; Giroux, 2011). Drawing on Maxine Greene's notion of *wide-awakeness*, Rautins and Ibrahim (2011) suggested that a critical pedagogy "empowers learners to be mindful of oneself and others" (p. 25). These authors supported the view that critical pedagogies focused on imagination, humanism, agency and becoming, could "move students toward creative possibilities for a promising future" (p. 24).

Critical pedagogy often uses authentic problem solving and place-based learning to develop empathy, critical thinking and civic responsibility among students (Scorza et al., 2013). Schultz et al.'s (2013) study described how Social Action Curriculum Projects engaged students in experiential learning while developing their agency for community development. Teachers who adopt a critical pedagogy are often said to be "teaching off the grid", "under the radar" (Kress et al., 2013, p. 7), or "in the cracks" (Schultz et al., 2013, p. 53), since these methods are sometimes "outside the box" (Rautins and Ibrahim, 2011, p. 24).

These ways of talking about critical pedagogy suggest a complex situation for teachers and students. A critical pedagogy presents teachers with the challenge of managing expectations against an

expected curricula while continuing to find opportunities for "organic student engagement" within the community (Scorza et al., 2013, p. 53). Kress et al. (2013) claimed that teachers who espouse a critical pedagogy will need to employ "tactic and strategy" in "knowing when, where and how to be critical", particularly in a way that is "mindful" of others and does not pursue a personal "agenda" (pp. 8-12).

Despite its challenges and limitations, critical learning theory supports social innovation education in its pursuit to address the inequalities and injustices of society. In doing so, learning design that is underpinned by critical learning theory has the potential to explore and develop Changemaker Attributes through intense, close-up and action-orientated experiences and activities.

Transformational learning theory
Transformational learning aims to challenge and change individual's beliefs, attitudes and behaviours through critical reflection and discourse (Mezirow, 1998; Dirkx, 2006). Transformational learning happens through "personally relevant experiences, which emerge from social interactions, peer dialogue and self-reflection" (Preston et al., 2014, p. 55). Kroth and Boverie (2015) discussed transformational learning as a result of discovery, both of humanity and of the world, and this sort of "self-awareness" is vital for helping students reach their full potential (Rosen, 2014, p. 59).

The process of transformational learning is not necessarily a comfortable one. Butler (1996) described learning as sometimes being "a disturbing and unsettling process" but suggested that that being uncomfortable was a necessary aspect of learning.

If the learning event is intended to be transformational, then there must be a period when the participants are unsettled, wondering and challenged. (p. 275)
Such feelings have been referred to as "anxiety producing" (Brookfield, 1987, p. 7) and as creating "disorientating dilemmas" (Mezirow, 1990, p. 22). However, confronting these feelings is "central to any notion of reflection" (Boud & Walker, 1998, p. 192) and works to develop the sense of perseverance and resilience inherent in social innovation education.

Taylor (2009, pp.7-13) identified a series of core elements of a transformational pedagogy, as shown in Table 3.

Table 3: Core elements for transformational learning (adapted from Taylor, 2009, pp. 7-13)

1. an emphasis on individual experience as the primary medium for transformation
2. the promotion of critical reflection to question deeply held assumptions
3. engaging in dialogue with the self and with each other
4. a holistic orientation, inclusive of other 'ways of knowing'
5. an awareness of personal and socio-cultural context
6. valuing authentic relationships to support openness

There is significant overlap between transformational learning theory and critical learning theory, which White and Nitkin (2014) suggested can be summarised by the notion of agency. Where critical learning experiences nurture the development of agency for social responsibility, transformational learning focuses on developing agency for one's own learning and development. It is the development of a locus of control that speaks directly to the Changemaker Attributes. Deepening one's capacity to be self-directed and self-regulated while having a sophisticated awareness of one's wider context is central to social innovation education.

Epistemological development
Perry's (1970) model of intellectual and ethical development is widely acknowledged as the forerunner for research on epistemological beliefs (King and Kitchener, 1994) and is considered a "heuristic for understanding" the ways university students experience education (Hofer and Pintrich, 1997, p. 90). Later research, such as Baxter Magolda and Porterfield's (1985) measure of epistemological reflection and Belenky et al.'s (1986) research with female university students, advanced this area of knowledge. Each of these models describes a student's ways of knowing as ranging from a least sophisticated orientation, "absolute knowing" to the most sophisticated way of knowing, "contextual knowing" (Baxter Magolda, 1992, p. 30). Table 3 outlines themes that emerged from Baxter Magolda's research with contextual knowers.

Table 4: Themes of contextual knowers (adapted from Baxter Magolda, 1992, p. 30)

1. Students valued opportunities to think and explore for themselves, to struggle with ideas, and to formulate and support their opinions.
2. Students valued connecting their beliefs with their own lives and identities.
3. Students valued teaching/learning that utilised their own knowledge and experience.
4. Students valued mutual respect in the student/teacher relationship.
5. Students valued collaboration among peers in exchanging perspectives.

Critical reflection is the mechanism by which epistemological development occurs. Reynolds (1998) outlined the characteristics of critical reflection that differentiates this activity from other types of reflection (see Table 5).

Table 5: Characteristics of critical reflection (adapted from Reynolds, 1998, p. 189)

1. Concerned with questioning assumptions
2. Focus is social rather than individual
3. Pays particular attention to the analysis of power relations
4. Concerned with emancipation

Brookfield (2000) suggested that critical reflection is an integral component of adult education and is necessary for transformative learning. Lucas and Tan (2013) noted the importance of critical reflection in higher education in as much as it underlines professional judgement and ethical awareness. Developing skills for critical reflection is a necessary step for students in "learning how to learn" (p. 104). Furthermore, critical reflection is required to overcome the epistemological challenges of negotiating troublesome concepts, which is central to transformational learning (Meyer and Land, 2005). Critical reflection on experience is a key theme of both critical learning theory, transformational learning theory and epistemological development. Moreover, in promoting Changemaker Attributes, critical reflection and the development of more sophisticated and contextual views of knowledge are central to the work of social innovation education.

Stage 2—Common characteristics of learning theories

The previous stage identified three learning theories as being particularly aligned with the aims of social innovation education: critical learning theory, transformational learning theory and epistemological development. The key features of each learning theory are summarised in Table 6.

Table 6: Key learning theories for social innovation education and their characteristics

Theories	Main characteristics	Key Literature
Critical learning	• Questions assumptions and constructs that support oppression, inequality and injustice • Engages in close-up, action-orientated problem solving to address social problems • Is sometimes 'place based', rather than in a traditional formal learning environment • Focuses on transformation through reflection on socially contextualised experiences • Works to develop agency for civic responsibility • Requires a sense of social and self-awareness	Giroux Freire
Transformational learning	• Aims to change individual perspectives through critical reflection • Promotes discovery through the questioning of deeply help assumptions about one's self and the world • Focuses on transformation through individual reflection on one's own experiences • Works to develop agency for self-direction and self-regulation of one's own learning and development • Requires a sense of self-awareness and social awareness	Mezirow Dirkx Knowles Taylor

Epistemological development	• Focuses on the development of 'ways of knowing' toward more sophisticated views of knowledge • Supports conceptual development by providing skills to cope with troublesome concepts • Requires critical reflection as the central mechanism for progression to more sophisticated epistemological positions • More advanced epistemological positions suggest stronger ethical and social commitments through a contextual understanding of one's self within society	Perry Baxter Magolda Belenky Hofer and Pintrich Kuhn and Weinstock Meyer and Land

An analysis of these three learning theories yielded a set of three common characteristics.
1. The notion of transformation through learning
2. Critical reflection as a central mechanism for learning
3. The focus on non-traditional 'place-based' learning experiences

Stage 3—Constructing a model
By working through a similar methodology, Conole et al. reviewed seven key learning theories to develop a model for learning design.
1. Behaviourism
2. Cognitive
3. Constructivist
4. Activity-based
5. Socially-situated learning
6. Experiential
7. Systems theory

From their review and analysis, Conole et al. found six common characteristics that they presented as a set of three spectra, as shown in Table 7.

Table 7: Three spectra resulting from Conole et al.'s (2004) analysis of key learning theories

Information	←---------→	Experience
Non Reflection	←---------→	Reflection
Individual	←---------→	Social

Conole et al. theorised that these spectra could be represented as a hexagonal model depicting key features of learning theory, as shown in Figure 1.
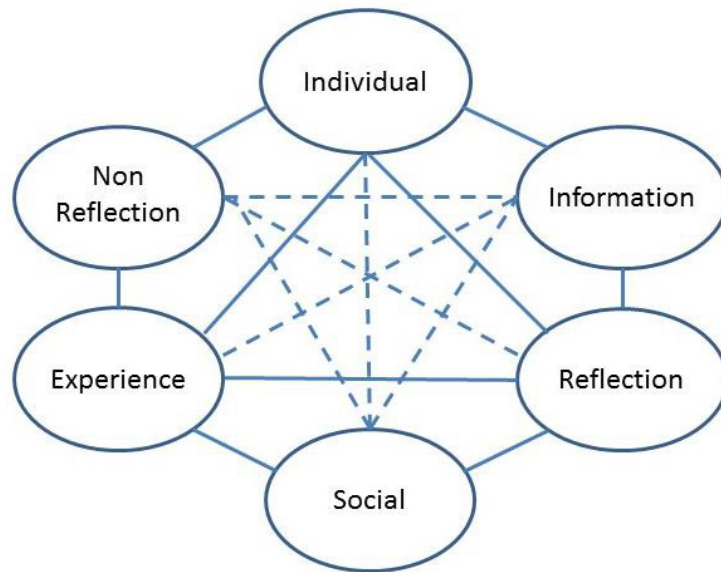
Figure 1: Model of common characteristics of key learning theories (used with permission from Conole et al., 2004, p. 24)

Conole et al.'s model provides a theoretical basis for learning design that is informed by a range of key learning theories. For the present study, it was important to retain the integrity of Conole et al.'s original model since it supported the core features of learning and teaching in higher education. However, Conole et al.'s model has limitations that are particularly relevant in the context of social innovation. For example, social innovation is concerned with using *critical reflection* for *change* in specific *settings or locations*, such as a student's local community. Since social innovation education is conceptualised as existing on a more critical plane to much of the current higher education curriculum, it seemed appropriate to use the findings of the present study to extend Conole et al.'s model. Permission was granted by Conole et al. to adapt their model for the purposes of the present study.

Through the review and analysis of critical learning theory, transformational learning theory and epistemological development, three common characteristics were identified. These map on to Conole et al.'s original three spectra to extend learning into a more 'critical zone', as shown in Table 8.

Table 8: Expanded spectra showing the critical zone of pedagogical praxis for social innovation education, in bold

Information	←----------→	**Experience**	←----------→	**Transformation**
Non Reflection	←----------→	**Reflection**	←----------→	**Critical Reflection**
Individual	←----------→	**Social**	←----------→	**Place Based**

Using these extended spectra and the relationships between them, an expanded version of Conole et al.'s model is proposed in Figure 2. The shaded area shows the 'zone of pedagogical praxis for social innovation education', providing a theoretical understanding of how social innovation education is characterised by these three learning theories.
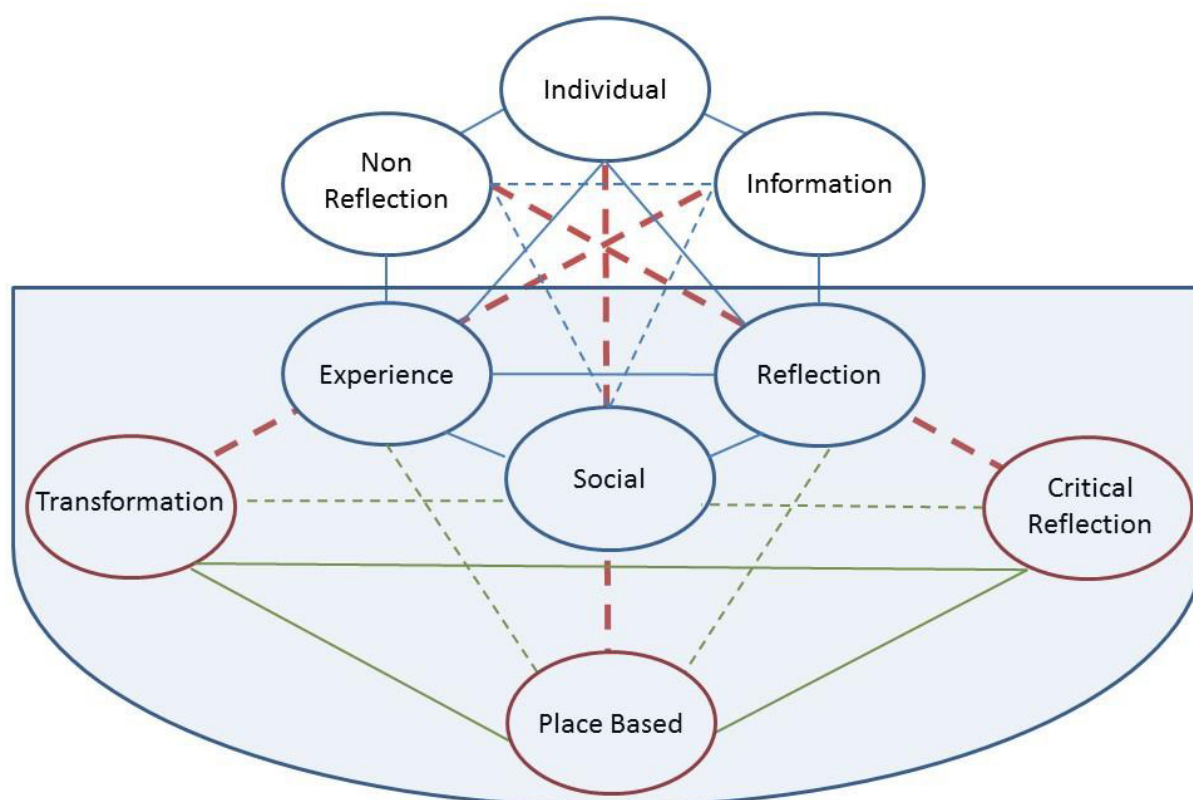
Figure 2: Expanded model of learning theories showing the 'zone of pedagogical praxis for social innovation education' in shaded area (adapted with permission from Conole et al., 2004)

Stage 4—Applying and testing the model

As part of this Higher Education Academy funded project, described earlier in this paper, the University of Northampton will facilitate a series of curriculum redesign workshops in May and June 2015 to embed social innovation education in six existing academic programmes and one extra-curricular program. The redesign workshops will follow the standard protocol for the University's current curriculum design workshops. These workshops have been highly effective in embedding employability, technology enhanced learning and principles of flexible learning across the University's curricula over the past three years (Irwin and Maxwell, 2015).

The model proposed here will be the theoretical basis for these redesign activities and will be evaluated as part of a suite of theory-informed resources before the final toolkit is developed in June 2015. The core activity of the redesign workshops will involve three stages:

1. a reflective stage to consider the current mission, learning outcomes, learning activities and assessments of the programme in light of the principles of social innovation listed earlier in this paper,
2. a critical analysis of learning design in relation to the 'zone of pedagogical praxis for social innovation education and
3. an action planning stage for outlining an approach to revise learning outcomes, learning activities and assessments based on the reflection and analysis stages.

The second stage will involve facilitated discussions to explore pedagogical strategies for moving praxis beyond its current design and into 'the zone'. The following questions are indicative of those that will be used during this second stage of the redesign workshops.

Moving into the zone: Discussion questions

- Is there scope for learning outcomes to address the development of Changemaker Attributes in a more transparent way, while still maintaining levelness and academic threshold standards?
- Are there opportunities for learning activities to engage students in a more critical discourse around social problems, social inequalities, agency and the role of higher education in a way that is relevant to the academic subject?
- Are there opportunities for students to engage in experiential learning projects that are place-based and that are relevant to the academic subject and learning outcomes for the programme?
- How can place based activities be assessed?
- How can existing assessment be designed so it is more authentic?
- Is there scope for existing reflective learning activities to become 'more critical' in nature?
- How exactly does the existing course design support self-direction and self-regulation? How can this be enhanced?
- In what ways can the course design support a greater social and humanistic awareness?
- How can learning activities and assessments engage the imagination, a sense of agency and the notion of identity, while still being relevant to the subject?
- How can opportunities for open, supported and authentic dialogue (that are relevant to the academic subject) be promoted to support critical reflection on personal and social experience and to question deeply held beliefs about one's self and society?
- How can reflection on extra- and co-curricular experiences be nurtured as part of the academic programme?
- How is the course designed to support students dealing with troublesome concepts?
- How can multiple activities and experiences be provided to support social innovation education within the academic subject area while at the same ensuring comparable learning opportunities are available to all students within the cohort?
- How can 'outside the box' teaching and learning be developed and evaluated in a niche subject area so that it can be transferred into mainstream practice across the university?
- How can social media and other technology support the embedding of social innovation education?
- How can a module be designed in a way that supports the development of Changemaker Attributes over the trajectory of the whole programme?
- How can students and teachers be aware they are developing as Changemakers through an embedded approach to social innovation education?
- What role do students play in co-producing and informing learning design for social innovation education?

Discussion and conclusions

As a progressive society, there is an expectation for young people to become the social leaders and innovators of tomorrow, as well as a fundamental assumption that social constructs will enable young people to work as change agents (Alden Rivers et al., 2015). The University, through its mission to "transform lives and inspire change" and its commitment to social innovation, aspires to be an enabler for developing stronger thinkers and stronger communities. In many ways, the University's orientation to social innovation education reflects the "supercomplexity" of the world in which we live (Barnett, 2000, p. 257). Inherent in this calling is an opportunity to embody principles of social innovation across the curricula: for social innovation to become the 'DNA' of the student experience. This presents several conceptual and practical challenges for teachers, learning designers and students.

Inevitably, there will be variations in motivation for students to engage with social innovation education. Furthermore, students will come to academic programmes with different sets of skills, behaviours and attitudes, which will represent a different position in their development as a Changemaker. There will be gaps in understanding between teachers and students about what social innovation education is and why it is important (cf. Hodge and Lear, 2014). There may not be 'buy in' from teaching staff at the programme level to embed social innovation education into their own praxis.

This paper attempted to address *some* of these challenges by providing an ontology for social innovation education through a clarification of terminology, a delineation of Changemaker Attributes

and a set of principles for defining social innovation education. Furthermore, this paper reviewed a set of learning theories that specifically support teaching and learning on a more critical plane. By analysing features of critical learning theory, transformational learning theory and epistemological development, a set of common characteristics were found. These characteristics—transformation, critical reflection and place-based learning—signal a focus for teaching and learning that is sometimes beyond the standard curriculum. By extending Conole et al.'s model of learning theory, it is possible to depict a 'zone' of critical pedagogical praxis. Through a series of curriculum redesign workshops, this model will be tested and evaluated to understand its effectiveness in supporting the embedding of social innovation education. These activities will form a continuing researching programme around this institutional initiative.

Higher Education institutions have processes in place for regular curriculum renewal. Such processes are usually in line with each institution's mission and profile. This paper puts forward a deliberate rationale to align curriculum redesign with the principles of social innovation at the University of Northampton. Through suitable adaptation, this toolkit might be useful in settings where curriculum renewal is undertaken with a different institutional focus. Ultimately, this model, along with other theory-informed resources, will comprise a toolkit for further embedding of social innovation education across the curricula. It is hoped that such a tool will be a significant resource to other higher education institutions as they continue to find ways to thrive in a supercomplex landscape.

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