Threshold Concepts in Entrepreneurial Thinking; their use in curriculum development.

Introduction

This document provides both a summary of the EERPF-funded research undertaken by the authors into identifying locally agreed Threshold Concepts for Entrepreneurial Thinking at the Centre for Innovation and Entrepreneurship (CfIE) and a set of proposals for their adoption and use by academic colleagues in the CfIE for the purposes of curriculum development.

Over the course of the research, we have deliberately moved from discussing *Entrepreneurship* to discussing *Entrepreneurial Thinking*. The reason for this shift in nomenclature is a widespread understanding that Entrepreneurship might only refer to the process of starting-up entrepreneurial ventures, whilst Entrepreneurial Thinking is more readily understood as being of wider application beyond that narrow usage. Whilst the scholarship does support a broader interpretation of Entrepreneurship as being about more than start-up, many stakeholders (including educators, entrepreneurs, and wider stakeholders) adopt a narrower understanding in their practice. For the purposes of encouraging more discussion and adoption of the insights and guidance presented here we have used *Entrepreneurial Thinking* as the framing for our research.

We should also highlight that these concepts are specific to entrepreneurial thinking rather than a wider account of the CfIE's areas of educational provision; as stated above, we do not explicitly cover entrepreneurship understood specifically as venture-creation or business management, nor do we explicitly discuss concepts pertaining to design or design thinking, although there are likely to be some interrelations and adjacencies of interest for further research.

Candidate Threshold Concepts in Entrepreneurial Thinking

The threshold concept framework posits that in any academic discipline there are concepts that have a particularly transformative effect on student learning. Termed threshold concepts, they represent a transformed way of understanding something, without which the learner cannot progress (Meyer & Land, 2005). In transforming the learner, threshold concepts change the learner's perceptions, subjectivity and worldview. This can often be uncomfortable and is therefore sometimes resisted. Mastery of a threshold concept simultaneously changes an individual's idea of what they know and who they are (Cousin, 2009). Such conceptual understanding is likely to be irreversible and is unlikely to be forgotten or unlearned. Threshold concepts are also characterised by their integrative nature in that they expose how other things can be related to each other.

Defining the threshold concepts in any subject discipline is likely to inform the development of the curriculum in order that it might be optimised. Threshold concepts are concepts that bind a subject together, being fundamental to ways of thinking and practising in that discipline (Meyer & Land, 2003, 2005). The concepts that are critical to thinking as an entrepreneur, and consequently to entrepreneurship, may be termed entrepreneurship threshold concepts (Meyer & Land, 2003, 2005). Using the threshold concept framework (Meyer & Land, 2003) to define entrepreneurial thinking presents an important opportunity both in terms of the credibility of the subject area, and the design and delivery of enterprise and entrepreneurship curricula in higher education.

The use of the term 'candidate threshold concept' started to appear from 2008 (Osmond, Turner, & Land, 2008; Shanahan, Foster, & Meyer, 2008; Zander et al., 2008) and it is intended to use the term here to communicate a sense of fluidity and openness to the potential evolution of these concepts in entrepreneurial thinking in context (Hatt, 2020). Candidate threshold concepts (CTCs) in entrepreneurial thinking will be offered as starting points for discussion, selection and further consideration, not as absolute fixed definitions.

We are also treating the threshold concepts in entrepreneurial thinking as socially constructed. We are looking to shine a light on a phenomenon (entrepreneurial thinking) as it is seen and interpreted socially, in a world characterised by multiple views of reality, as it is construed by whoever is looking at it. This suggests the possibility that threshold concepts in entrepreneurial thinking might be context dependent and temporal. That is why we are not attempting to offer a definitive list but invite you to consider developing your own situated set of threshold concepts in entrepreneurial thinking, meaningful for you at a particular time and in a particular place.

'Threshold' as opposed to 'Important' concepts

As described above, threshold concepts are both transformational in aspect and distinctive to the subject under discussion. Throughout the research process we discussed a much bigger range of potential concepts which were ultimately either incorporated as major or minor elements of the final set or removed because they did not meet the transformational or distinctive standard.

One of the defining characteristics of threshold concepts is that they are bounded. A threshold concept will likely delineate a particular conceptual space and serve a specific and limited purpose. We are particularly interested in this characteristic, as it allows us to distinguish entrepreneurial thinking, and stops it getting mixed up with other important areas such as employability and graduateness.

For example, concepts such as *financial acumen* were indisputably important but not regarded as transformational. Concepts like *teamwork* were likewise important but were subsumed into both 'Your Context is Your Opportunity' and 'Taking Action' from the purview of connecting and engaging with diverse (human) resources to spot and act on opportunities which felt more distinctive to entrepreneurial thinking.

Ideas such as *responsible innovation* and *moving from extractive to sustainable and regenerative practices* were also highlighted as highly desirable practice and potentially transformative for an individual but not necessarily transformative in establishing entrepreneurial thinking. Nonetheless these might be adopted into curriculum for the purposes of working towards a motivating and/or differentiating mission for an educator team.

It is also worth mentioning that we feel threshold concepts in entrepreneurial thinking come as a cluster or web, they are interdependent. Each one needs all the others to make sense.

The promise of threshold concepts in entrepreneurial thinking

Identifying threshold concepts in entrepreneurship could be useful for entrepreneurship educators in several respects; to avoid an overstuffed curriculum; to unblock student learning and facilitate curriculum development; and to demarcate the discipline.

Identifying some concepts as 'threshold' offers a way of differentiating between core learning goals which enable the learner to see things in a different way and other learning goals which, though

important, do not have the same significantly enabling and transformative effect. This allows the educator to focus on the conceptual understandings that enable a fuller understanding of the subject, and foster integration of knowledge, avoiding an over-crowded curriculum.

Failure to understand, view or interpret a threshold concept will stop the progression of learning. The threshold concept framework addresses the kind of complicated learner transitions learners undergo (Cousin, 2008). Recognising threshold concepts and the different ways individual learners approach them will enable educators to make the curriculum more effective and efficient and to unlock learner progress.

> *The significance of the framework provided by threshold concepts lies in its explanatory potential to locate troublesome aspects of disciplinary knowledge within transitions across conceptual thresholds, and hence to assist teachers in identifying appropriate ways of modifying or redesigning curricula to enable their students to negotiate such transitions more successfully.*
>
> (Land, Cousin, Meyer, & Davies, 2006, p. 205)

The Research Process

Over the last seven months the researchers have conducted four phases of consultation with CfIE colleagues including individual surveys and focus groups to iterate the seven threshold concepts presented alongside this document. An external panel of entrepreneurs and entrepreneurship support experts have also had input although CfIE colleagues have had the lead in proposing, editing, and finessing the CfIE threshold concepts for Entrepreneurial Thinking.

The Research Outcomes

Please refer to the appendix for a detailed breakdown of the seven concepts agreed upon.

Adopting the CfIE Threshold Concepts for Entrepreneurial Thinking

If one of the promises of identifying threshold concepts in a discipline is facilitating curriculum development and unblocking student learning, we should see transformative potential in incorporating activity for development of these threshold concepts in our unit and programme design.

If the CfIE purports to deliver “learning that enables students to make their mark on society by ‘breaking the mould’ and ‘enabling change’” (Strategy Review 2021) then the capacity to think like an entrepreneur and find and leverage opportunities to create positive value in the world is critical. Likewise, if our award-winning innovative pedagogy is to be maintained and developed further, we need to adopt pedagogic practice around concepts that have a transformative impact on students’ ability to translate intention into action and impact.

Amongst the Centre’s extant principles are exhortations to variously ‘focus on people, to ‘get __it done’, to ‘be resourceful’, and to ‘deliver impact’; these themes are all encountered within the threshold concepts identified here; the adoption of these threshold concepts will also support the embedding of those existing principles.

Furthermore, if we were to move towards identifying and developing a ‘signature pedagogy’ (Shulman, 2005) for educating professional innovation and entrepreneurship practitioners these

threshold concepts will help us articulate the *thinking*, *performing*, and *acting with integrity* associated with some of that body of professional practice.

Informal Adoption

These threshold concepts could be adopted informally by Programme and Unit Directors amongst other formal and informal principles such as relevant QAA benchmarks, the Bristol Futures Curriculum Framework, the University's Education Strategy, the CFIE Centre Principles, or EntreComp. All of these benchmarks help guide the content and formulation of teaching, learning, and assessment and these Threshold Concepts would also provoke useful educational design considerations.

Formal Adoption

If we wished to take a more formal approach to adoption, we might make the threshold concepts a required consideration when either a) developing or redeveloping new programmes or units, or b) on a regular calendar of existing programme and unit review. This should only be considered alongside other benchmarks and principles as the threshold concepts themselves are not sufficient to review all of the CfIE's educational aspirations. It will be important to distinguish them from learning outcomes in this case.

How to adopt the threshold concepts into the curriculum

The following are a range of suggestions and provocations intended for the benefit of Programme and Unit Directors in adopting and embedding the threshold concepts in their existing or emerging teaching, learning, and assessment design.

Entrepreneurship is a Practice:

- Encourage the use of entrepreneurial thinking (i.e., seeking opportunities to create value) in diverse contexts beyond venture-creation activities and de-coupling entrepreneurial approaches from venture-creation outcomes.
- Using examples and exemplars of entrepreneurial thinking and approaches from sources not traditionally associated with venture-creation (e.g., scientific discovery, social change, civic innovation)
- Engaging in discussion and debate with students about whether entrepreneurship is a process or a destination, who it is open to, and whether it is possible to think or act like an entrepreneur without having founded a venture.

Your Context is Your Opportunity to Create Value:

- Encourage students to gather and curate diverse inspiration, opinion, and data as a means to enrich the diversity of users and problems they are aware of and the means by which they might respond to them.
- Encourage students to both work within their existing means to solve challenges (rather than develop pie-in-the-sky solutions) and to harness their existing know-how and resources as creative constraints to their process.
- Use regular small formative tasks that focus on action rather than planning as a means to learn something useful.

Value is Defined by Others:

- Discuss and debate the different ways in which people and groups value specific items in different contexts (i.e., diamonds are expensive but useless, water is cheap but essential).
- Encourage stakeholder engagement and empathy when solving problems, and as openly as possible so that they are discovering opportunities valued by others rather than simply trying to validate their own assumptions.
- Highlight the value of testing and prototyping assumptions in a manner that specifically tests the value that stakeholders are willing to transact to gain the proposed product or service.

Iterative Experimentation:

- Encourage students to test early and test often as a means to learn quickly through affordable losses.
- Reward and celebrate both processes and pivots rather than rushing to polished outcomes. This might include allocating more marks to an account of a process, or a reflection on learning, rather than to a final project report or presentation.
- Formalise early and frequent presentations of work (through pitches, progress reports, critiques and similar) but on a formative basis, to encourage making and testing assumptions and developing a familiarity and resilience around constructive criticism.

Recognises Their Agency:

- Encourage the use of Systems Thinking approaches as a means to break down complex challenges and find places where students can find leverage to effect change. Include these systems-mapping 'first steps' within any project briefing.
- Acknowledge and celebrate student exemplars who have found a means to effect change on the causes and projects that matter to them.
- Where possible apply a principle of 'challenge by choice' so that students are encouraged to set their own personal and professional challenges within and alongside the curriculum.

Taking Action:

- Wherever appropriate, encourage students to act on an opportunity where they can apply the principle of affordable loss to gain valuable learning. Reflection should also be encouraged to capture the value of the learning gained.
- Encourage, even demand, regular tangible outputs from students' work, both in progress and at summation. This might be prototypes, models, simulations, or reports back from completed action-steps such as research processes.
- Create a safe and supported environment in which action is rewarded. Inaction need not be punished, but students should be given regular and accessible opportunities to act on opportunities rather than simply do still more planning.

Knowledge is Always Partial and Often Ambiguous:

- Encourage, or even demand, students formulate strategies and proposals for their projects where they have substantial uncertainty about the relevant data. Encourage them to evaluate the risks vs the opportunities and suggest risk management strategies. Provide a debriefing and discussion about how risk is perceived and responded to.
- Use examples and exemplars who can articulate the process of working in uncertainty and ambiguity. This might include risk-management strategies, conceptions of risk-tolerance and

affordable losses, and the value of treading where others are more risk-averse. Discussion 'about' risk and ambiguity needs balancing with students gaining experience of working in such conditions themselves.

- Be artfully vague (where it is not problematic to do so) when setting challenges so that you can subsequently engage in a debate about responding to uncertainty.