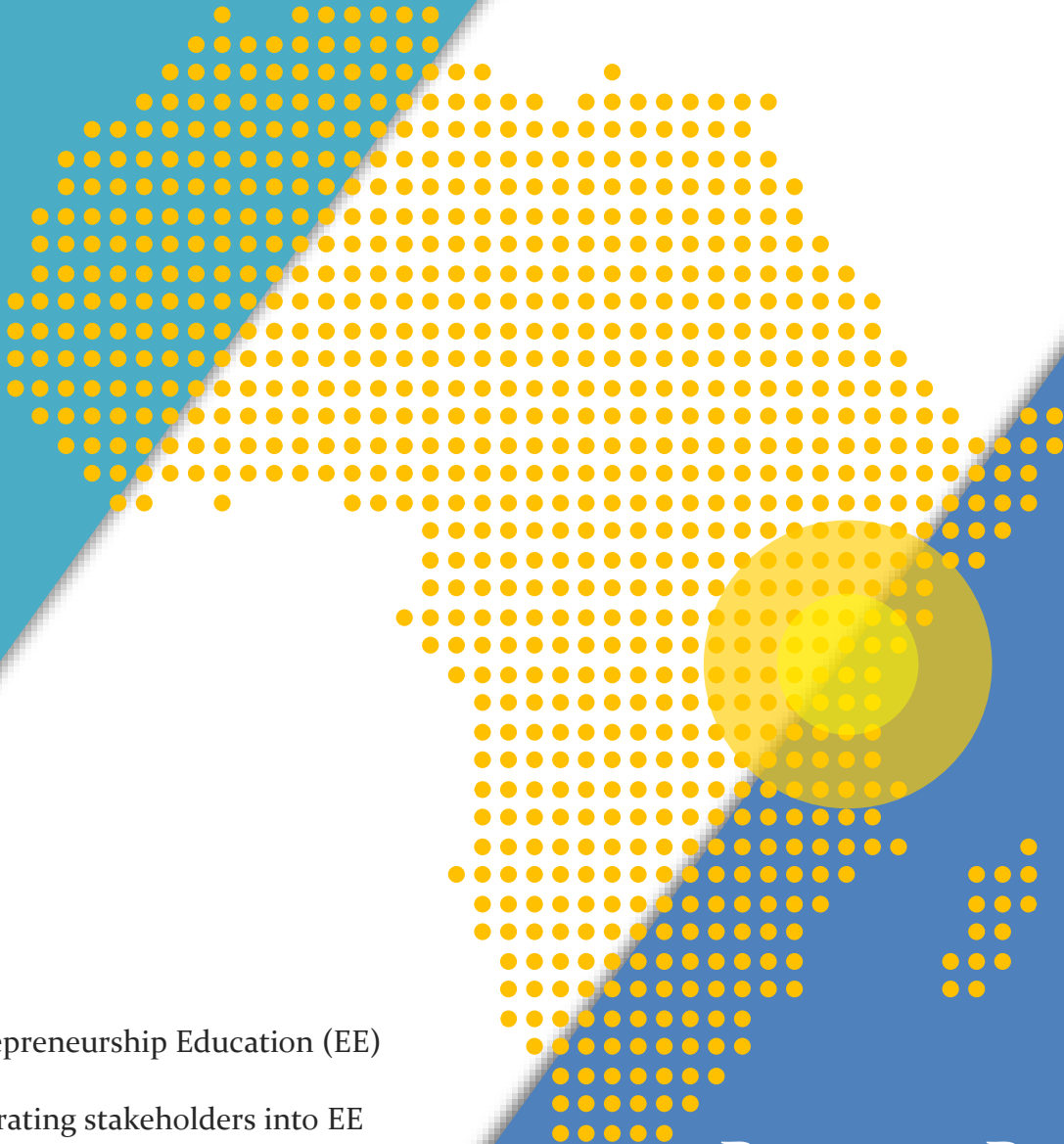


African Higher Education
Leadership in Advancing Inclusive
Innovation for Development /
AHEAD

585919-EPP-1-2017-1-RO-EPPKA2-CBHE-JP



- Entrepreneurship Education (EE)
- Integrating stakeholders into EE
- Human-centred Design & Design Thinking
- Supporting discussions and activities
- Measuring the impact of EE

**Resource Pack on
Entrepreneurship and
Social Entrepreneurship
Education**

Work Package 2.4



Co-funded by the
Erasmus+ Programme
of the European Union

Erasmus+ Programme
Capacity Building in Higher Education

Resource Pack on Entrepreneurship and Social Entrepreneurship Education

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This document is targeting academic staff from partner countries’ (PC) higher education institutions (HEIs) and other training institutions. The aim of the document is to provide the necessary background knowledge and good practices to support PC HEIs in developing, organizing and measuring the impact of entrepreneurship education courses and social entrepreneurship education in particular.

Authors:

Section 1: Dr Charlotte CAREY

Section 2: Dr Thomas DOMBOKA and Dr Charlotte CAREY

Section 3: Dr Thomas DOMBOKA

Section 4: Dr Thomas DOMBOKA and Dr Charlotte CAREY

Section 5: Dr Thomas DOMBOKA

Section 6: Dr Thomas DOMBOKA and Dr Charlotte CAREY

Birmingham City University

Formatting:

Dr. Evgenia Nikulina; Vanya Neycheva
European Center for Quality, Bulgaria

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Contact:

AHEAD website: www.ahead-project.net



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Contents

Section 1. Options for organizing the delivery of teaching/training	5
Section 2. Options for integrating stakeholders into (social) entrepreneurship education (design and delivery)	13
Section 3. Human-centred Design, Design Thinking and Social innovation, customer development process.....	20
Section 4. Ideas and activities that support teaching and training; Identifying teaching methods that engage entrepreneurship students.....	28
Section 5. Measuring the impact of (social) entrepreneurship education (evidence base from the EU, developed approaches).....	36

Section 1.

Options for organizing the delivery of teaching/training

Introduction

Within the UK a useful framework has been developed in order to help standardise some of the work around Entrepreneurship Education (EE). This has been carried out by a team of UK academics on behalf of the Quality Assurance Agency (QAA). This work identifies and builds upon the theoretical work being carried out by academics in the UK, Australia and the US. They crystallise the three core purposes of entrepreneurship education – “**about**”, when the focus of the study is to learn about entrepreneurship; “**for**”, where the focus is to try to encourage and make students have a higher entrepreneurial propensity; and “**through**”, where the pedagogy takes students through the actual process of running a real business.

Content

Pittaway and Edwards (2012) provide detailed typology that highlights through their analysis the types of pedagogies associated with the three differing types of entrepreneurship education (Figure 1):

- ▶ “**About**”, when the focus of the study is to learn about entrepreneurship;
- ▶ “**For**”, where the focus is to try to encourage and make students have a higher entrepreneurial propensity;
- ▶ “**Through**”, where the pedagogy takes students through the actual process of running a real business.

While traditionally entrepreneurship has focused very much on the ‘about’ aspect the last twenty years has seen a dramatic shift in emphasis on the other two.

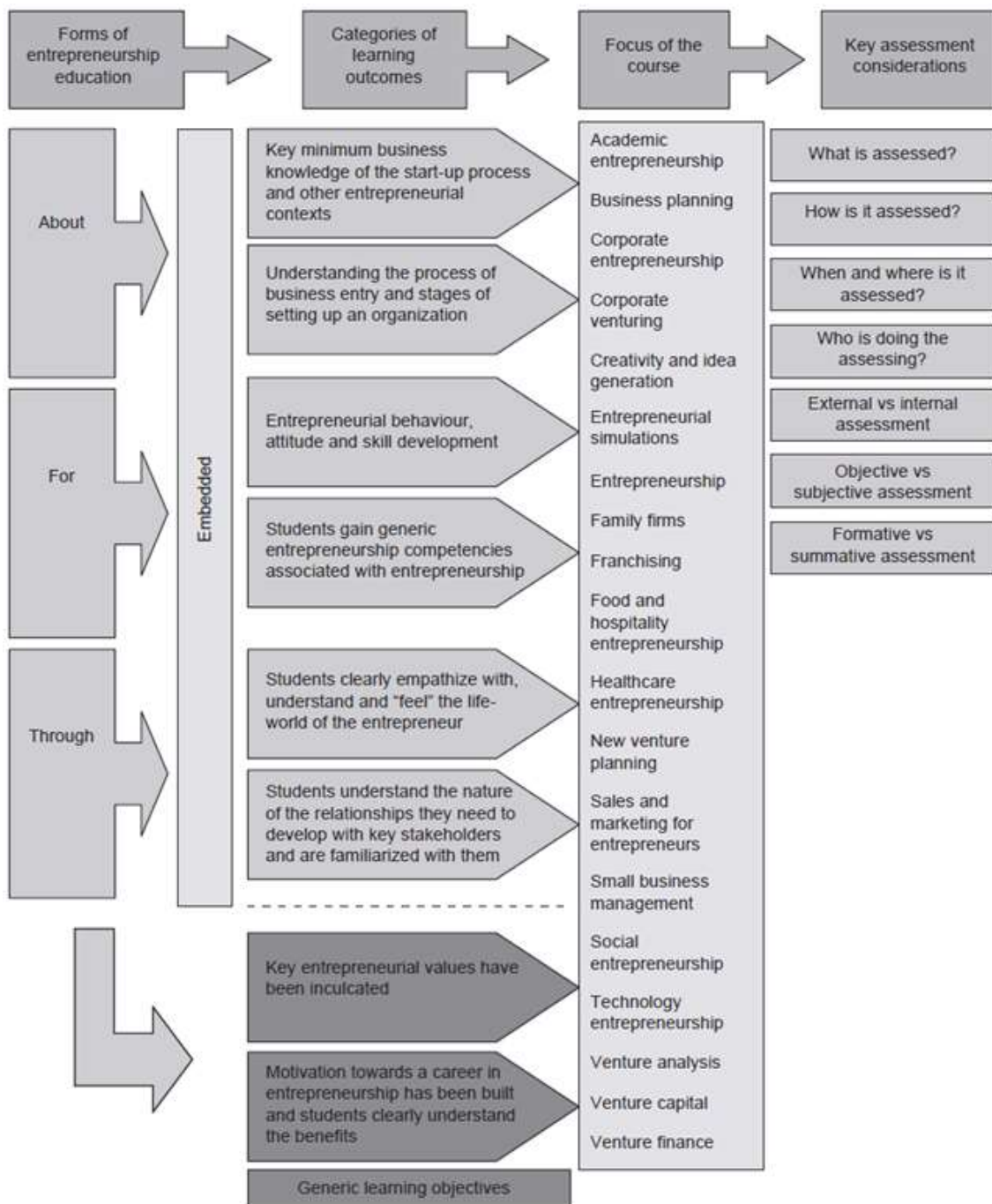


Figure 1. *Entrepreneurship Education typology, Pittaway and Edwards (2012: 782)*

Where does it take place?

Within the UK there has been much work in this area and in the region of 20 years worth of research considering where and how entrepreneurship education should manifest. Much of this work has been led by the National Council for Graduate Entrepreneurship (NCGE) and more

recently the Enterprise Educators UK, and research and pedagogical approaches are explored each year at the annual IEEC conference (International Enterprise Educators Conference).

Entrepreneurship Education (EE) can be broadly divided into two categories: Curricular and Extra-curricular. Within each approach are a number of different approaches and types. Each of these are discussed below regarding their relative merits:

- ▶ Embedded
- ▶ Via student unions and student-led societies
- ▶ Entrepreneurship programmes
- ▶ Compulsory across all programmes, e.g. a taught module.

Carey and Matlay (2010) identified four main EE types:

- ▶ “The central university enterprise centre: these were generally centres running independently but often with strong links to the business schools.
- ▶ The ambassador approach: here individuals from across the universities were sought to act as enterprise champions/ambassadors...
- ▶ ...The business school led approach: where the business schools deliver modules...often bespoke modified to take into consideration the context of the discipline.
- ▶ Ad hoc: where provision propagates across the university but without any centralization.” (Carey and Matlay, 2010: 14)

Recent guidance from the UK QAA and supported by the UJ APPG (All Party Parliamentary Group) for Entrepreneurship Education (APPG, 2018) recommends that ‘*enterprise education be positioned centrally within universities to ensure all students can access support*’ (APPG, 2018:22). While this view has merits it is not without criticism inasmuch that earlier research suggested the importance of understanding context (Carey and Naudin 2006; Carey and Matlay, 2011). The centralised approach is recommended to avoid issues around ‘entrenched’ and ‘silo’ approaches to teaching entrepreneurship, however it potentially misses the nuances required for teaching entrepreneurship within the context of for example a subject discipline. However, the benefits from a centrally located provision means that the traditional approach of entrepreneurship being taught in the business school and not reaching areas of universities where students are more likely to start a business. For example, in the UK Fashion courses saw the greatest number of start-ups (APPG, 2018). It is important to be aware that many universities will have a combination of these approaches.

1. Contextualised Entrepreneurship Education

The terms Entrepreneurship Education and Enterprise education are often used interchangeably but the distinction is important. In the UK there is a tendency to consider enterprise inasmuch that while new businesses and ventures potentially fuel employment, enterprising behaviours can lead to both these and also enterprising staff or ‘intrapreneurs’ as they are referred to within the literature. The phenomenon of being entrepreneurial as an employee on behalf of an organisation. One area of emerging research focuses on ‘Contextualised entrepreneurship

education' (Carey and Matlay, 2011). Here the focus is on acknowledging the importance of context to entrepreneurship education. For example, teaching entrepreneurship to artists or designers it's important to understand the structure and unique characteristics of those sectors.

In addition, a greater focus on context offers opportunities to explore entrepreneurship with a social goal. Which might attract those students whose entrepreneurial motivation is driven by a social rather than financial goal. Contextualised entrepreneurship education can be a useful lens with which to teach Social enterprise. Recognition of the different organisational structures, human resource implications (for example managing volunteers), the different value structures (e.g. triple bottom-line) and entrepreneurial eco-system involved (e.g. stakeholders) (See Carey and Hill, 2017). All of these highlight the need for a nuanced rather than a one-size-fits-all approach to teaching entrepreneurship and social entrepreneurship.

2. Embedded Entrepreneurship Education

The discussion of Embedded Entrepreneurship Education should be prefaced with discussion around what do we mean by 'embedded'. Implicit and explicit entrepreneurship education have emerged as terms to help understand this (Carey and Matlay, 2007). Here the discussion moves away from specific entrepreneurship modules and argues that when looking at other disciplines, specifically creative disciplines, it could be argued that entrepreneurship education is implicit in the pedagogical approach. Characterised by project-based work, which is self-directed, where assessment is based on presenting and justifying ideas and lecturers are frequently entrepreneurial role models (or creative self-employed practitioners). If the argument of implicit entrepreneurship education is followed through then arguably all disciplines could alter their delivery and assessment style. In this resource pack we will discuss potential methods for this.

3. Experiential learning

Looking at a global perspective the QAA highlighted the resounding call for entrepreneurship education to be embedded within the curriculum and specific approaches advocated "Calls in the policy included the mainstreaming of entrepreneurial types of education, promoting experiential approaches and training teachers, recognising leadership through an increased level of professorial recognition and supporting networks of educators." (QAA, 2018: 6). Much of the criticism of entrepreneurship education previously was that traditional teaching methods e.g. large lectures, teaching about entrepreneurship and assessed through essays and exams did nothing to enhance entrepreneurial characteristics, traits or behaviours.

4. Simulations and IT

In recent years there has been a marked increase in the number of digital products available to aid teaching and learning within the enterprise education. These have been borne out of a pedagogic tradition of emulation and role-play. These have proved to be a cost-effective method of providing experiential learning through simulations to students in a risk-free environment. Avremenko (2012) provides a useful analysis of the 'Drivers' and 'deterrents' of digital simulations. Pittaway et al., (2018) suggest that the use of computer simulations or serious games as they are often referred for example: "How do we define entrepreneurship and what is being

simulated? What is the correct level of complexity and uncertainty? And, within what problems and sequence? How does the structure of the simulation map against practical or scientific knowledge of the subject matter of entrepreneurship? What implicit assumptions bind the learning process?" (Fox et al., 2018: 64). Arguably these questions are important when considering any entrepreneurship provision.

Pedagogical development and research for social entrepreneurship education is limited (Brock et al., 2008). But Smith et al., (2010) suggest that simulations offer students the opportunity to empathise with a social context and seek entrepreneurial solutions.

5. Pedagogical and Assessment approaches

In each of these EE types it is important to consider both pedagogical approach and types of assessment. For example, if simply learning 'about' entrepreneurship then traditional essay-type coursework or exams could be sufficient. If however, the assessment is attempting to capture entrepreneurial capabilities or the plausibility of a business idea then different assessment techniques should be considered, much work around this in the literature has focused on:

- Assessing ideas
- Pitch presentations and 'dragons den' style assessment practices.

Discussion of assessment leads to an interesting discussion of whether or not EE should be credit bearing. Partially this is down to whether or not it is extra-curricular or not. However, there are arguments for both. Students may be less motivated to engage and participate if there is no credit associated with the activity. Motivation is one of the key requisites for being entrepreneurial as such non-credit bearing could be considered a way of students self-selecting. Themselves as prospective entrepreneurs with sufficient motivation.

Extracurricular

1. Student-led Societies

Within the scope of extracurricular activities is the provision provided from elsewhere with the university's ecosystem. UKHEIs all have Student's unions. The predominant purpose of the unions works much like any other work place unions whereby they advocate for and support the needs of the student body. The UK has a national union (NUS) and each university has its own locally managed union. Amongst other things a common practice of these unions is to facilitate the set-up and promotion of student-led societies. While the student unions are led-by students as a not-for-profit enterprise, they generally work in partnership with the university and are provided with space and facilities by the university. In 2008 the NACUE (National Association of College and University Entrepreneurs) was formed. This was initially a collective of entrepreneurship societies' who got together to form a bigger presence. They are a charity and membership supported organisation who work in partnership with entrepreneurship societies and universities to help support and develop enterprise and enterprising mindsets within students "Entrepreneurs are at the very core of NACUE, everything we do is to better the start-up and self-employment ecosystem. We believe that entrepreneurs will shape the future, and

we bolster this through our events, our network and our advocacy” (NACUE, 2019: Website). Amongst other things they provide support and mentoring, work in collaboration with educators, provide business pitching competitions, business ‘bootcamps’ where business ideas can flourish and an annual student enterprise conference (Some of these are explored in more depth in section 5)

In terms of Social enterprise some specific extra-curricular activity is enabled by the Enactus programme. “At Enactus, we believe investing in students who take entrepreneurial action for others creates a better world for us all. Our 72,000 students are entrepreneurial, values-driven social innovators across 1,730 campuses in 36 countries, positively impacting the lives of 1.3 million people each year” (Enactus, 2019: website). Many universities across Europe and beyond participate in this programme.

2. Business Incubation

Over the years, incubation centres have been a popular method of universities helping support start-ups from their student body while being able to capitalise on intellectual property spawned through the academy. Incubator and/or enterprise centres – Pre-start-up support Incubators enable students to start and run a business as an integral part of their course. Students will have access to a mentor or business coach. Students can develop and test their ideas without worrying about expenses such as rent and they will use their university email addresses and access to other facilities. Students can be given a small amount of capital in the form of grant or spin-off funding as part of the project. This is a very practical way of teaching by doing which greatly benefit entrepreneurship students keen on starting their own businesses.

Options for promoting interdisciplinary approaches to (social) entrepreneurship education

While Entrepreneurship Education has been long-cited as a means for job creation, new business and innovation and increased global competitiveness much entrepreneurship education provision has tended to be in the domain of business schools. This has not been without criticism (McDonald et al., 2018). The danger is that while business schools are providers of business education and produces students able to manage aspects of businesses it’s important to reflect on which disciplines actually come up with ideas and products that lend themselves to new business and entrepreneurship. Leading on from the previous discussion of contextualised entrepreneurship education this section goes further to explore other mechanisms for interdisciplinary working to enhance entrepreneurship education.

A reasonably successful example of an interdisciplinary approach was developed by Danish Universities working in partnership. Here an interdisciplinary approach was developed for post-graduate students. Here interdisciplinary teams came together over a four-day period to develop and pitch new business ideas. (Please see the ‘Wolfie’ case study in Section 6.)

1. Cross-innovation

There are many opportunities for interdisciplinary work through cross-innovation projects and extending this into the curricular. Arguably, introducing students to this type of interdisciplinary work both leads to greater scope for innovation and more readily mirrors working contemporary working life, enhancing the experiential learning advocated in the previous chapter. Cross-innovation work can lend itself particularly well to work focussed on social change for example finding innovative solutions to issues around health and well-being and climate change.

2. *Issues associated with interdisciplinary work*

As with many areas of interdisciplinary working, universities frequently operate in silo'd so who owns the courses or modules and as such which faculty are student fees paid to can cause problems. This is of course completely dependent on the funding structure of the country but arguably the faculty structure of universities is contrived and the real-world of business does not have such divisions, in order to truly enable innovative entrepreneurship amongst students and graduate mechanisms for interdisciplinary work should be encouraged.

Summary

In this section, an overview of the many types of entrepreneurship education and some discussion around the potential benefits and issues associated with them is provided. Much of how an institution proceeds will of course be dependent on their own unique context. What is presented here is a European and UK specific contexts. While we advocate this experiential approach, the use of entrepreneurial role models and assessment that aids learning as opposed to assessment for the sake of measuring outcomes. It's important to consider how this fits with the local and national context.

The next section provides some questions and reflection to start considering this in relation to your own context.

Designing/reflecting upon your own provision:

1. Are there opportunities to teach experimentally?
2. What resources are required and available? (teaching staff and class room space)
3. What institutional frameworks exist that could help or hinder this approach?
4. In terms of assessment, is there scope to offer experiential 'for' or 'through' entrepreneurship education?
5. What would this require in terms of resources?
6. Do you currently have industry speakers and role models, if not, is this something that could be considered?
7. What innovations in entrepreneurship education do you have that we are missing?

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Section 2.

Options for integrating stakeholders into (social) entrepreneurship education (design and delivery)

Introduction

We start by identifying the stakeholders of entrepreneurship education and from there, we will look at entrepreneurship education and how we can integrate the stakeholders in its design and delivery.

Content

Entrepreneurship education and entrepreneurship

In order to understand the options that could be used to incorporate the various stakeholders in the design and delivery of entrepreneurship education, it is important that we remind ourselves of the definition of enterprise and entrepreneurship education. Enterprise education focuses more broadly on personal development, such as developing an entrepreneurial mind-set, skills and abilities. On the other hand, entrepreneurship education focuses more on the context of setting up a new business or becoming an entrepreneur (QAA, 2012, Mahieu, 2006) as well as development of embryonic business ideas. Entrepreneurship education also provides specific training on how to start and run a business, including the knowledge and skills in identifying and assessing business opportunities, writing business plan and pitching to potential investors. Erkkilä (2000) however, conceptualised the term entrepreneurial education to encompass both enterprise and entrepreneurship education.

In this session, we will adopt Erkkilä's definition of entrepreneurial education to refer to both enterprise and entrepreneurship education.

Who are the stakeholders in entrepreneurship education?

Stakeholders in entrepreneurial education are any stakeholders or interested parties that stand to benefit from it. The stakeholders may be categorised as follows;

- ▶ *Education providers* e.g. Vocational Education and Training (VET) centres like polytechnics and colleges and Higher Educational Institutions; e.g. Universities and Research Centres.
- ▶ *Business community*, which includes public, private and social enterprises, entrepreneurs.
- ▶ *Civic society*, which includes interest groups, parents, pressure groups, politicians

- ▶ *Beneficiaries*, e.g. young people, students, graduates, the jobless, local communities
- ▶ *Government*, which could be local, national and regional
- ▶ *Funders*, e.g. student loan providers, private and public sponsors, financial institutions, etc.

Some stakeholders belong to more than one category, e.g. the government could also be funders and some beneficiaries are part of the civic society.

Why entrepreneurial education matters for the stakeholders

Undoubtedly, stakeholders need to play a special role in promoting entrepreneurial education as everyone stands to benefit from the success of any initiatives that promote entrepreneurship or create an enterprising mind-set. Different stakeholders have different interests in entrepreneurial education and hence the need for them to be involved in its design and delivery. Education providers for instance, benefit when many of their graduates are employed or start their own businesses, as they would like to be seen to be relevant to business and the community they are part of. The business community benefits in that entrepreneurial education will create employable young people with the relevant skills and mind sets that will transform their businesses. They also benefit from the creation of new enterprises, which could eventually be part of their supply chains. Civic society benefits as young graduates become employed, reduces crime and creates wealth for their communities. The Government benefits in many ways including increase in GDP, reduction in joblessness, etc.

Options for incorporation of stakeholders in entrepreneurship education

To achieve the desired benefits, the various stakeholders can be incorporated in two main areas of entrepreneurial education - curriculum design and delivering the curriculum and their involvement can be formal or informal, direct or indirect. The rationale for integrating stakeholders into entrepreneurship education is that both the students and the stakeholders stand to benefit from this relationship. A number of factors however influence the ways in which the different stakeholders are involved. These include whether they view it as enterprise or entrepreneurship education, the category/type of stakeholders that are involved, and aim and objectives of their involvement, and the target group.

Businesses can contribute to the design and delivery through a variety of options such as client briefs where they present issues, problems or challenges they are facing and asking students to come up with creative solutions. In so doing, they will be helping in the design of the curriculum by providing content that helps to develop enterprise and intrapreneurship skills among students. The students will also be able to test theory by putting it into practice. These can be used as case studies, which are formally assessed. They can also provide guest speakers and guest lecturers who delivered a lecture on a specific issue that is current or expected to happen and this approach helps students to see things from a practitioner perspective. Other forms of work-based learning such as providing internships, work-placements, apprenticeships, work shadowing or short-term consultancy projects are the other ways in which businesses can be involved in the design and delivery of entrepreneurial education and this will make the curriculum relevant to business. Students will benefit by developing an enterprising mind set and an understanding of the process of creating and managing new or existing business by blending the skills of risk-taking, creativity, and innovation with business acumen. In all this,

the HR, training and R&D departments of businesses can work closely with Higher Education providers in ensuring that the curriculum meets their present and future requirements. Businesses can also sponsor competition where students provide creative solutions to existing products, services or processes. Businesses could be encouraged to run incubator and accelerator schemes that provide space and access to mentorship and other resources in the business as a way of incorporating them in a very practical way.

Higher Education providers can work collaboratively with businesses through Knowledge Transfer Partnerships (KTPs) where a dedicated academic and a student work with a company to bring about innovation in some areas of the business. The business provides the context and the student with the support of the academic find a workable solution. Universities can also run business advisory services, which bring students and businesses/ entrepreneurs together and where students find solutions. Whilst students develop their enterprise skills, they, in the process solve real business problems by offering free consultancy saving businesses money. Organising field/study trips, discussion panels, debates, creativity workshops are other ways in which HE providers can work with industry to develop and update the curriculum as part of its design and delivery. Besides working with businesses, education and training providers can work together to exchange best practice, mentoring and training including setting up incubators. Community and employer engagement days that brings together industry experts, academics and researchers, students and community leaders is another way that education and training providers can work together in designing the curriculum for entrepreneurial education.

Local entrepreneurs and business angels (including social entrepreneurs) can contribute by providing mentorship and offering shadowing opportunities to those students interested in starting their own businesses is a way of incorporating this category of stakeholders in the design and delivery of the curriculum. This will enable students to come up with innovative ideas and product/service designs that could eventually benefit local businesses and the community at large. Such initiatives can result in the creation of new enterprises that could eventually be part of the supply chain for existing businesses. Entrepreneur Boot camps can be used as part of experiential learning in the delivery of the curriculum.

Government (local, national, regional) can hold roundtable discussions and consultations, with employers, business and relevant government departments, conduct surveys, hold parliamentary debates and formulate policy, establish taskforces/working groups that addresses employability and new venture creation and fund research that will inform the curriculum design.

Professional organisations (e.g. banking associations, teachers/lecturers unions, chambers of commerce, Associations of Small Business Owners, employer organisations) can also contribute through accreditation or certification of the curriculum and mapping their requirements to what is being taught. Most courses offered by HE institutions in the UK are mapped to professional bodies as a seal of quality. This way, these professional bodies are able to influence the design and delivery of the curriculum.

Civic groups (e.g. youth groups, pressure and interest groups, parents, beneficiaries, charities and other non-governmental organisations) can contribute to the design and delivery of entrepreneurship education by facilitating meetings between local entrepreneurs and youth groups where they are able to brainstorm, organise entrepreneurship games, competition, boot

camps or simply networking events. Problems with existing services can be discussed and creative solutions identified.

Funders (e.g. banks, government, student finance, etc.) can be involved by providing funding for some of the initiatives discussed above and making it as a requirement for funding that HE institutions provide evidence of the impact of their entrepreneurial education programmes. Holding Higher Education providers to account will ensure that they have an influence in the design and delivery of the curriculum.

Besides the above initiatives, other ways of involving the stakeholders includes:

- ▶ Consulting with relevant stakeholders as part of the process of developing entrepreneurship education curriculum. This will ensure that issues and concerns about entrepreneurship education shared and understood by all parties prior to developing the curriculum. Oftentimes, curriculum designers only involve the stakeholders at the point of delivery.
- ▶ Consulting stakeholders including students about plans to develop entrepreneurship education curriculum and solicit their input.

Options for promoting the mobility of faculty and researchers between the higher education sector and business

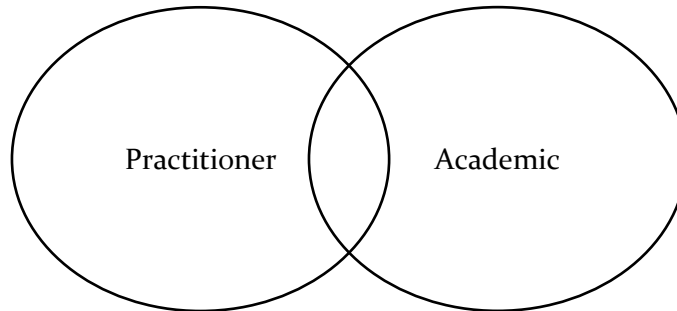
It is probably salient to at this point talk about a growing body of literature around which entrepreneurship and social entrepreneurship is provided. Previous research focussed on stakeholder input (Matlay, 2009). However, an adaption of this and growing body of work focuses on entrepreneurial ecosystems. Here the entrepreneurial ecosystem considers all of the stakeholders and how, in this instance universities might fit or contribute be that through preparing students for entrepreneurship, supporting start-ups and SMEs to innovation and spinouts and entrepreneurial role-models. Moreover, increasing focus has been on the role of educators and the need of educators to be entrepreneurial themselves.

Recruitment policy

Recruiting staff with industry experience or concurrent industry experience, many disciplines within the UK HEI require this albeit there is a tendency for new universities, which were traditionally polytechnics and as such more concerned with vocational training, to have strong industrial links, whereas older universities tended to have more 'career-academics'. Although there is limited research into this area, it could be argued that this direct industry link provides real-world experience from academics or 'pracademics' into the classroom and a natural exchange takes place. Some earlier research related to this highlighted that particularly art and design disciplines had a policy of recruiting directly from industry and encouraged on-going practice (Carey and Matlay, 2007) and while this was identified as good practice particularly in terms of providing entrepreneurial role-models, recent evidence suggest that this practice has eroded due to other pressures particularly around research and the need for applicants to demonstrate research outputs.

1. *Pracademics*

This aspect of entrepreneurs as educators as given way to a field of work that looks at this hybrid and refers to them as ‘pracademics’ (McQuillan, and McQuillan, 2016)



This feature of entrepreneurship education has been advocated by many researchers in the field and can work across both entrepreneurship and social entrepreneurship fields. In some instances where entrepreneurs are trying to supplement their income (e.g. art and design and social entrepreneurship – see Penaluna et al., 2012) and portfolio working more generally might lend itself particularly well to being a pracademic.

Industrial Placements

Students taking a placement year or industrial one-year placements are a common feature of many UK HEI provision. Here employers advertise positions across all disciplines in the area of business and management. This is usually aligned to a particular business function e.g. operations, marketing, finance, HR. This is a competitive process and while some employers will target students from particular universities, they are generally openly advertised. Importantly these are paid roles with generally a graduate-entry-level of responsibility. Each institution has its own method of supporting the student while they are on placement but it will tend to be that they are allotted an academic supervisor to support them while on placement. The academic will visit them on placement, meet with the staff and managers and this offers an opportunity for academic and business collaboration and exchange.

Examples from EU countries

In countries such as Denmark, through the National Strategy on Entrepreneurship Education, stakeholders such as social enterprises are involved in the planning and development of the curriculum. They do this by matching the skills required by industry and the curriculum to ensure that it is relevant. That creates a link between what is delivered in the classroom and what employers and communities demand. In Luxembourg, a public-private partnership named Young Entrepreneurs Luxembourg coordinates entrepreneurship education from primary education to university through a variety of activities such as innovation camps, entrepreneurship games and job shadowing. By bringing together educators and business representatives, they are able to create a strong link between entrepreneurship education and what happens in the real world. In Germany, as part of the entrepreneurship education strategy of supporting new start-ups by students as well as providing practical entrepreneurial experience, they launched an initiative for business start-ups called Ifex – a partnership involving

organisations such as chambers of commerce, business associations and representatives from education and business. Through a variety of initiatives, Ifex and its partners run competitions and participate in projects regionally and internationally. In Portugal, a partnership between the government and civic society has resulted in the creation of an NGO called Portugal Entrepreneurship Education Platform (PEEP). PEEP works with stakeholders such as educational establishments in fostering cooperation in a number of areas such as research, entrepreneurship education impact assessment and capacity building for those involved in the design and delivery of the curriculum.

Summary

Enterprise and Entrepreneurship education are essential in all communities and organisations, from small, independent businesses to large organisations in public and 3rd sector organisations. Individuals and employees with enterprising or entrepreneurial skills are an essential ingredient to all stakeholders as they are able to connect and implement enterprising and entrepreneurial activity into organisational strategy, processes and growth and through creation of their own business ventures. Hence, it is essential that they get involved in the design and delivery of entrepreneurship and enterprise education.

Various options for involving the various stakeholders in the design and delivery includes case studies developed by businesses, client briefs/consultancy projects in which businesses do not just provide content but are also involved in the actual assessment summative or formative. Providing internships and mentorship schemes are a way of including practical activities in real-life situations in the design and delivery and so are incubators and accelerators, which offer space and resources necessary for entrepreneurship education.

Discussion questions and reflections

Think about your local environment and context and reflect on the following questions.

1. Identify the stakeholders that you believe should be incorporated in the design and delivery of entrepreneurial education
2. Critically review the extent of their involvement in the design and delivery of entrepreneurial education
3. What strategies would you recommend for incorporating the various stakeholders in the design and delivery of entrepreneurial education?
4. What is your local entrepreneurial ecosystem? Who are the stakeholders and where does or could the university fit?
5. How could you encourage the exchange of academic and business practitioners?
6. Do you currently have entrepreneurs come into class to teach?
7. Do you have students work on live projects?
8. Could you emulate some of the knowledge exchange programmes either on a voluntary or sponsored basis?

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Section 3.

Human-centred Design, Design Thinking and Social innovation, customer development process

Introduction

In this section, we will be looking at how Design thinking and Human centred design can be used in creative problem solving and development of innovative products and services. We will also look at how the two approaches can work together to enhance customer experience.

Content

Design Thinking (DT)

Design thinking is considered a process, mind-set, and approach to solving complex and oftentimes wicked and non-linear problems. It can be applied in almost any scenario where innovative and creativity thinking is required. Design thinking can be viewed as a customer centred process to innovation that integrates the needs of the customers, the business and the use of technology. Design thinking brings together three key elements and these are;

- ▶ **Feasibility** - *what is functionally possible with technology in the foreseeable future*
- ▶ **Desirability** - *what is desirable and makes sense to end-users*
- ▶ **Viability** - *what is commercially viable and likely to become part of a sustainable business model?*

Figure 2 shows how the three elements are integrated in order to bring about innovation.

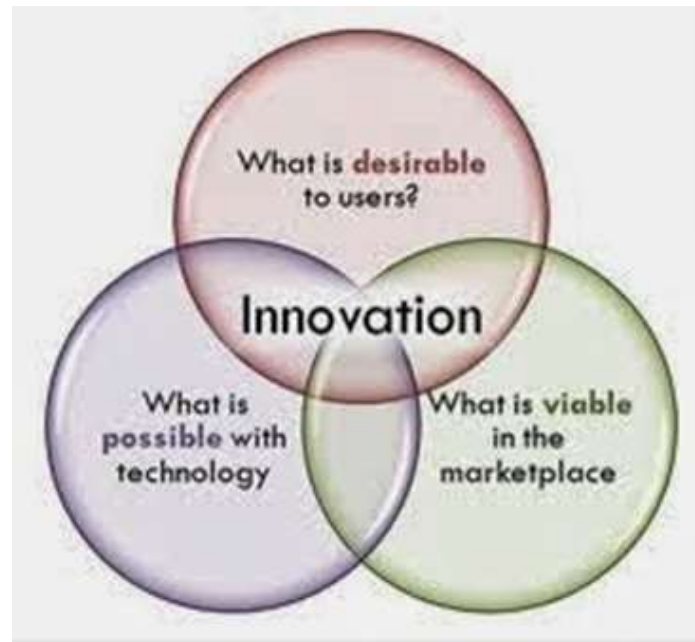


Figure 2. Elements of design thinking

The Design thinking process

The most popular and widely used design thinking model was proposed by the Hasso-Plattner Institute of Design, widely known as the d.school. It is a leading university when it comes to teaching Design Thinking. The d.school has created five stages of the process, which are: Empathise, Define, Ideate, Prototype and Test.

During the ‘**Empathize**’ stage, designers start by doing field and desk research to gain an understanding of the problem they are trying to solve. The second stage ‘**Define**’ is an analysis and synthesis of all the observations gathered in the previous stage in order to define or reframe the main problem. The ‘**Ideate**’ stage is about brainstorming in order to generate creative ideas and selecting the best ones. This stage in the design thinking process requires divergent thinking by all those involved. This is followed by the ‘**Prototype**’ stage, which is about giving life to the selected ideas by making inexpensive, and scaled down versions of the idea for further investigation to see whether it meets the expectations of the intended users. This stage requires convergent thinking on the part of the designers. Finally, the fifth stage ‘**Test**’ is about evaluating thoroughly the solution ideally with the people we have designed it for, in order to collect feedbacks that will help to refine the solution (d.school, 2009). The diagram in figure 3 illustrates the process.

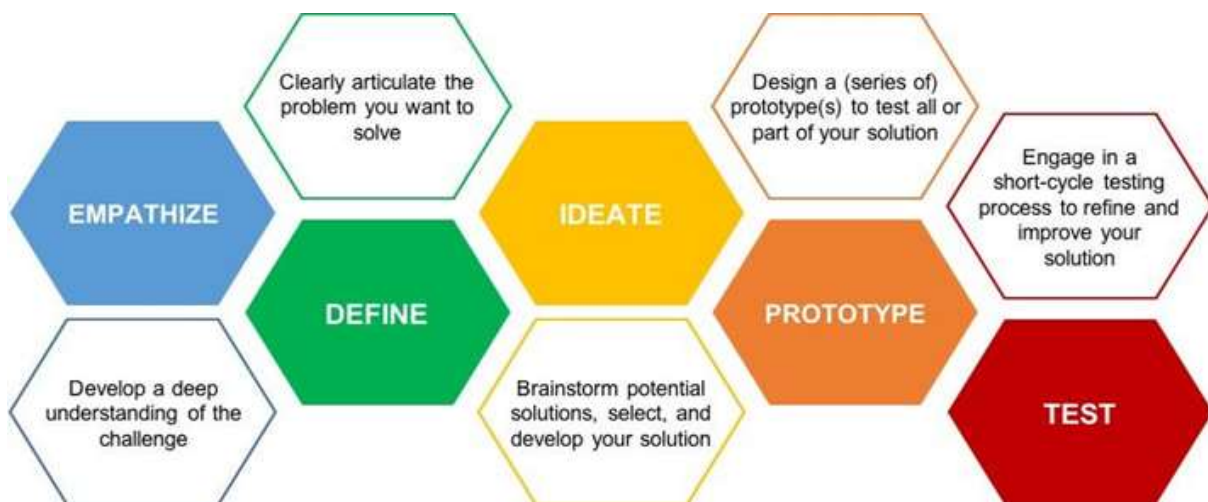


Figure 3. *The design thinking process.*

Whilst the design thinking process model has 5 steps, this should nevertheless not be seen as linear or sequential, but an iterative process as you are able to move back and forth at any time e.g. from prototype back to define stage, etc. An increasing number of businesses are transforming the way they develop their products and services by embracing design methods that places the customer at the core. Instead of relying on gut instincts or serendipity, the new design approach allows empathy for users, places emphasis on iteration and prototyping, and rigorous testing that involves the users throughout the process, leading to the final product or service that is tailored to the users' needs.

Human-Centred Design (HCD)

Human-Centred Design (HCD) is a creative design and management framework for developing innovative solutions to wicked problems by involving the human perspective in all steps of the problem-solving process. Popularized by IDEO.org, HCD ensures that the products are not only relevant and beneficial for the people they are intended to serve, but addresses the core needs of those experiencing the problem. A distinctive feature of HCD is its focus on understanding the perspective of the people who experience a problem, their needs, and whether the solution that has been designed truly and effectively meets their needs. At the core of the design framework is the involvement of the people who experience the problem in the design process or in finding a solution. This requires the designers to make human sense such as empathy, and approaching problems and the solutions in ways that best suit human needs regardless of the complexity and wickedness of the problem. The process involves generating many ideas, building prototypes, sharing and testing with the people that are meant to benefit from the new design, culminating in innovative new solutions to the problem. The HCD process has three phases, which are *inspiration*, *ideation* and *implementation* illustrated in figure 4.

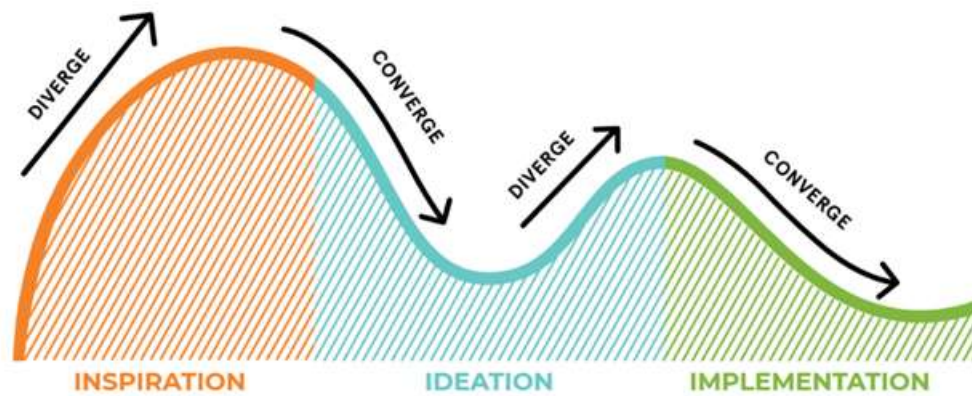


Figure 4. The Human Centred Design process

In the **Inspiration** phase, you immerse yourself with the people you are designing for in order to deeply understand their problems or needs and empathising with them. In the **Ideation** phase, you brainstorm and generate ideas, possible innovative solutions and develop prototypes that will be tested with the users. In the **Implementation** phase, the solution or prototype is brought to life and eventually, to market.

By keeping the users at the heart of everything, you do and involving them every step of the way, you are guaranteed that the solution will be a success. In order to remain relevant, businesses are fighting a battle for customer attention and want to be seen to be responding to their ever-changing needs and tastes. Customers are also seeking to connect with those organisations that connect with them in a personal way, i.e. those organisations that appeal to their needs and experiences in a unique way. This is what has brought about Human-Centred Design approach to innovation by businesses by focusing on the human needs and experiences of their customers. The process starts with the people you are designing for and ends with solutions that are tailor made to suit their needs.

“When you understand the people you’re trying to reach—and then design from their perspective—not only will you arrive at unexpected answers, but you’ll come up with ideas that they’ll embrace”. (<https://www.usertesting.com/blog/how-ideo-uses-customer-insights-to-design-innovative-products-users-love/>)

DT, HCD and social innovation

While businesses are seeing the benefits of design thinking such as improving their innovation processes, differentiating their brands, and bringing their products and services to the market faster and quickly responding to user future expectations, Social enterprises are also starting to embrace this framework. Social enterprises are beginning to use design thinking and develop creative solutions to social problems. By working closely with their stakeholders, design thinking allows social enterprises to come up with high-impact and innovative solutions. Social innovation enables new ways of tackling social needs and the problems that DT can help to

solve. Design Thinking and Human-Centred Design can be used to address a variety of problems in different contexts and in an innovative way.

Some of the problems they are capable of addressing are:

- ▶ Coping with rapid change and shift in social and market behaviours
- ▶ Problems relating to organisational culture
- ▶ Changes in natural resources and supply chains
- ▶ Changes in technology
- ▶ Re-inventing business models and/or redefining value
- ▶ Problems requiring multidisciplinary team approach
- ▶ Entrepreneurial initiatives

Most of the problems are ‘wicked problems’ which require new solutions and new methods as the existing ones may be no longer effective. The problems are non-linear and often intertwined and present challenges for businesses. Einstein once said, “*We can’t solve problems by using the same kind of thinking we used when we created them*” (Einstein, cited in IDF, n.d.). Design thinking as a tool, is therefore able to allow non-linear thinking when dealing with non-linear problems, which is a characteristic of wicked problems (Kolko, 2015). This therefore calls for a new way of thinking and approach towards product, service or process innovation. Design thinking is therefore considered the right approach towards innovation, as it allows individuals and teams in organisations to have a human-centred perspective, whilst taking a scientific approach to solving a problem.

By adopting human-centred design, they are able to forge new relationships with their stakeholders by empowering them to be part of the process and generating solutions they take ownership of. Design thinking and human-centred design are therefore well suited to facilitate new and innovative solutions to the complex wicked problems that affect communities and other stakeholders. Unlike typical business with a profit motive, the value created by social enterprises accrues to the stakeholders. Embracing design thinking and human-centred design will therefore result in social innovation, which according to the Stanford Centre for Social innovation, “*is a novel solution to a social problem that is more effective, efficient, sustainable, or just than current solutions*”.

Factors that contribute to success of DT and HCD

A number of factors contribute to the success of design thinking and human-centred design and these are, having the right mind-set to think outside the box, a suitable cross-disciplinary team drawn from across the organisation, and suitable environment that encourages and rewards innovation (Liedtka & Olgilvie, 2011). This requires a fundamental change in the culture of the organisation.



Figure 5. *Interaction Design*

Mind-set: In order to create new and innovative solutions, DT and HCD require a combination of analytical thinking and creative thinking; logic and imagination, divergent and convergent thinking. According to Brown (2009), divergent thinking is about creating a variety of choices, followed by convergent thinking, which entails making choices. Einstein summed it up when he said, “Logic will take you from A to B. Imagination will take you everywhere” (Einstein, 1996, p. 481).

Cross-disciplinary teams: Businesses need to encourage collaborative working and avoid the silo model of skills, e.g. designs problems are only solved by designers, market problems by marketing teams. When individuals with different talents such as designers, marketers and analysts work together, they are able to come up with great and innovative ideas.

Conducive environment: Creating environments that encourage creative thinking and innovation is important. A blame culture and a culture of risk avoidance impedes creativity. Individuals or teams that are innovative are recognised and rewarded accordingly.

Similarities and Differences between DT and HCD

Design thinking and human-centred design can be easily combined in a single project as both approaches require the involvement of users in all the development stages and they both follow an iterative process. Both approaches work with prototypes of the developed product that they use to test the result with users. There are however, some differences between the two approaches and these are summarized in Table 1.

Design Thinking	Human - Centred Design
An iterative process that leads to the development of innovative products/solutions that will be adopted by the desired users.	A mind-set tool to be applied alongside design thinking that creates a positive long-term impact for the desired users.
Design thinking process covers five phases, that are repeated until the optimal result is achieved: (1) specify context of use, (2) specify requirements, (3) ideate product design solutions and (4) prototype and evaluate designs, (5) Test the results on the market.	The human-centred design, has three phases which are: (1) Inspiration, (2) Ideation and (3) Implementation.
It is a solution-focused method used to solve complex and wicked problems by benefiting from diverse expert perspectives.	It promotes a culture of sharing knowledge and collaboration within and outside the organisation (Open innovation).
It focuses on extensive experimentation and coming up with big and not detailed ideas.	It ends with a product or solution that resonates with the end-user and its impact is to that meet or even exceeds their expectations.
The DT perspective is wider and is about creativity in the development of new and innovative products, services and solutions for social problems.	HCD focuses on improving the usability and user experience of a particular product or service.
The principle of Design thinking is that interdisciplinary teams are able to create outstanding innovations.	The ultimate goal is to embed end-users in the whole process.
Design thinking starts with, "I have a technology/product, now who do I sell it to?"	Human-centred design starts with, "I need to understand customer needs and iterate prototypes until I find a technology and product that satisfies this need".

Table 1. Key difference between Design thinking and Human-Centred Design

Despite the differences between the two approaches, they are not mutually exclusive but complimentary and can be integrated in any project.

Discussion and Reflections

Design thinking and Human centred design require three essential elements – mid set, team and environment.

1. Critically review each of these elements in your local context including the challenges organisations may experience.
2. How do you think DT and HCD can be applied by social enterprises (give examples of social issues or problems that may benefit from the two approaches and suggest how the approaches could be applied)?
3. DT and HCD can be considered as 2-sides of a coin. Using examples and local context, discuss how the two approaches can be integrated into a single project.

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Section 4.

Ideas and activities that support teaching and training; Identifying teaching methods that engage entrepreneurship students

Introduction

In this section we look at the various ways that could be used to support teaching and learning by entrepreneurship students. As we saw in session 2, there are differences between enterprise and entrepreneurship education and the teaching methods we use reflect our beliefs – whether we are teaching enterprise education or entrepreneurship education. We can however use teaching methods that integrate enterprise and entrepreneurship education since not all our students will go on to start their own businesses and will therefore be able to apply their enterprise skills within existing organisations. Entrepreneurial education as we noted in session 2 encompasses both enterprise and entrepreneurship education.

If we were teaching entrepreneurial education, students would be expected to develop a variety of both conceptual and practical skills. This will prepare them to eventually deal with complex issues that are involved in either setting up a new enterprise (Gibb, 2002), or in existing businesses. On whether entrepreneurship can be taught, literature on entrepreneurship suggests that there is a variety of practical skills and competences individuals should have to succeed as entrepreneurs. Entrepreneurial education places emphasis on the development of those competencies and equips the students with the knowledge and skills of dealing with complexities and ambiguity in creating a new business (Biggs, 2003) and developing creative solutions for businesses. Identifying suitable methods that will help students understand and practice dealing with the complexity in a safe and supportive environment is important especially to those students with little or no business experience.

Content

Purpose for entrepreneurial education

Jamieson (1984) suggests three purposes for entrepreneurship education:

- ▶ Helping students understand entrepreneurship in general and the entrepreneurial process;

- ▶ Developing a mind-set that prepares the students to start their own business, e.g. giving them information of opportunity discovery and exploitation and;
- ▶ Giving students' hands-on training in managing their own business.

Other studies (Kailer, 2009; Sherman et al., 2008; (Peterman and Kennedy, 2003) have included developing individuals' self-efficacy.

Teaching strategies and activities

The teaching methods and activities that are used to support teaching and learning for entrepreneurial students depends on a number of factors such as the objectives or expected outcomes at the end of the course, the profile of students enrolled on the course, their motivation and the duration of the course. Each cohort is likely to be different from other cohorts so there cannot be a one size fit all approach (Blenker et al., 2008). Regardless of the methods that are used, they should be capable of stimulating creativity in the students and involve experiential learning through some activities that can be done inside and outside the classroom. Using experiential learning strategies allows for theory to follow practice and encourage discussion on the various theories, models and concepts. The next section discusses the various teaching strategies and activities.

1. Team-based learning

In team-based learning, students are given an activity or task, which requires them to work together as a team. The teams may be self-selected or assigned to the students. The team decides on the allocation of activities. An example of this could be for the students to research on a new product, service or process, or an improvement to an existing one and requiring them to do desk research on the market, sources of finance, operational details etc. and present this to the class. Other members of the class are then able to provide constructive feedback. This approach helps the students to develop team working and leadership experience, which are important skills entrepreneurs should have.

2. Same one business idea/problem for each group

In this case, the tutor comes up with a business idea and each team is assigned a specific task, e.g. marketing task, financial task, operations and logistics task, HR and recruitment task, etc. They do this independently and they meet to share, exchange notes, and eventually come up with an integrated plan. This is different from the above traditional approach of asking students to come up with their own ideas. This idea is supported by Michaelsen and Sweet's (2008) whose proposition was that group learning is enhanced when all students are asked to address the same problem. Comparisons can then be made between the different teams and the students can be asked to rate each team. This approach helps student to not only learn from one another, but exposes them to a range of creative ideas.

3. Elevator pitch

This again could be done individually or as teams where students are asked to pitch their idea to faculty members, real entrepreneurs, and local members of the community or business

leaders/ potential investors. The students identify a business or social problem and come up with creativity solutions. Pitching business ideas (elevator pitch) to selected audiences and encouraging entrepreneurial behaviours such as risk-taking behaviour (Fiet's, 2000).

4. *Poster presentation session*

This can be done in teams or as individuals. Instead of the students pitching to an audience, the presentation is done in the form of a poster (A3 preferably). The posters are then displayed on walls. The individual or team then talk through the poster, take comments and feedback and answer questions. Other students are able to take part by being part of the audience. It gives them the opportunity to exam and in some cases assess (peer assessment) the work of other students. The students are able to see the work that other students have produced and at the same time showcasing their own work. This helps them to learn from each other as the presentations are done simultaneously so that no individual or group is able to steal others ideas until after the end of the presentations.

5. *Entrepreneurship traits/characteristic survey*

Students are asked to complete a questionnaire regarding their skills (skills scan) at the start of the course. This could include their ranking in areas such as personal characteristics of entrepreneurship, risk taking, attitudes towards entrepreneurship, their entrepreneurial self-efficacy and their opportunity recognition/discovery behaviours, and whether they are right or left brained. Each student then receives a score on each section and the overall score and accompanying notes. Each student's score can be shared or compared with those of other students in the class. This approach will help students to better understand the theories, models and concepts of entrepreneurship by applying them to themselves. This can also be compared with a typical real entrepreneur so that the students are able to compare their entrepreneurship characteristics and traits to those of real entrepreneurs. This approach can be internet-based questionnaires or it can be paper based. At the end of the course, the students may again be asked to do another questionnaire or survey to see if there has been a shift and also as a way of measuring the impact the training has had on the students' perceptions.

6. *Project-based work*

Students work in small teams on a consultancy project where they will be given a brief regarding either a problem or an issue in a small business (start-up or established) that requires creative solutions. The alternative will be for the students to identify an issue or problem using design thinking, human centred design or other problem-solving models that result in creative solutions. This approach gives students insights into the operations and management of a small business where they will be able to generate ideas and even create a product. This enables the students to relate to their studies and be able to apply their knowledge, skills, and theories learnt to real-life scenarios.

7. *Entrepreneur presentations*

Seminars or workshops can be organised where local entrepreneurs and successful business owners are invited to give presentations about their entrepreneurial journeys and experiences. Students get the opportunity to network, ask questions and learn from the experiences of others outside the formal classroom environment. Learning outside the formal classroom environment is supported by Dominginhos and Carvalho (2009). Entrepreneurs can be invited to present

problems with their products or markets and invite students to come up with innovative solutions. This according to Gibb (2002), helps the students to develop entrepreneurial behaviours and skills. Students can be presented with real case studies and client briefs to help them develop creative problem-solving skills.

8. *Writing own business plan*

Here the students are given the opportunity to identify a business opportunity through either primary or secondary research, research the market, develop a business model for the proposed business and provide supporting financial data, scalability plans and growth strategies, etc. and present this. This approach helps the students to practice how to draw up a business plan that integrates different elements (marketing, operations, pricing, costing, breakeven analysis, HR, etc.) According to Tan and Ng (2006), developing a business plan is a typical example of learning-by-doing.

9. *Shadowing entrepreneurs and business owners*

Work placements, company visits and shadowing opportunities are some of the other approaches and strategies for delivering entrepreneurial education. For entrepreneurship students, entrepreneurial internships in start-ups is a way in which students are attached to local entrepreneurs where they go through part or the entire process of setting up a new venture. Students can also be attached to local businesses, social enterprises and NGOs where they will spend some time learning and being guided by practitioners. In established businesses, students are given the responsibility of coming up with new and innovative ideas and try them out in a safe and supportive environment.

10. *Entrepreneurship boot camps*

These could be run as start-up residential workshops where students can be given opportunities to attend entrepreneurship boot camps and on-site visits as suggested by Sherman et al. (2008). The boot camps can be for periods ranging from 24 hours to a few days. The outcome of the boot camp can be for the students to create a mini or virtual business or social enterprise and possibly run it for a set period.

11. *Business/community challenge*

Students can be encouraged to take part in a community challenge where they will be expected to come up with innovative ideas or develop solutions for tackling community problems. This could lead to community enterprise competition and awards for students coming up with the best ideas and solutions. Students can also be encouraged to engage with their community by attending meetings and taking part in debates and develop concrete solutions. This offers action-based practical activities and challenges where students can apply design-thinking models.

Social enterprise considerations

Arguably, each of these methods can be adapted and adopted in order to teach and assess social enterprise ventures and business ideas. Some core additional aspects to consider. Carey and Hill (2017, p. 7) highlight that entrepreneurship education is often overly concerned with business plans and that these are used “*both at the start-up stage but also as an ongoing planning tool as*

the ‘business plan’”. However, they question whether this is fit for purpose when working with students on social enterprise ideas. Conway (2008) suggests that like most small businesses, social enterprises are similarly motivated when compiling a business plan. In that, in both cases it’s usually about securing funds. However, he did flag up one area of difference that small firms are characterised by the owner, manager or entrepreneur being the main decision maker, while social enterprises are often characterised by the ‘democratic nature’ of decision making. Conway went onto developing a model of a business plan designed specifically for social enterprises (see figure 6). Within this is a business plan framework which offers social enterprises a checklist to consider when planning their businesses. What is notable is the repeated need to consider the social impact of the enterprise and the particular characteristics of this type of organisation e.g. marketing and working with vulnerable clients.

The social enterprise value system	Mission context Democratic and inclusive decision making Wide range of stakeholders
Financial management	Sources of funding Social auditing Social costs
Human resource management	Managing volunteers, part time staff, clients Appointment of directors and trustees Managing cultural tension
Legal issues	Legal structures <i>Ad hoc</i> legal issues
Marketing	Marketing and vulnerable clients Networking and cooperation Very low budget marketing

Figure 6. Distinctive features of social enterprise business plans Conway (2008, p. 61)

1. Business Model Canvas and social enterprise

Within Entrepreneurship Education more generally a popular planning tool is the ‘Business model canvas’. Business Model Canvas is a strategic management template for developing new or documenting existing business models. It provides a visual chart and check-list when considering all various stakeholders and resources when business planning. Students and entrepreneurs can consider each of these building blocks to help devise a firm or product's value proposition, infrastructure, customers, and finances. Value proposition is important in the social enterprise context. Briefly the value proposition is that that is communicated to potential value that you promise to deliver to customers. This visual template aids firms in aligning their activities by illustrating potential trade-offs.

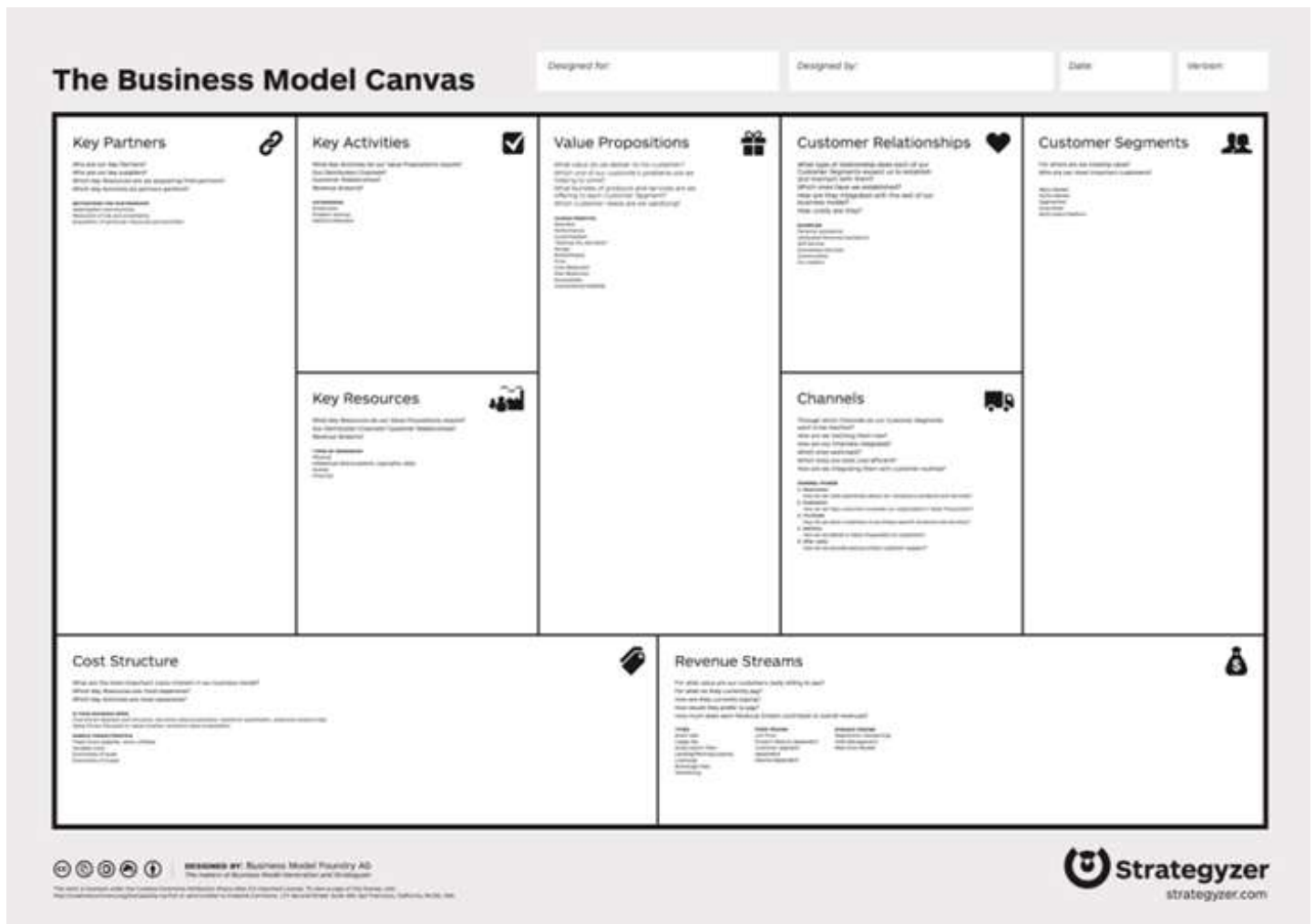


Figure 7. Business Model canvas template
 (available from <https://strategyzer.com/canvas/business-model-canvas>)

The Business Model Canvas was devised by Alexander Osterwalder in 2008. Above is the template as produced by his company Strategyzer on behalf of Osterwalder. The canvas is a template of 9 building blocks. When applied the BMC enables the business owner/starter or student to consider all of the resources and operations required. The BMC has been heavily adopted throughout the business community as a planning tool and within entrepreneurship education business planning.

Carey and Hill highlight how the Business Model Canvas can be approached when considering a social enterprise drawing upon Burkett (2012) who suggests applying the BMC to a social enterprise, the approach “*should be to look at each aspect from two value perspectives: Commercial value and Social value*”. For example, customer segments can be from a commercial perspective, e.g. regulars, demographically determined, geographic (amongst others), and/or from a social perspective, e.g. ethical consumers or other social enterprises. “*It is likely that the commercial and impact value propositions will be interdependent, but one may be more important to particular customer groups than the other.*” (Burkett, 2013, p. 12 as cited in Carey and Hill, 2017).

Conclusion

Teaching methods that draw on practice are important for engaging students, as they are able to see the complexity and interrelatedness of the activities and tasks that real entrepreneurs encounter.

Discussion and Reflections

Teaching methods and activities that support teaching and learning for entrepreneurial students vary considerably and a number of factors influence the methods that are used.

1. Identify local factors and challenges that may inhibit the implementation of some of the ideas and strategies discussed in this section.
2. Suggest ideas and strategies for improving student engagement in entrepreneurial education.
3. What other ideas, strategies and examples of good practice are being implemented in your institution?
4. How might these methods be adopted to consider social enterprise?

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Section 5.

Measuring the impact of (social) entrepreneurship education (evidence base from the EU, developed approaches)

Introduction

In this section, we will look at the importance of evaluating and measuring the impact of entrepreneurial education. We will then look at the different ways that Higher Education institutions can use to measure and evaluate the impact of their entrepreneurial education programmes.

Content

Why measure entrepreneurship education impact?

Enterprise and Entrepreneurship Education provides interventions that are focused on making an impact on individuals, organisations, communities and other stakeholders. Measuring the impact will allow those involved in its delivery and other stakeholders to prove the effectiveness of the design and delivery strategies and to improve in the future. Proving impact demonstrates to the various stakeholders the difference it has made to individuals, businesses, communities and the economy at large. Impact measurement provides insights into what the entrepreneurial students have achieved, where the challenges lay and areas of improvement are to maximise impact. Measuring and evaluating impact will also enable each Higher Education (HE) institution to improve its impact by identifying areas of strength or weakness in the design and delivery of their entrepreneurship courses. To be able to measure and evaluate the impact of entrepreneurship education, HEs will need to actively engage with stakeholders.

According to Hytti and Paula (2004), there is diversity in the objectives that enterprise education programmes can seek to achieve, and they proposed a conceptual schema to capture the plethora of objectives, which are to:

- ▶ increase understanding of what entrepreneurship is about;
- ▶ equip individuals with an entrepreneurial approach to the 'world of work';
- ▶ prepare individuals to act as entrepreneurs and as managers of new business.

The evaluation needs to therefore reflect how these objectives have been met and the impact they have had. The impact is on not only the individual receiving entrepreneurial education, but also the HE that is offering the education, the community, businesses, and other stakeholders. According to the "BEST" report of the European Commission (2009), it is possible to measure and evaluate the impact of entrepreneurial education and training at least in the short term. The subsequent "BEST" report of the European Commission (2012) suggests that there are four dimensions to the impact of entrepreneurship education offered by HE institutions and any measures need to incorporate them. These are:

- ▶ Impact on the entrepreneurship key competences;
- ▶ Impact on the intentions towards entrepreneurship;
- ▶ Impact on the individual's employability, and
- ▶ Impact on society and the economy.

How impact is measured

Fayolle (2008) suggests the use of the model developed by Donald Kirkpatrick (1959) in measuring and evaluating entrepreneurship education. The model has four levels of evaluation, which are:

- ▶ *Reaction*: of participants at the end of the program, e.g. moves to start own business;
- ▶ *Learning*: the extent to which programme learning objectives were met, e.g. skills and knowledge gained;
- ▶ *Entrepreneurial Behaviour and attitudes*: to what extent has the programme resulted in specific behavioural changes, e.g. self-efficacy, mobilising resources, showing initiative and risk taking, thinking and behaving creatively, networking, preparing business plans, greater locus of control, preparing for the job market, degree of intrapreneurship displayed;
- ▶ *Results*: The cost/ benefit for the students, the HE institution and all those stakeholders who contributed to the programme.

There are different approaches to evaluating and measuring the impact of entrepreneurial education as suggested in figure 8.

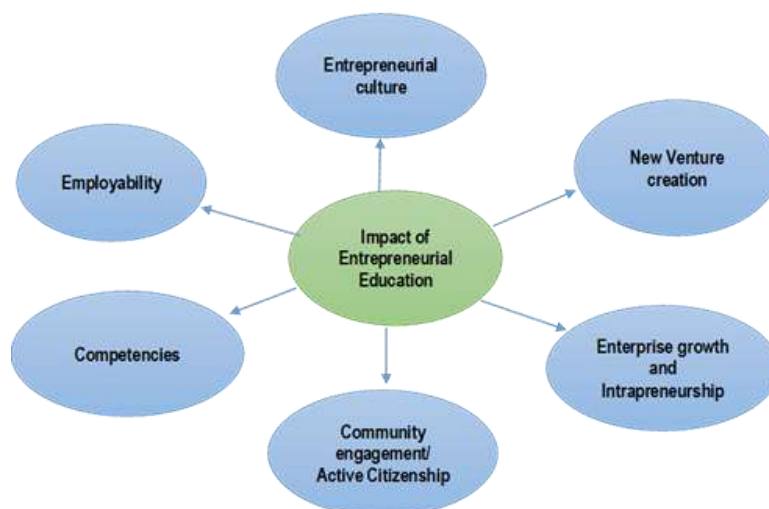


Figure 8. *Impact of entrepreneurial education*

Measuring and evaluating impact

There are a number of approaches that Higher Education institutions can use to measure and evaluate the results and impact of entrepreneurial education. The measures need to take account of broader perspectives from those external to the institution. This will minimise bias and increase the credibility of the measurements. The measurement should also take into account, the views, feedback and experiences from the students and alumni as they are capable of giving a fair assessment and evaluation of the impact entrepreneurial education has had on them. The experience from students and alumni can also be used to improve the design, content and teaching strategies that are used on the course. The aim and objectives of the entrepreneurial programmes and expectations of students and other stakeholders influence the way in which impact is measured. Measurement can be multidirectional involving qualitative and quantitative methods. There are often difficulties in some measures such as longitudinal measurements so HE institutions will have to rely on data published by third parties such as government departments.

There is a variety of ways that impact can be measured and these include feedback from participants, surveys on former students, employers, and other stakeholders, interviews, information obtained from national and other statistics and observations. In the sections that follow, we will discuss some of the specific measures and evaluations that can be done in detail. Some of these measures are subjective but nevertheless, they can provide meaningful data that stakeholders can use.

1. *Entrepreneurial culture*

Entrepreneurial culture involves changes in mind-set, behaviours and attitudes of the graduates and the community. The measures will assess whether graduates have developed successful careers, a positive work ethic and risk taking. The number of graduates who successfully secure graduate level employment as a result of entrepreneurial education they received can measure this. This could be achieved through follow-up of graduate or through establishment of alumni or class where graduates maintain contact with each other and the Higher Education institution.

2. *Changes in economic status*

Changes or improvements in the living standard of individuals and the communities they live in is another way of measuring impact. This could be as simple as increase or creation of wealth tangible and intangible, increase in GDP and other economic measures.

3. *Changes in social status for entrepreneurs*

This could be changes in attitudes and perceptions of society towards new entrepreneurs. In some societies, entrepreneurship has some negative connotations attached to it due to scepticism. For instance, in some communities, entrepreneurs can be seen as exploiters, greedy and profiteers, opportunists whilst those in formal employments are treated with greater respect or seen as professionals. Besides entrepreneurship, the impact could be through increase in the

number of those who are economically active, e.g. those in employment, apprenticeships, internship placements, etc.

4. *New venture creation*

Increase in spin-offs or graduate start-ups is one way of measuring the impact of entrepreneurship education. The measurement for start-ups should however take into account the fact that some graduates might delay starting their businesses until they have gained work experience if they did not have that already. Measuring not only the number of businesses immediately created by students or graduates, but also the types of businesses they start which should demonstrate a higher degree of creativity and innovation.

5. *Enterprise growth and Intrapreneurship*

The impact of entrepreneurial education can be measured by the intrapreneurial activities taking place in established businesses such as creating new and innovative products, services and processes that create value for customers and economic benefit for businesses. This may include re-inventing or innovation business models, improving user experience by applying design thinking and human-centred design principles, increase in intellectual property registrations. New market development (home and international), market expansion, greater risk taking and other intrapreneurial activities that can be attributed to graduates of entrepreneurial education.

6. *Community engagement*

People from under-privileged or poor background can achieve community engagement through active citizenship by graduates and through wider participation in economic and social activity. Allowing students to continue to use HE facilities long after they have graduated, e.g. using space, computers, internet, etc. and provision of networking space and events that bring together graduates where they can share their experience and the work/projects they are engaged in is also a way of ensuring community engagement and active citizenship among entrepreneurship graduates. There will also be increased stakeholder engagement as a result of partnerships between HE institutions and businesses, the community, etc., as they are likely to be sources of information on what graduates are doing as well as provide support to the graduates.

7. *Competencies*

There are key competencies that entrepreneurship graduates are expected to exhibit. These can be classified as personal, interpersonal and business competencies. Personal competencies include such behaviours as creativity, determination, integrity, tenacity, internal locus of control, showing initiative, ambition and emotional balance. Interpersonal competencies include things such as communication, engagement/charisma, delegation, respect, team working, collaboration. And Business competencies include being visionary, resource management, networking, negotiating skills, risk taking and decision making.

8. Employability

Professionals: the impact of entrepreneurial education can also be seen by the number of graduates to enter into rewarding professions because of self-determination and skills they will have acquired. There will also be increased employment levels. The measure should include the type of jobs graduates go on to occupy. The number of students who will have been employed and display the attributes and competencies in the workplace followed by feedback from employers. Graduates should be capable of generating new ideas, develop new concepts and propose innovative solutions in response to identified opportunities and problems by using both convergent and divergent thinking. The essence of enterprise and entrepreneurial education is to be able to do these things in a creative and innovative manner.

Discussion and Reflections

Measuring and evaluating the impact of entrepreneurial education is a challenge for Higher Education institutions especially now with the need to greater transparency and accountability from various stakeholders and the need to be seen to be socially responsible. Some of these measures are difficult to obtain and HE institutions will often rely on data from third parties.

- 1) Identify and critically evaluate the ways that your institution uses to measure and evaluate the impact of its entrepreneurial education programmes and the effectiveness of the measures it uses.
- 2) Considering your local/national situation, what do you see as some of the challenges in evaluating the impact of entrepreneurial education programmes? How can these be overcome?
- 3) Which of the measurements discussed in this session would you recommend considering your local and national contexts?

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A large, stylized version of the AHEAD logo, composed of many small triangles in various colors (red, green, blue, yellow, orange, purple, pink). The word "AHEAD" is written in blue capital letters across the center of the logo.

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