DOING ENTREPRENEURSHIP: TOWARDS AN ENTREPRENEURIAL METHOD FOR DESIGN AND CREATIVE TECHNOLOGIES

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ABSTRACT:

The last two decades has seen remarkable growth and development of curricula and programs devoted to entrepreneurship and new venture creation. In the creative industries, entrepreneurship is increasingly seen as a catalyst to add value to projects, whether in the form of social, cultural, environmental or economic returns.

However, Duening & Stock (2013) suggest that entrepreneurship educators have been attempting to teach entrepreneurship without really understanding what it is or what the proper goals of teaching should be. As a result, there are today a wide range of approaches to teaching entrepreneurship, focusing on personality traits, entrepreneurial behaviour or environmental factors, with varying degrees of apparent effectiveness (Kuratko, 2011; Lautenschlager and Haase 2011; Mason, 2011; Streeter, Kher and Jacquette 2011; Vetrivel, 2011).

In order to proceed from the impasse above, this paper adopts the theoretical notion of "effectuation" and the principles of the "entrepreneurial method" articulated by Sarasvathy & Venkataraman (2011). We put forward a new model for critical entrepreneurship education and its application to creative start-ups, practice-based learning and ethics for students of design & creative technologies in the context of a global, digital economy. The entrepreneurial method also plays a major role in providing bridges between specializations.

The paper will present recent experience in innovation and entrepreneurship delivered in the Faculty of Design & Creative Technologies at Auckland University of Technology. It explores the design and delivery of the creative entrepreneurial method in a combination of individual and group projects across interaction design, serious games and simulations, transmedia narratives, design-based thinking, and reflective practice.

Keywords: Creative Entrepreneurship, Creative Technologies, Innovation and Entrepreneurship, Entrepreneurial Method

1. INTRODUCTION

Entrepreneurship is a complex, dynamic process of vision, change, and creation. It is more than just starting up a business. Although, it is an important step but not a complete picture. It is beyond starting of business, it is opportunity spotting, taking risk beyond security and having the attitude and passion to push an idea through to reality combined into a special perspective that permeates entrepreneurs (Kuratko, 2011a). Entrepreneur requires, willingness to take risk in terms of time, career; ability to form and work collectively towards a common goal; creative skill to accumulate required resources, developing an effective business plan and most importantly vision to recognize and spot opportunity in complex environment.

As the support for entrepreneurship is developing, the role of reinforcing entrepreneurial education in vocational education institutions and universities will have a positive impact on the entrepreneurial dynamism. Indeed, besides contributing to the creation of social enterprise and business start-ups, entrepreneurship education will make young people more employable in their work within existing organisations, across the social, public and private sectors (Bruxelles, 2013). As a result, educators have a central role as they have a strong impact on the achievement of learners.

Reflective teachers keep their practice under constant review and adjust it in the light of desired learning outcomes and of the individual needs of students. As a key competence, entrepreneurship does not necessarily involve a specific school subject. Rather, it requires a way of teaching in which practical learning and project work have a main role. Educators do not provide students with the answers, but help them to research and identify right questions and find the best answers. To inspire their students, and to help them develop an enterprising attitude, educator need a wide range of competences related to creativity and entrepreneurship; they require a school environment where creativity and risk-taking are encouraged, and mistakes are valued as a learning opportunity.

With the change in education and business environment, this paper explores entrepreneurial approaches and discusses the entrepreneurial method used for teaching creative entrepreneur. Paper provides some examples of critical entrepreneurship taught in Faculty of Creative Technology across two courses and present a critical entrepreneurship model based on theoretical notion of entrepreneurial method (Sarasvathy & Venkataraman, 2011) across interaction design, serious games and simulations, transmedia narratives, design-based thinking, and reflective practice.

2. ENTREPRENEUR EDUCATION: EMERGING TRENDS AND CHALLENGES

Entrepreneur education seeks to propose young generation to be responsible as well as enterprising individuals, who became entrepreneurs who contribute to economic development and sustainable communities (Raposo & Paco, 2011). Entrepreneurship education is mainly about development of personal traits and certain beliefs, values and attitudes, with the aim to get students to really consider entrepreneurship as an attractive and valid career. The core of entrepreneurial education is different from business education (Kuratko, 2011b). Entrepreneurial education includes leadership, skill building, creative thinking, new product development and exposure to technological innovation. It does include

the aspects of venture capital, protection of IP, project management and understanding of different team personality.

As educators, we have the responsibility to develop the discovery, reasoning, and implementation skills of our students so they may excel in highly uncertain environments. These skills enhance the likelihood that our students will identify and capture the right opportunity at the right time for the right reason. However, this is a significant responsibility and challenge. The current approaches to entrepreneurship education are based on a world of yesterday, a world where precedent was the foundation for future action, where history often did predict the future. Yet, entrepreneurship is about creating new opportunities and executing in uncertain and even currently unknowable environments (Neck & Greene, 2011).

There are wide number of universities and colleges that offer courses related to entrepreneurship but it still remains a challenge to teach entrepreneurship across different inter-disciplinary fields. Today there is wide range of approaches to teaching entrepreneurship, with varying degrees of apparent effectiveness (Lautenschlager & Haase, 2011; Steeter, Kher, & Jacquette, 2011; Vetrivel, 2011). If effectiveness is measured on the number of students becoming entrepreneurs after completing university, then many students don't become entrepreneurs until long after they have left the university, and the effect of their university experience on their success is difficult to measure (Duening & Stock, 2013). Educators have been attempting to teach entrepreneurship without really understanding what it is or what the proper goals of teaching should be (Duening & Stock, 2013; Sarasvathy & Venkataraman, 2011). With the mixed record of pedagogical focus and measures of success, entrepreneurship scholars and researcher continue to search for something more concrete to teach.

Current education is interdisciplinary in nature, it is no longer focused to one disciplines such as design, finance, technology and engineering. For examples, students from finance background looks at technology and game design to see how they can use gamification to teach financial literacy among teenagers. An entrepreneurship educator is often expected to know everything from every field and relate it to the entrepreneurial domain. It is not uncommon to teach entrepreneurship along with accounting, law, education, art, ethics, technology and creative design. It is a challenge to teach that caters to all students from different disciplines. In additional to that, there is rapidly changing technology, human mindset, social value, business and personal values, entrepreneurship as a career path looks different and feels different (Neck & Greene, 2011). We need a framework of teaching that can accommodate all new waves in the global environment.

With wide ranges of approaches of teaching, a fundamental question has arisen among researchers and educators as what constitutes entrepreneurship education in creative area? There are growing trends in pedagogy and practices that have moved beyond profit making firms into social, sustainable and public entrepreneurship.

There are several teaching approaches such as process-based (Moroz & Hindle, 2011), learning by doing (Chang, Benamraoui, & Rieple, 2013), scientific method an experimental method (Sarasvathy &

Venkataraman, 2011). The pedagogy of teaching entrepreneur is changing based on broadening market interest (Kuratko, 2005). New disciplinary programs are developing a new framework for delivering entrepreneurial skill to non-business students, a growing trend of specially designed for art, engineering, computer studies and science students.

Creative technologies approach entrepreneurial teaching as a method, a way of thinking and acting. It is not just understanding, knowing or talking but requires skills of using, applying, interaction, reaction and transformation. It is the method for students to practice entrepreneurship; we do this using interaction design, serious games and simulations, transmedia narratives, design-based thinking, and reflective practice. Students were encourage to recognize, find and opportunity spotting to explore their entrepreneurial domain. Sometimes opportunities were co-created along with stakeholders that often end up with new opportunities that neither of them could or did anticipate. They use the notion of effectuation for opportunity identification and new venture creation. According to Sarasvathy and Venkataraman (2011), the elements of entrepreneurial method can be same for an extraordinary successful entrepreneur and an ordinary person; entrepreneurship can be taught and learnt. Entrepreneurial method unleashes the potential of human nature and the focus is inter-subjective. It plays a major role in providing opportunities for co-creation in inter disciplinary sector.

In next two sections, we provide an overview of entrepreneurial learning and case study on entrepreneurial practice in creative technology based on the principles of entrepreneurial method by Sarasvathy and Venkataraman (2011).

3. ENTREPRENEURIAL LEARNING: CREATIVE TECHNOLOGIES

Historically, the teaching of entrepreneurship has been conducted in such a manner that the learning needs of the entrepreneur are not being adequately catered for (Goss, 1989). Entrepreneurship has it's roots in the business programmes offered by Universities and at the undergraduate level, many such programmes are catered to large classes with little or no attempt to break the transmissive model of learning. Such a learning environment is completely at odds with the learning styles of future entrepreneurs. Our approach to developing entrepreneurial students extends way beyond the view that entrepreneurship "belongs in business" and we adopt a learning by doing approach (Cope & Watts, 2000) that enables individuals to identify their own learning needs and adopt an entrepreneurial approach that suits their own goals.

For the purpose of entrepreneurial learning, we adopt a broad definition of "entrepreneur" that extends beyond the corporate entrepreneurship model. We note that entrepreneurial opportunities can exist outside of the perception of the entrepreneur but this does not preclude some opportunities can be created (Alvarez & Barney, 2007). We therefore consider an entrepreneurial view one that can recognise or create opportunities, evaluate them for their feasibility and exploit the opportunity to some advantage. These opportunities may be social, financial, technological, artistic or indeed have many other characteristics.

Burgoyne & Hodgson (1983), argue that there are three "levels of learning", Level 1 learning describes the assimilation of factual information, which has immediate utility but no real long-term or developmental implications. Level 2 learning involves assimilating something that is transferable from the present situation to another, where an individual has "changed his conception about a particular aspect of his view of the world in general: the aspect being, however, situation . . . specific" (Burgoyne and Hodgson, 1983; p. 394). Level 3 learning is far more important in terms of stimulating fundamental change, encouraging the individual to reflect on and question not only their established ways of doing things but also the underlying values and perceptions that drive this behaviour. It is third level of learning that enables entrepreneurial thinking to take place and so the challenge of educators is to consider how to transition students to this level of learning.

It is our belief that that the teaching of entrepreneurship using lectures, case studies and business plans is not effective because students have not yet reached the third level of learning as identified by Burgoyne & Hodgson (Burgoyne & Hodgson, 1983). Other researchers agree that traditional approaches are not sufficient and a number of different approaches have been considered, as summarised by Carrier (Carrier, 2007) Our entrepreneurial teaching model combines several aspects, particularly the use of games and promotion of playfulness (Walker, Connor, & Marks, Upcoming) training students to identify and/or create business opportunities, the integration of practitioners into the training process and the promotion of creative thinking. Furthermore, our approach to teaching entrepreneurship is based around the simple concept of developing entrepreneurial skills outside of the teaching of entrepreneurship. We also utilise an "entrepreneurial method" that is internally consistent with both the scientific method and the creative process as discussed by Sarasvathy & Venkataraman (2011). This model is outlined in the next section.

3.1. AN ENTREPRENEURIAL METHOD

The scientific method is a way to explore a problem, form and test a hypothesis, and answer questions whereas the creative process creates, interprets, and expresses "form", whether that be art, design or engineering. A simplified model of the scientific method is shown in figure 1 and the corresponding view of the creative process is shown in figure 2.
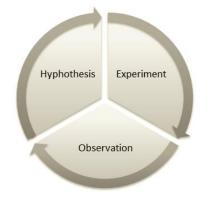

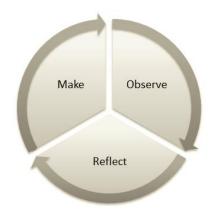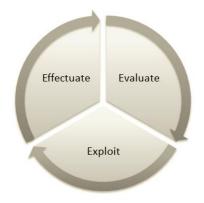Figure 1: Simplification of the Scientific Method

Figure 2: Simplification of the Creative Process

Our view of entrepreneurship is that is consists of three key phases, namely effectuation, evaluation and exploitation. Effectuation is a way of thinking that serves entrepreneurs in the processes of opportunity identification and new venture creation, whatever that venture may be. The role of effectuation is best considered using an example that distances effectuation from causation, in this case the example is about a chef cooking a meal. By using causation the client chooses a menu in advance and the chef prepares this menu by looking for the right ingredients and following the recipes to make the dishes. In the effectual process the approach is different. The client would not ask for a specific menu, but he asks the chef to make something with the ingredients available. The chef chooses one of the many different meals he is able to make with the available ingredients. Effectuation is therefore a process that encourages divergent thinking as opposed to convergent thinking.

Figure 3: A simple Entrepreneurial Method

All of these models are essentially each a cycle of three key activities, however each occur at a different level of granularity. For example, proposing a hypothesis and conducting an experiment are a specific example of "making" in the creative process. Similarly, the acts of effectuation (Perry & Chandler, 2011) and evaluation are similarly specific examples of an observation in the creative process. Through a process of observation, an entrepreneur identifies a possible opportunity and then

applies their entrepreneurial thinking to consider all of the ways that the opportunity can be pursued and then evaluates between them.

Our full model of the entrepreneurial method can then be realised by considering how the simple entrepreneurial method combines with the creative process.
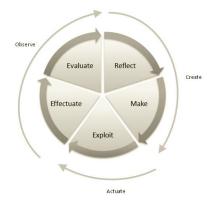

Figure 4: Proposed Entrepreneurial Method

This entrepreneurial model embeds two new key activities in the cycle of effectuation, evaluation and exploitation that embodies entrepreneurship as a creative activity.

Following the identification or creation of an opportunity, the entrepreneur will explore and evaluate the ways in which the opportunity may be pursued. This is followed by a creative process of reflection that, is in essence a design process, which the entrepreneur reflects on their previous experiences and ensures that the opportunity is worth pursuing and to start to create a plan. This creation stage of reflection and "making" is essentially a way of viewing the creation of a business plan. The exploitation phase is therefore the actuation of that plan in practice.

This entrepreneurial method forms the backbone of our teaching philosophy and the following describes how the various elements are addressed in a Creative Technologies curriculum.

3.2. ENTREPRENEURIAL LEARNING IN A CREATIVE TECHNOLOGIES CURRICULUM

It is our belief that it is very challenging to teach a student to be entrepreneurial under the guise of traditional models of entrepreneurship. However, by adopting the entrepreneurial method as a creative process as outlined in the previous section it is possible to expose students to different elements of entrepreneurial thinking out of context and "by stealth", later combining those elements into a wider understanding of how to be entrepreneurial.

During the first year of their programme, students in the Bachelor of Creative Technologies at Auckland University of Technology are introduced to the creative process as outlined in figure 2. One of the main foci of the first semester of study is the development of a critically reflective habit. Such critical reflection is essential to reach the third level of study described by Burgoyne & Hodgson (1983)

and has also been identified as a key factor in entrepreneurial learning (Cope, 2003). Students predominantly engage in the creative process and critical reflection in their Studio based projects, all of which are designed to encourage students to adopt divergent thinking, push boundaries, take risks and consider the multitude of options that are open to them in terms of interpreting the project brief and coming up with creative outcomes.

Students typically undertake three projects in a semester and each is framed around a process of making, observing and reflecting. Most projects enter this cycling at the stage of "making" as they are encouraged to learn through doing. Having introduced this cyclic creative process it becomes easier to transition students to realising that many projects start with an observation of a possibility as opposed to a well-defined brief.

This process takes place in the second year of their study where students develop their own project proposals rather than respond to a brief. This transitions all students in the programme to thinking about how to shape their project to be a response to the opportunities they perceive. In the entrepreneurial method shown in figure 3, students start the process by developing many project concepts that corresponds to the effectuation process. Upon evaluating their initial concepts, students choose one and need to document the project in terms of their own defined learning goals and also the creative technologies proposition, essentially a statement of the suitability of the project to the degree. This directly mirrors the process followed by entrepreneurs in pursuing a new venture.

Not all students undertake the elective course in Entrepreneurship & Innovation, therefore the "making" phase will be different. For their projects all students create an outcome however students who enrol in the elective paper will also consider new dimensions that their projects may explore and how they can formalise the potential for their projects through the creation of a formal business case. These students are then exposed to all elements of the entrepreneurial method except the actuation phase, or exploitation. Future curriculum changes will include courses that allow students to then translate these business cases into practice and also earn academic credit by being entrepreneurial "in the wild".

4. CASE STUDIES ON ENTREPRENEURIAL PRACTICES IN CREATIVE TECHNOLOGIES

Case studies included in this section have a number of common features. They each illustrates a birth of idea and show how that idea can be realised into an outcome that brings value in the form of economic, social, artistic or cultural. The case studies illustrate how successful entrepreneurs deploy a range of entrepreneurial and creative skills.

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