Developing Entrepreneurship Education: Comparing Traditional and Alternative Teaching Approaches

Fernando Lourenço and Oswald Jones

Manchester Metropolitan University Business School

Abstract. Over the last 15 years there has been increasing interest in the topic of entrepreneurship education. The practical nature of entrepreneurship has led to debates between those wedded to traditional 'top-down instructive' approaches, widely used in management education, and those adhering to a 'bottom-up constructive' approach promoted by progressive entrepreneurship educationalists (Gibb, 1993). It is proposed in this paper, however, that educationalists should avoid falling into the 'either/or' trap. Rather, it is important to adopt different learning approaches in order to create a collaborative model of entrepreneurship education. As a way of exploring these issues, data are presented on a unique pedagogical approach used during an intensive two-week training programme for 20 'scholars' from the UK's New Entrepreneur Scholarship (NES 2005a). The programme took place in Babson College (Boston) which is one of the world's top entrepreneurship schools. A key objective of the course was to expose NES scholars to the unique nature of US entrepreneurial culture. The programme involved a wide range of learning approaches including conventional lectures, role-play activities, visits to entrepreneurial firms in Silicon Valley and periods of self reflection. Data were obtained by the first author who acted as a participant-observer (Junker 2004) during the programme. The learning process was conceptualised *via* the acronym SASBIC (**S**timulus **A**, **S**timulus **B**, **I**nstructive and **C**onstructive) which reflects the approach adopted in Babson's training programme. A key outcome of this research, for both academics and training providers, is the importance of combining traditional and alternative approaches in the delivery of courses aimed at encouraging students to fulfil their potential as entrepreneurs.

Keywords: entrepreneurship, entrepreneurship education, enterprise education, teaching and learning, training design, pedagogy, New Entrepreneur Scholarship, Babson College.

1. Introduction

Entrepreneurship education has been promoted as a key way to improve the performance of developed countries in Europe and North America as well as in rapidly developing countries, such as, Brazil, China and India. Higher levels of entrepreneurship and more effective innovation are perceived to be the key engines of economic growth (Holcombe, 2006; Sternberg and Wennekers, 2005). As an 'early adopter' of entrepreneurship education, the US remains the 'market leader' with many universities having had 20 or 30 years experience of delivering such programmes (McKeown *et al.* 2006). A recent report for the National Council for Graduate Entrepreneurship (2006) suggests that enterprise in English HEIs has grown significantly since 1999 with 1.9m students (7%) engaged in

enterprise activities. The report goes on to say that two thirds of all current provision is led by Business Schools with Engineering and Art faculties contributing less than 10%. This growth in entrepreneurship education appears to have done little to promote an 'enterprise culture' amongst graduates. As Hannon (2006) points out, only 4% of students in 2002 became self-employed on graduating although a survey[1] indicated that 61% of students said that they would prefer to be self-employed. Current evidence suggests that there is a gap between the perceived desirability of entrepreneurship amongst students and actual self-employment and start-up rates amongst graduates. Such data have focused attention on the impact of education and pedagogy in entrepreneurship education. There is now a consensus, in the literature at least, that entrepreneurship can be taught and the debate has now shifted to what and how it should taught. For example, Pittaway and Cope (2006b, p. 4) suggest that there is increasing interest in the way in which entrepreneurs actually learn:

> Theorists have argued that entrepreneurs learn primarily through learning-by-doing and reflection (Cope and Watts, 2000; Deakins and Freel, 1998), which includes 'learning by copying and opportunity taking; and learning from making mistakes' (Gibb, 1997: p19). Minniti and Bygrave (2001) assert that learning how to be entrepreneurial can only be acquired through learning by doing or direct observation.

A nationwide survey by McKeown *et al* (2006) examines different approaches to teaching entrepreneurship in enterprise programmes offered by UK HEIs. Their survey indicated that at least 86 of the 123 HEIs provided programmes at the undergraduate and/or the postgraduate level (21 institutions did not respond). In terms of teaching approaches, the majority of institutions claimed they offered practical courses (57%), a very small proportion offered 'theoretical' courses (5%) and 25% claimed to offer a mix of theory and practice. Despite this apparent emphasis on practice, when asked about teaching methods a very different picture emerged (also see NCGE, 2006). Traditional methods such as lectures were used in 34% of HEIs. Less than 3% of HEIs made use of action/experiential learning which are regarded as 'the most effective route to entrepreneurship education' (McKeown *et al.* 2006; Pittaway and Cope 2006b). Although 43% claimed they were using 'multiple methods' these were based on very traditional techniques such as lectures, workshops and seminars. Bennett (2006) carried out a survey of lecturers teaching entrepreneurship at the 82 HEIs he identified as offering entrepreneurship courses (undergraduate and/or postgraduate). Questionnaires were sent to the unit leaders of 392 individual courses and he received 114 usable responses. The data indicated very strong links between the background of lecturers, course content and style of delivery. As the majority (57%) had moved into entrepreneurship from 'conventional'

---

1. EOS Gallup (2003) Flash Eurobarometer 134 Entrepreneurship, Enterprise Directorate, Brussels.

management subjects most adopted traditional teaching approaches based on lectures and seminars. According to Bennett (2006, p. 183) 'few of the lecturers had received staff training and development in the field of entrepreneurship education'.

In this paper we examine teaching methods associated with an intensive course designed to introduce UK students to US entrepreneurial culture. The New Entrepreneur Scholarship (NES) was designed to use enterprise as a mechanism for dealing with social exclusion (Taylor *et al.* 2004). The scheme is funded by the Learning and Skills Council (LSC) and managed by the National Federation of Enterprise Agencies (NFEA), the Association of Business Schools (ABS) and the Prince's Trust (NES 2005b). NES helps people living in disadvantaged areas obtain the 'know-how' to start-up and manage a business. In short, this programme consists of three main units: a personal and business development programme, financial support and on-going mentoring support (NES 2005b; Rouse and Boles 2005). The programme targets those groups which have traditionally found many obstacles in terms of accessing business support. Target groups include women, ethnic minorities, ex-offenders, those with physical and/ or learning difficulties, unemployed or underemployed, those with low-educational backgrounds, and literacy and/or numeracy difficulties. NES is available across the UK (East, East Midlands, London, North East, North West, South East, South West, West Midlands, Yorkshire and Humber). In short, (NES 2005b) aims to:

- help people from disadvantaged backgrounds to start a business;

- provide the opportunity to improve their management skills and learn how to apply such skills to run and manage their new business;

- provide a selection of qualifications for scholars subsequent to their NES training.

The benefits and impact of the NES programme were explored in a recent survey (Rouse and Boles 2005) conducted on ex-NES scholars (sample of 529 respondent, 22.9 % response rate) which revealed that 67.1% are now running a business, 23.6% are in the process of setting-up and 6.7% are at the planning stage. Rouse and Boles (2005) conclude that 97.4% of scholars who have completed the programme are actively involved in establishing a business. This makes NES highly successful in terms of facilitating scholars to move into business start-up, moving out of unemployment and economic inactivity. Businesses started *via* the NES programme fall into 10 sectors: business services (real estate, renting and business services sector), 27.4%; other community, social and personal services, 26.1%; manufacturing, 20.3%; wholesale and retail (wholesale and retail/repair of motor vehicles and household goods sector),

13.4%; construction, 4.9%; hotel and restaurant, 3.6%; agriculture, hunting and forestry, 2%; transport, storage and communication, 1.3%; education, 0.7%; health and social work, 0.4%.

In 2005, twenty NES scholars were selected from across England to attend training at Babson College in the US. This training was designed to offer NES 'scholars' a range of new practical skills such as strategic and creative thinking, finance, business growth, funding and investment, marketing and presentation. They were also encouraged to learn from US entrepreneurs who have overcome obstacles in the process of establishing their own businesses (Babson 2005). The New Entrepreneur Transatlantic Scholarship (NETS-UK) was initiated by the Chancellor of the Exchequer, Gordon Brown, and allows NES scholars to learn from the American approach to new business creation (NES 2005a). The first author travelled to Babson with the 2005 NETS-UK group to act as a participant-observer during the two-week programme. The objective was to observe teaching methods at Babson and to record the NES scholars' response to this intensive introduction to the US model of entrepreneurship education. These data are presented to encourage those teaching entrepreneurship.

The paper begins with a review of key contributions to the literature associated with entrepreneurship education and learning. This is followed by a description of the unique research method which underpins this study. We then present data on both the teaching approaches adopted at Babson College and on the responses of the NES scholars to this learning environment. This is followed by a discussion of what this research adds to our knowledge of entrepreneurship education and learning styles. Our objective is to demonstrate that a mixture of traditional approaches (lectures and seminars) with more enterprising and interactive approaches (e.g. company visits, in-depth discussions with real entrepreneurs, activities) provide the best learning style for nascent entrepreneurs.
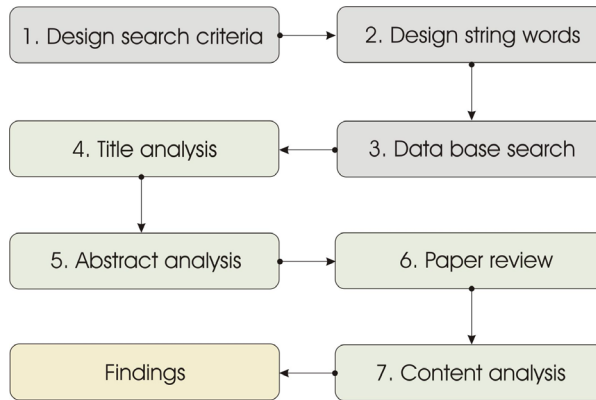
2. Educating Entrepreneurs

The following section describes our 'systematic review' of current perspectives related to the teaching of entrepreneurship.The literature associated with different approaches to entrepreneurial education was systematically reviewed. Key contributions to the debate were analysed and synthesised to provide a state-of-the-art view of current perspectives related to the teaching of entrepreneurship. This approach has been used by a number of researchers as a method for using academic literature as a primary source of evidence (Gorman *et al.* 1997; Hart 1998; Tranfield *et al.* 2003; Pittaway *et al.* 2004; Béchard and Grégoire 2005; Pittaway and Cope 2006a). The systematic approach adopted in this paper is illustrated in Figure 1.[2] The following section describes our 'systematic review' of current perspectives related to the teaching of entrepreneurship.

---

2. Contact the first author for details.

Figure 1: The logic of a systematic literature review

Since the 1970s, entrepreneurship education became a critical intervention supported by government as a way of enhancing the enterprise culture and entrepreneurship to promote business start-ups and minimise failure rate in the US (Sexton and Bowman 1984). Over the last fifteen years, UK attitudes towards entrepreneurship and small business have become increasingly favourable. Consequently, entrepreneurship courses and/or training has grown substantially in universities and colleges since the 1970s in the US (Sexton and Bowman 1984), since the 1980s in the UK (Gibb 1987), since the 1990s across Europe (Garavan and O'Cinneide 1994a; 1994b; Klofsten 2000b; Faoite *et al.* 2003) and more recently in Asian countries (Dana 2001) including China (Li *et al.* 2003). As such, entrepreneurship education is promoted through a range of initiatives, grants, funding and support (Gibb 1987; McMullan and Long 1987; Hynes 1996; Gorman *et al.* 1997; Collins and Robertson 2003; Faoite *et al.* 2003; Hytti and O'Gorman 2004; Vinten and Alcock 2004).

Harris *et al.* (2000) argues that approaches to entrepreneurship education emphasise the transfer of knowledge and information based on traditional university pedagogy. Such an approach may be considered appropriate for conventional MBA courses but it is inconsistent with the way in which entrepreneurs actually learn (Gibb 1993). The traditional business and management pedagogy was adopted by educationalists in the early stages of entrepreneurship education (Weinrauch 1984; Gibb 1993; Henderson and Robertson 1999; Rae 2003; Aronsson 2004; Hytti and O'Gorman 2004; Vinten and Alcock 2004). This traditional approach, based on the "idea that those who know can teach, was coupled with the notion of students as empty containers into which instructors poured their wisdom and it led to the 'passive' educational paradigm that prevails in most university settings today" (Wright *et al.* 1994, p. 10).

Growth in the provision of entrepreneurship education and acceptance of traditional practices described above has been criticised. For example, some

suggest there is overemphasis on managerial and new business start-up skills and a lack of focus on learning to develop enterprising behaviour, skills and attributes [creativity, self-confidence, motivation] (Gibb 1987; 1993; Hynes 1996; Hytti and O'Gorman 2004). Others are critical of the adoption of traditional pedagogical approaches which over-emphasise theory and conceptual thinking using teacher-centred learning styles (Sexton and Bowman 1984; McMullan and Long 1987; Ulrich and Cole 1987; Plaschka and Welsch 1990; Solomon and Fernald 1991; Garavan and O'Cinneide 1994a; Leitch and Harrison 1999; Collins and Robertson 2003) or because functional knowledge is treated as an 'end' rather than a 'means' (Weinrauch 1984; Gibb 1993; Henderson and Robertson 1999; Rae 2003; Aronsson 2004; Hytti and O'Gorman 2004; Vinten and Alcock 2004). Many critics suggest that entrepreneurs have different learning styles compared with managers and, thus, conventional teaching approaches may restrain the development of entrepreneurial skills, capabilities and attributes (McMullan and Long 1987; Gibb 1993; Gorman *et al.* 1997; Collins and Robertson 2003; Hytti and O'Gorman 2004). Growth in the provision of entrepreneurship education and acceptance of traditional practice as described above has been criticised.

Other factors, identified in our systematic literature review, which inhibit entrepreneurship education include a lack of resources, an overloaded university system (Sexton and Bowman 1984; Hills 1988), bureaucracy and political infighting (McMullan and Long 1987), lack of appropriate competences [theoretical and practical] (Klofsten 2000a), lack of flexibility in the use of resources and hierarchical departmental structures in schools and universities (Gibb 1993). The picture is also complicated by debates with regard to 'whether entrepreneurs are born or made' (Aronsson 2004). However, Gendron (2004) argues that debate is no longer 'whether entrepreneurship can or should be taught, but rather how to continuously improve its content and delivery to meet the needs of our current students'. This feeds into debates about alternative patterns of teaching approaches to entrepreneurial education (Table 1).

The pedagogic methods described in Table 1 tend to be activity-based where learning is constructed by learners through the process of 'doing'. To summarise, the literature indicates two different modes for teaching and learning. The first mode is the much criticised 'traditional mode' (lectures and seminars) and the second mode is what we call the 'enterprise mode' (learning by doing). The following section summarises these two distinct approaches to entrepreneurship education as discussed in the literature (Table 2).

Table 1: Enterprising approaches to entrepreneurship education

Pedagogy	Resources
Multiple/holistic approach: learn by doing, learn from mistakes, learn from stakeholders' feedback and interaction, learn to deal with pressure, ambiguity and complexity, learn to find problems as well as design solutions, learn from discovery, learn from formal and informal environment and learn from multi-disciplinary perspective.	(Gibb 1987; Hills 1988; Gibb 1993; Hynes 1996; Henderson and Robertson 1999; Ibrahaim and Soufani 2002; Ladzani and Vuuren 2002)
Problem-base learning: to deal with complexity, ambiguity and multi-functional roles.	(Sexton and Bowman 1984; Gibb 1987; McMullan and Long 1987; Ulrich and Cole 1987; Sexton and Bowman-Upton 1988; Plaschka and Welsch 1990; Gibb 1993)
Learn through apprenticeship	(Aronsson 2004; Gendron 2004)
Action learning and experiential learning	(Ulrich and Cole 1987; Haines Jr. 1988; Nelson 1992; Low *et al.* 1994; Porter 1994; Feldman 1995; Leitch and Harrison 1999; Hindle 2002; Gendron 2004; Taylor *et al.* 2004; Ulijn *et al.* 2004)
Competition	(Li *et al.* 2003)
Role-play, scenario, simulation and games.	(Haines Jr. 1988; Clouse 1990; Stumpf *et al.* 1991; Low *et al.* 1994; Mitchell and Chesteen 1995; Winch and McDonald 1999; Fiet 2000a; 2000b; Hindle 2002; Schwartz and Teach 2002; Theroux and Kilbane 2004; Ulijn *et al.* 2004)
Visioning, creativity and opportunity identification activities.	(Harris *et al.* 2000b; Rae and Carswell 2000; Rae 2003; Detienne and Chandler 2004; Gendron 2004)
Learn from reflection or critical incidents	(Cope and Watts 2000; Rae and Carswell 2000; Cope 2003)
Multi-media case studies	(Robertson and Collins 2003; Theroux and Kilbane 2004)
Problem-base and/or goal orientated activities and, activity that leads to reflection, presentation and discussion.	(Sexton and Bowman-Upton 1988; Garavan and O'Cinneide 1994b; 1994a; Cope and Watts 2000; Lawless *et al.* 2000; Cope 2003; Rae 2003; Robertson and Collins 2003; Gendron 2004)

2.1. Teaching Modes

Existing approaches to entrepreneurship education emphasise the transfer of knowledge and information (Harris *et al.* 2000a). As described above, this approach has its roots in traditional approaches to business and management pedagogy (Weinrauch 1984; Gibb 1993; Henderson and Robertson 1999; Rae 2003; Aronsson 2004; Hytti and O'Gorman 2004; Vinten and Alcock 2004). Criticisms of the traditional approach have led to the emergence of an alternative enterprising approach to teaching entrepreneurship based on the cognitive learning model (Shaw 2004). Rather than being passive, learning is a dynamic, active, constructive and goal-orientated process (Wittrock 1978; Shuell 1986;

Wittrock 1986). In contrast to the traditional approach to entrepreneurship education (Table 1), proponents of enterprise approach claim that learning is enhanced as students are engaged in the construction of knowledge by 'acquiring, generating, analysing, manipulating and structuring information' (Alavi 1994, p. 161). As reflected in Table 1, patterns of teaching promoted by 'alternative' entrepreneurship educationalists are mainly based on activities, action learning and experiential learning.

In short, alternative approaches to entrepreneurship education use a 'transformative methodology' and traditional approaches use a 'transmissive methodology' for teaching and learning (Sterling 2001, p. 35). A 'transformative methodology' means that learners are engaged in constructing and owning their learning. In contrast, a 'transmissive methodology' means that teaching is instructive and associated with the transfer of information (Sterling 2001). Table 2 summarises the above argument and the characteristics of the traditional and alternative approach to teaching entrepreneurship.

Table 2: traditional and alternative teaching approach (see wright et. al., (1994)

A comparison of traditional and alternative teaching approach/mode for entrepreneurship education		
	Traditional approach	*Alternative approach*
Knowledge	Instructed to learners	Constructed by learners
Learners (e.g. students, participants)	Received knowledge and contain knowledge	Constructors, discoverers and creator of knowledge
Institutions (e.g. Colleges, Universities, faculty)	Classify and sort learners	Develop learners' competencies and talents
Relationships	Impersonal relationship among learners and between institutions and learners	Personal interactions among learners and between institutions and students
Activity type	Individualistic - static	Mixture of individualistic and interactive learning activities - dynamic
Example of teaching method	Lecturing, reading, question and answer session, advice and feed-back, etc	Activities, presentations, simulation, role-play, scenario, games, etc
Assumptions	Teaching and learning is through 'top-down' instructive approach – transmissive methodology	Teaching and learning is through 'bottom-up' constructive approach – transformative methodology

As described previously, traditional approaches to teaching entrepreneurship are lecture-based in which knowledge is passed to learners. In contrast, enterprising approaches emphasise the use of experiential and action learning through which knowledge is constructed by learners in the process of 'doing'. From the perspective of educators, is it necessary to choose between the traditional and enterprise approaches? We argue, rather than adopting a dichotomous perspective (either or), those engaged in entrepreneurship education should recognise the functionality and importance of each approach. Adopting a

complementary or collaborative teaching style means linking the 'instruction' and 'construction' approaches to entrepreneurship education.

To explore this argument, we present data on a unique pedagogical approach used during an intensive two-week training programme for 20 'scholars' from the UK's New Entrepreneur Scholarship (NES 2005a). The programme was delivered in Babson College (Massachusset, US) which is one the leading schools for entrepreneurship education in the US. Findings derived from this case illustrate 'how' the Babson College programme was delivered to enhance entrepreneurial learning. Our data also illustrate how the NES scholars responded to this teaching and leaning model. These findings from the study can help expose UK educationalists to one of the leading schools for entrepreneurship education in the US.

3. Research Methods

Our main aim is to explore the pedagogical approaches used by Babson College during a two-week training programme designed for NES scholars in October 2005. We wanted to understand the extent to which Babson used a traditional approach, an alternative approach or some combination in their teaching of entrepreneurship. The second aim was to evaluate the training from the perspective of NES scholars who participated in the programme. Three data collection tools were used: a questionnaire, personal diaries written by each 'scholar', and 'participant observation' by the first author who took part in the training programme alongside the NES scholars (Easterby-Smith *et al.* 1991; Oppenheim 1992; Cohen *et al.* 2000; Robson 2002; Geertz 2004; Junker 2004; Loftland 2004; Whyte 2004). Each of these is described below.

The questionnaire used a six-point scale (1 = poor and 6 = excellent) for scholars to rate a number of questions with regard to their learning. Below each question there was space for scholars to express their views qualitatively. The personal diary was designed to capture scholars' daily emotions and their perceptions about the usefulness of their training. Again, they were asked to rate their emotions and perceived usefulness on a six-point scale (1 = poor and 6 = excellent) and to express their views qualitatively (Oppenheim 1992; Bryman and Bell 2003). Our final method for data collection was participant observation (Robson 2002; Junker 2004) which allowed the first author to experience the event in exactly the same way as the NES scholars (Geertz 2004). The first author acted as a data collection 'instrument' throughout the two weeks of the Babson event. This approach enabled him to merge into the 'social world' of the 20 NES scholars, to interact with them and to remind them of the need to complete their diaries and questionnaires. This active participation also enabled the first author to capture a variety of data including field notes derived from direct observation of teaching methods and learning content (Loftland 2004). In total, over 80 pages

of A4 notes and digital images were generated during the two-week training period.

The quantitative data were analysed through descriptive statistics to illustrate the pattern of answers according to the six-point scale. This approach allowed the authors to capture the general evaluation of the training (i.e. the big picture) (Robson 2002; Oppenheim 2004). The qualitative data were analysed using 'content analysis' (Cohen *et al.* 2000; Mason 2002; Robson 2002). This method was used for qualitative data obtained from the questionnaires and diaries as well as from direct observation. Content analysis aids the analyst to draw conclusions based on the systematic categorisation of field data. Content analysis was guided by the procedures associated with inductive reasoning (Shaw 2004) and grounded theory (Glaser and Strauss 2004; Strauss and Corbin 2004). The process of inductive analysis involved reading the questionnaires, diaries and field notes which were then transcribed data into 'Microsoft Word' and 'Microsoft Excel'. Subsequently, the authors searched for patterns and themes within the data and used codes to organise and create meaning. Codes were then refined by the authors' understanding of the subject of entrepreneurship education based on the literature review and previous research in the field. The creation of codes and categories helped form concepts representing and reflecting the phenomenon under investigation (Glaser and Strauss 2004; Strauss and Corbin 2004). Towards the end of this process, a concept identified as SASBIC (acronym: **S**timulus **A**, **S**timulus **B**, **I**nstructive and **C**onstructive) was developed. The following section describes the development of this concept in detail.

4. Findings: The Teaching Approaches

4.1. The Babson College Programme

In this section, we describe the two week NES training delivered by Babson College. Each day, training began at 8.30am and concluded at 5.00pm. Generally, there were four daily training sessions with individual units lasting one hour and 30 minutes[3]). There was an additional training session which took place during a 'working lunch' (12:30pm – 1:30pm) and also events which took place after 5:00pm (4 times) (Figure 2). During the two week programme there were 37 training sessions which comprised four distinct training styles:
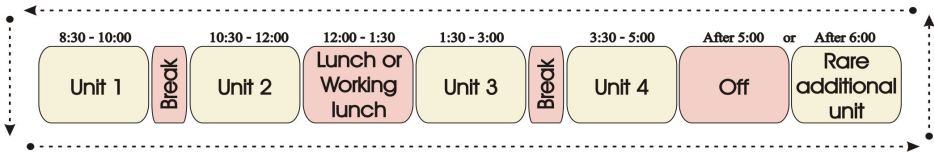
- activity based – workshops, networking events and field-trips (used 13 times);

- case study based – training guided by the scope of a case study (used 10 times);

3.   Exception: there were 3 sessions lasting 3 hours

- instructive based – conventional lecture (used 6 times);

- mixed – combination of the above three approaches (8 times)

Figure 2: Training structure

Within these 37 training sessions there was a mix of 'traditional' and 'alternative' approaches to teaching and learning (Table 2). Moreover, 30 pedagogic methods were identified which have links to the 'traditional' and 'alternative' approaches (Table 2). Pedagogic methods based on the traditional approach included: 'the articulation of concepts through theoretical frameworks' (lectures), 'question and answer' sessions, and 'advice and feedback' sessions. Pedagogic methods based on the 'alternative approach' included: individual activities, group presentations and role-play activities (Table 3). In short, these 30 pedagogic methods were used simultaneously in the training 262 times during 37 training sessions.

Figure 3: Overall pedagogy
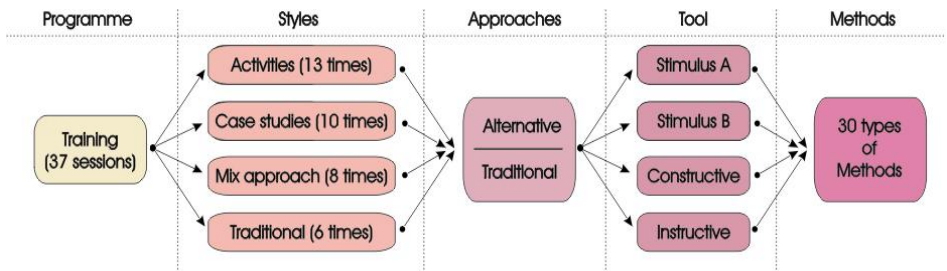
Based on 30 pedagogic methods four categories were identified which reflected the function of each method. These four categories form the '**SASBIC'** concept which reflects how Babson staff delivered each training session (SASBIC: **S**timulus **A**, **S**timulus **B**, **I**nstructive and **C**onstructive) – see Figure 4. The full list of pedagogical methods and their categories are presented in Table 3.

To sum-up, although SASBIC reflects the structure of Babson's training approach; the concept is not specifically related to Babson College. SASBIC was conceptualised by examining the existing literature which facilitated the generation of the various elements: **S**timulus **B** refers to tools for the enhancement of entrepreneurial learning (Gibb, (1987; 1993); Hytti and O'Gorman, (2004), **C**onstructive tools for learning (Wright et. al., (1994); Leitch and Harrison,

(1999); Taylor *et. al.* (2004); Pittaway and Cope, (2006b) and **I**nstructive tools (Wright et. al., (1994); Hytti and O'Gorman, (2004). Finally, **S**timulus **A** (tools for setting the scope for learning) were not identified in the literature. This specific pedagogic tool was prominently used across the Babson training programme. The contribution made by this study is the identification of **S**timulus **A** which helped complete the **SASBIC** concept.

Figure 4: SASBIC Framework
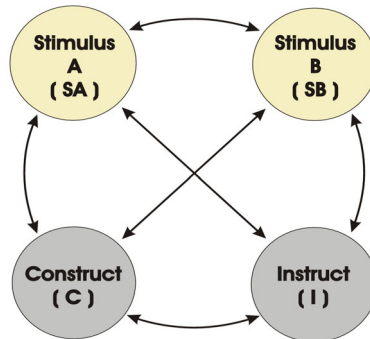
Stimulus **A** = tools setting the scope for learning including the use of case studies introduced before a training session. Stimulus A could become stimulus A/B by showing a video or asking a guest speaker to set the scope for learning.

Stimulus **B** = tools for the enhancement of entrepreneurial learning including the use of multiple-activities, scenarios and role-plays. These approaches are promoted by progressive entrepreneurship educationalists (Table 1).

Instructive = tools for instructing students such as the articulation of theoretical frameworks during lectures; advice and feedback sessions; question and answer sessions. The instructive tool follows approaches associated with traditional pedagogy (Table 2).

Constructive = tools for constructing learning including group activities, group presentations, facilitated ideas generation (information constructed by learner). This tool follows the enterprising approach to pedagogy (Table 2).

Table 3: Teaching components used by Babson College

SASBIC Tools	Approach	No.	Methods or components	Times
Stimulus A	Traditional	1	Preparation (homework such as reading, analysis or research)	10
Stimulus A	Traditional	2	Reading (case-study or webpage)	1
Instructive tools	Traditional	3	Articulation of concept through theoretical framework (lecturing)	40
Instructive tools	Traditional	4	Question & Answer session	15
Instructive tools	Traditional	5	Advice and feedback session (provided by facilitator or guest speaker)	10
Instructive tools	Traditional	6	Reveal case study's present status (facilitator provides information about the case study)	5
Instructive tools	Traditional	7	Facilitator articulates his views	4
Instructive tools	Traditional	8	Facilitator's info (facilitator provides information about the case study)	2
Instructive tools	Traditional	9	Conduct a full lecture using PowerPoint presentation (one-way communication)	2
Instructive tools	Traditional	10	Demonstration (e.g. demonstrating on how to use a particulate tool)	1
			Sub-total	**90**
Stimulus B	Alternative	11	Ice-breaker (activities)	5
Stimulus B	Alternative	12	Voting (activity e.g. who vote for X and Y?)	5
Stimulus B	Alternative	13	Activities in multiple format (exercise)	3
Stimulus B	Alternative	14	Fieldtrip (site visit)	2
Stimulus B	Alternative	15	Networking (events)	2
Stimulus B	Alternative	16	Test (to assess our trait, personality, etc)	2
Stimulus A/B	Alternative	17	Scenarios (to act as a learning scenario)	9
Stimulus A/B	Alternative	18	Select a participant (to serve as a case/scenario)	9
Stimulus A/B	Alternative	19	Video (to illustrate case/scenario)	7
Stimulus A/B	Alternative	20	Guest speaker (to illustrate case/scenario)	6
Constructive tools	Alternative	21	Info collection (facilitator writes down the information and ideas provided by trainees on flip-chart)	31
Constructive tools	Alternative	22	Facilitated info exploration (facilitator pushes trainees to think on specific issues through facilitation techniques)	18
Constructive tools	Alternative	23	Individual presentation (by trainees)	17
Constructive tools	Alternative	24	Facilitated info generation (facilitators ask trainees to talk to the class about the case study or their learning)	11
Constructive tools	Alternative	25	Group activity	10
Constructive tools	Alternative	26	Individual activity	9
Constructive tools	Alternative	27	Facilitated inquiry on knowledge gap (facilitator aims to explore the knowledge gap of trainees)	8
Constructive tools	Alternative	28	Group presentation	7
Constructive tools	Alternative	29	Options generation (facilitator generate a range of options for trainees to choose)	6
Constructive tools	Alternative	30	Facilitated group ideas generation (class brainstorming session facilitated by facilitator)	5
			Sub-total	**172**
			Total	**262**

The following section provides examples of training sessions using each of the four learning tools (instructive based, activity based, case studies and mixed approaches). The SASBIC framework (Figure 4) is used to illustrate the design and flow of pedagogic methods within each of these training sessions.

Example: Instructive (6 times)

Figure 5: Instructive approach
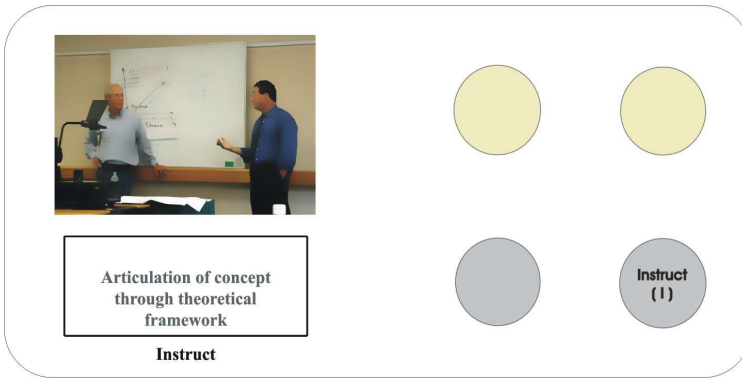
This is a typical of a traditional training session in which knowledge was passed on to NES scholars via the 'articulation of concept through theoretical framework' in the forms of lecture. In Figure 5, the Babson instructor outlines the concept of financial break-even using a white-board.

Example: Case study (10 times)

Figure 6: Case study
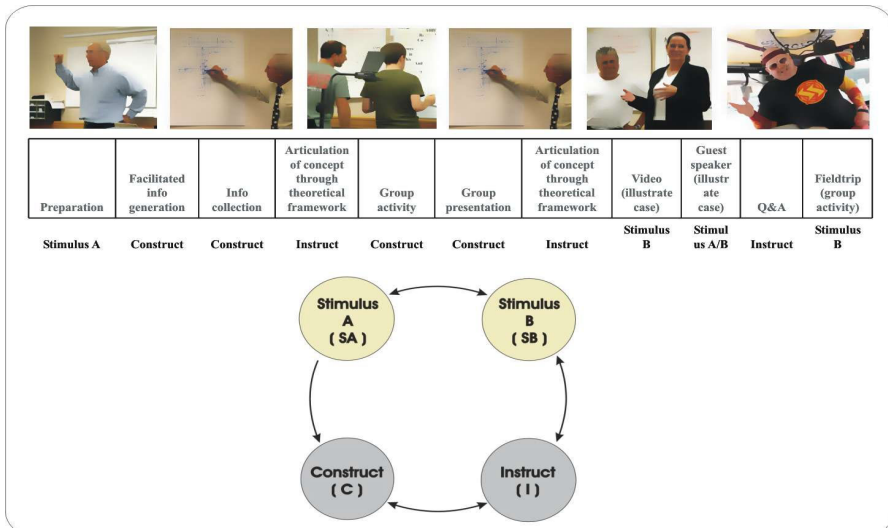
Typical sessions began with the instructor/facilitator asking NES scholars read a case study to prepare for their training. In this example, the facilitator began the session by asking the scholars to explain the case study including details on the entrepreneur and the nature of the product/service. Information generated by the learners was summarised on a flip chart by the facilitator to create a collective understanding of the case. The facilitator then articulated the concept of *opportunity screening* which reflected the scenario illustrated by the case study. The NES scholars then worked in groups to *screen opportunities* related to the case and results were presented to the other scholars. Subsequently, the facilitator elaborated the concept of *opportunity screening* by linking the case study to results derived by the groups. A video of the case company was then shown and this was followed by the entrepreneur from the case telling his own story about the business start-up. There was then a short 'question and answer' session where NES scholars had the chance to interact with the case entrepreneur. Finally, the session was concluded with a field trip where learners went to try-out the business developed by the entrepreneur (Boston DUCK's Tour) (Figure 6).

Example: Activity (13 times)

Figure 7: Activity

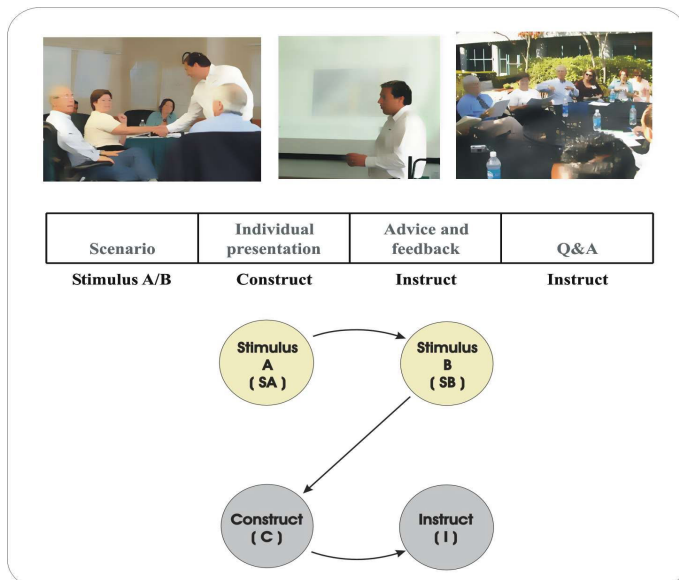| Scenario	Individual presentation	Advice and feedback	Q&A
Stimulus A/B	Construct	Instruct	Instruct

Figure 7 provides an example of a scenario/role-play activity. A NES scholar was asked by the facilitator to play the role of an entrepreneur looking for funding. He was then asked to pitch his business idea to a panel of two real business angels and one real banker. The class watched the presentation, they were asked to sit around a table in the garden where the panel provided feedback to the

entrepreneur to justify their decision (to fund or not to fund). The panel offered advice to the class related to the scope of finding funding for their businesses. This session concluded with a short question and answer session where the scope of looking for funding was explored in more detail.

Example: Mixed- approach (8 times)

Figure 8: Mixed approach
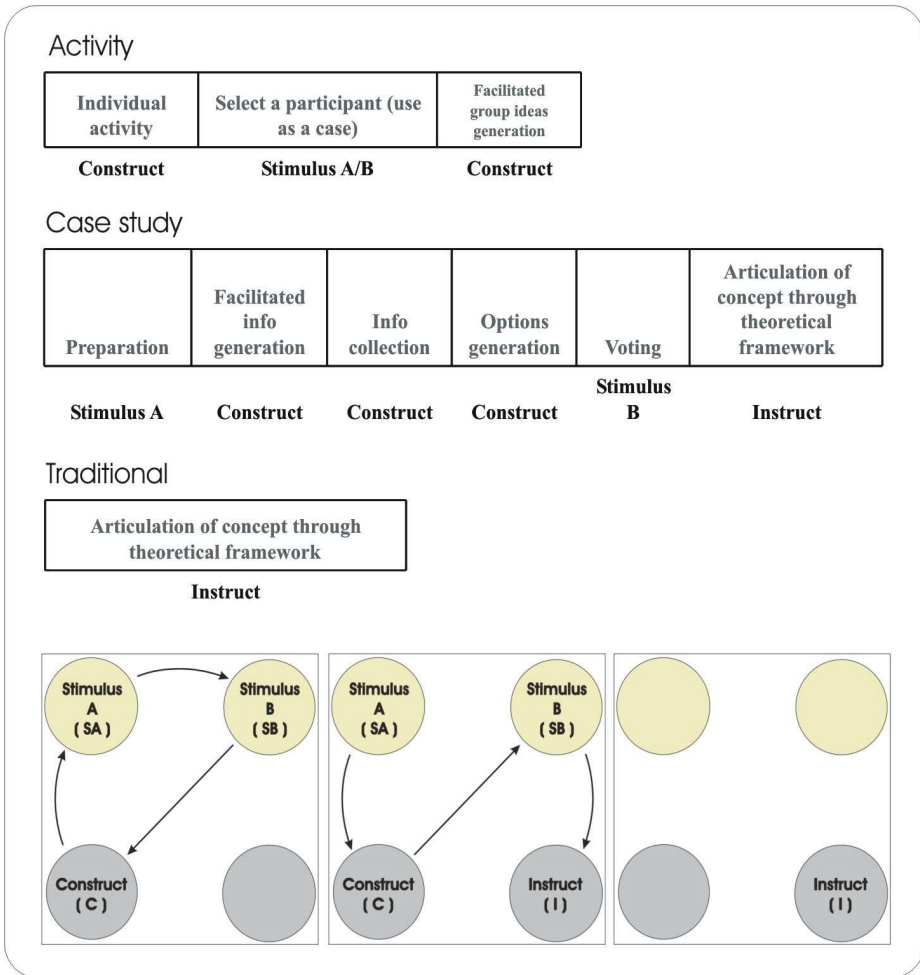
In this example, three different approaches were used in a single session. To begin, an activity called the 'power of zero' was conducted in which the facilitator asked the NES scholars to write down their expected 5th year revenue. Then each scholar was asked to add an extra zero to their expected revenue; from £1 million to £10 million for example. As the expected revenue increased by a factor of 10, the scholars were asked to develop strategies that would help them to achieve the

new target by 'thinking outside the box'. The facilitator then asked the scholars to add another zero to encourage them to think even bigger. One NES scholar was then selected to get the whole class developing ideas and strategies to help the scholar achieve the extra zeroes in the 5th year. The main function of this session was to encourage NES scholars to be more ambitious in developing their businesses.

Following the power of zero exercise, a case study, which the NES scholars had been asked to read prior to the training session, was discussed. In the final stages of this session a short lecture introduced a number of concepts using appropriate theoretical frameworks. These concepts were not directly related to the case study and hence were counted as separate training. This session is categorised as a mixed-approach because it used a number of different training styles (Figure 8). The following section describes the overall evaluation of the training and the analysis of the teaching approach used by Babson College.

5. Findings: Data Analysis

The research helped to identify different pedagogical approaches in entrepreneurship education and two distinct modes of teaching: the traditional and alternative approaches. As described above, the traditional approach conveys knowledge to learners through a conventional lecture format. On the other hand, alternative enterprise approaches emphasise the use of action learning and experiential learning where knowledge is constructed by learners through the process of 'doing' (Table 2). To demonstrate the extent to which Babson uses these modes a frequency analysis was conducted over the two weeks of training. This demonstrates how the traditional and alternative pedagogical approaches were incorporated in the overall training design (Table 4 and Table 5).

As described in our research methodology, a range of codes and categories were developed through the content analysis. The frequency analysis is based on the use of these codes and categories. We have categorised 'instructive tools' and 'Stimulus A' as traditional approaches (methods). While 'Stimulus A/B', Stimulus B' and 'Constructive' tools were categorised as 'alternative approaches' (methods) (Table 2). We then categorised teaching pedagogy in the following manner: activities, case studies and mixed-approaches were classified as representing an 'alternative teaching style' (non-traditional pedagogy). The instructive-based sessions was designated as representing a traditional pedagogy (Table 4 and Table 5).

Table 4: Total and Mean of Teaching Methods (see also Table 3)

	Non-traditional Pedagogy	Traditional Pedagogy	Total
A. No. of sessions	31	6	**37**
B. Usage of alternative methods	156	16	**172**
C. Usage of traditional methods	77	13	**90**
D. Total used methods	233	29	**262**
E. Methods per session	7.89	4.83	**6.4 (mean)**

Table 5: Teaching Components per training approach (see also Table 3)

	Non-traditional Pedagogy	Traditional Pedagogy	Number of components
F. Alternative Methods	20/20	3/20	**20**
G. Traditional Methods	8/10	4/10	**10**
H. Total	28/30	7/30	**30**

In short, Babson's training used mainly 'alternative training styles' in their teaching (31 sessions out of 37) (A. Table 4). There were twenty alternative pedagogic components compared with only ten traditional pedagogical components (F. and G. Table 5). Alternative training sessions tended to use more types of 'pedagogic components' (28 out of 30 types) compared with the traditional training sessions (7 out of 30) (H. Table 5). The usage of pedagogic methods is 262 (D. Table 4), alternative methods (172) constitutes twice as many than traditional methods (90) (B. and C. Table 4). Moreover, alternative training sessions used more pedagogic methods per training session (eight pedagogic methods) compared with the traditional sessions (5 pedagogic methods per session) (E. Table 4). Hence, we argue that the Babson style of teaching entrepreneurship tends to follow an alternative approach (Table 2) although the traditional approach is still an important element in the training programme. The following section describes the overall evaluation of the training according to the NES scholars themselves.

5.1. Evaluation According to the Trainees (NES Scholars)

To begin, we outline views expressed by the scholars from the questionnaire. They were asked to rate 'to what extent they liked the teaching approach used by Babson'. The average rating was 5.8 (6 = excellent and 1 = poor) indicating that the perceived quality of teaching was highly positive. Comments derived from questionnaire are illustrated in Table 6. In short, the majority of scholars enjoyed the enthusiasm of the facilitators, speakers and guests. They found the training

highly motivating arguing that the facilitators brought the idea of doing business to life. Most enjoyed the challenges, interaction, case studies, presentations, debates and fieldtrips. Some argued that the Babson approach to teaching was much better the tradition approach they had been exposed to in the UK. Although most comments were positive, there were also three comments criticising the use of too many case studies, some 'dull' professors, and the training was 'once or twice boring and confusing'.

Table 6: Examples of comments from the questionnaire

Comments	Categories	Example of quotes
15	General comments for the team	"All the speakers, guest, tutors and course material supported enthusiasm"; "Delivered with passion"; "have so much energy and this energised me"
13	Motivating factor/ personal gain	"Inspirational"; "encouraged positive thinking (There are no wrong answer)"; "Confidence building"
11	General comments for the whole programme	"The Whole programme brought the idea of doing business to life" "Much better than traditional teaching methods"
8	Challenging	"Challenged us to think of our business in the millions instead of the thousands"; "Encourage you to think creatively- outside the box"; "Ideas were stretched, challenged"
8	General comments for teaching	"Different from the UK approach"; "Good teaching approach"
5	Interactive	"encourage interaction and participation of the group… this is far better way to teach, as a student I took far more information because it was interactive"
4	Case studies approach	"It trained my ability to look and analyse any business"
4	Guest speaker	"Entrepreneurs that came to speak was truly inspiring, to see people doing what they love, being successful and achieving such accomplishments, inspires me to continue being passionate about my goals"
3	Presentations, debates and fieldtrips	"Liked the presentations, debates and fieldtrips"
3	!! Issue	"Case studies but there were too many" "Once or twice boring and confusing" "Some professors were a bit dull"

Figure 9: Flow of emotion and perceived usefulness of the training

The flow of emotions and perceived usefulness across 2 weeks

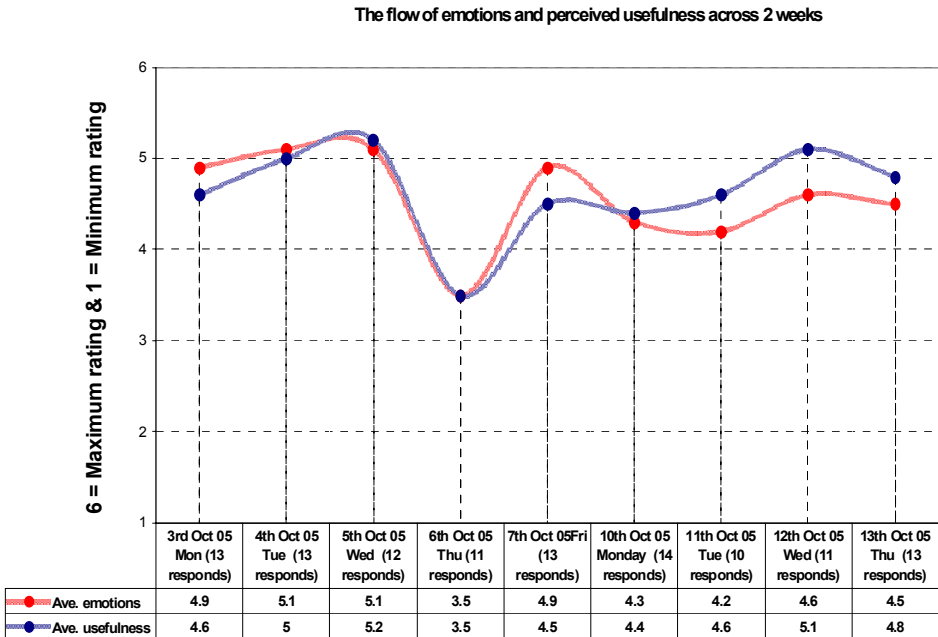|	3rd Oct 05 Mon (13 responds)	4th Oct 05 Tue (13 responds)	5th Oct 05 Wed (12 responds)	6th Oct 05 Thu (11 responds)	7th Oct 05Fri (13 responds)	10th Oct 05 Monday (14 responds)	11th Oct 05 Tue (10 responds)	12th Oct 05 Wed (11 responds)	13th Oct 05 Thu (13 responds)
Ave. emotions	4.9	5.1	5.1	3.5	4.9	4.3	4.2	4.6	4.5
Ave. usefulness	4.6	5	5.2	3.5	4.5	4.4	4.6	5.1	4.8

Figure 9 depicts the flow of emotions and perceived usefulness of the training across the two week training period. This information was derived from the personal diaries completed by each scholar. The overall rating was 4.6, which is good (6 = excellent; 1 = poor; or 6 = very useful and 1 = not useful). This illustrates that the training was perceived to be useful (rating 4.7). On one day, however, the rating of the 'perceived usefulness of the training' and 'emotions' dropped to 3.5 (6th of October 2005).

To investigate this drop in rating, the authors examined the overall design of the training on each day. For example, as a whole, there were three days of training with two traditional lectures (3rd, 4th and 6th of October 2005). One of those days had the 2nd highest rating on 'perceived emotion' and 'usefulness' (4th October 2005) and most of the comments were similar to those in Table 6: 'totally energised, inspired'; 'great sense of satisfaction because I can do this and will, have confidence and belief in myself'. We have then compared the difference between the 4th of October (2nd highest rating) and 6th of October (lowest rating) (Table 7). On the 4th October, there was one activity, two case studies and two instructive-based training sessions. On the 6th of October there was one case study, two activities and two instructive-based training sessions (A. Table 7). Although on the 6th of October, the number of pedagogic components were less

(14 out of 30 types) than the 4th of October (21 out of 30 types) (B. Table 7), the overall design of these sessions were not significantly different (C. Table 7).

Table 7: Comparing the design of the highest and lowest rating day

	4th Oct 2005 (2nd highest rating)	6th Oct 2005 (lowest rating)
Activities	1	2
Case study	2	1
Mixed	0	0
Instructive-based	2	2
	4th Oct 2005	**6th Oct 2005**
Alternative components	13/20	10/20
Traditional components	8/10	4/10
Total	21/30	14/30
	4th Oct 2005	**6th Oct 2005**
A. No. of sessions	5	5
Usage of alternative methods	20	23
Usage of traditional methods	15	11
Total used methods	35	34
Methods per session	7	6.8

From the accounts of scholars' diaries, the drop in rating on the 6th of October was caused by two training sessions based on a traditional training style (the articulation of concepts through theoretical framework around the scope of finance). These two sessions were designed as follows: the facilitator began by 1) evaluating the trainees' knowledge gap associated with finance; 2) the information was collected on flip-chart; 3) the facilitator selected a trainee and used her business as an example; 4) he gathered information on the case; 5) finally the facilitator articulated theoretical concepts associated with finance directly related to the case; this logic was used across these two training sessions. There were a range of comments generated in the diaries critiquing these two training session. Some of the negative comments stated that the session was not well prepared, organised or structured. Some felt bored and disappointed. While some participants complemented the usefulness of this session negative comments constituted the majority view related to this particular day.

From the perspective of the first author who participated in the training, these two training sessions were executed with little enthusiasm and the overall organisation was poor (e.g. although the learning content was based on the knowledge gap of trainees, the selection of content was random). There was minimal interaction as the facilitator dominated the class and the session was too long and intense (three hours of lecturing on finance). Although the session used a broad range of pedagogic methods, the design of such session was conventional

e.g. inquiry on knowledge gap > select a participant as a case > lectures. In short, we argue that these training sessions were undermined by a range of factors. For example, the design is conventional; finance as a subject could be regarded as boring by the scholars; a distinct lack of enthusiasm from the facilitators; ineffective execution and organisation of training session; a lack of interaction and two-way communication; a long and intense lecture of three hours duration.

6. Discussion

6.1. Lessons for UK Entrepreneurship Educationalists

In our introduction, we presented research that scrutinised the pedagogy used by educators in UK entrepreneurship education. McKeown *et al* (2006) note that the majority of Higher Education institutions (HEIs) claim they offer practical entrepreneurship courses (57%), a very small proportion offer theoretical courses (5%) and 25% claim to offer a mix of theory and practice. As discussed above, the reality was that only a very small number (3%) of HEIs made use of action/ experiential learning approaches which are regarded as the most effective methods for educating entrepreneurs (McKeown *et al.* 2006; Pittaway and Cope 2006b). As indicated by Bennett's (2006) survey of lecturers teaching entrepreneurship in 82 HEIs very few staff have actually received any training or development in the field of entrepreneurship education. Given that the majority of those surveyed by Bennett had moved into entrepreneurship from conventional management subjects this emphasis on traditional teaching approaches is not surprising. Our objective is to demonstrate that careful analysis of the Babson teaching methods can help develop a more enterprising approach to entrepreneurship education in the UK.

In this paper, we conceptualise differences between the traditional and alternative approaches towards entrepreneurship education (Table 2). The main contribution of this research is the development of SASBIC as a conceptual tool to help us investigate how teaching programmes for entrepreneurship education are designed. SASBIC identifies the type of teaching components that are incorporated into training programmes and the extent to which individual components are actually used. It is then possible to compare the training design with evaluation of the programme and its effect on learners. This helps demonstrate links between the design of training and its 'perceived quality', 'perceived usefulness' and 'desirability'. We argue that using the SASBIC model helps capture different pedagogical methods used in entrepreneurship education. Making explicit the building blocks of courses and training programmes will encourage knowledge-sharing about the effectiveness of such programmes

amongst those in the UK concerned with improving the learning experience for students of entrepreneurship.

The second contribution of this research is that employment of the SASBIC tool should assist those engaged in entrepreneurship education at all levels be more reflexive about the design and delivery of their courses. In Table 3 we list 30 different pedagogical methods based on the individual component of the SASBIC model (SA, SB, I and C). We do not claim that the range of teaching methods identified during the Babson programme is revolutionary. What is different at Babson is the way in which these components are combined to provide teaching programmes which actively engage the learners. We hope that this research will help encourage UK lecturers and trainers to design courses and programmes that meet the unique learning needs of entrepreneurs (Gibb 1993). As noted by McKeown *et al* (2006), those teaching entrepreneurship in UK HEIs have a very limited understanding of the term mixed-methods. The lesson we can learn from Babson College is that mixed-methods should be enterprising and varied if they are to actively engage the attention of nascent entrepreneurs.

The SASBIC framework (Figure 4) illustrates how different pedagogical methods can be applied in practice. The function of this visual framework is to help educationalist visualise and conceptualise their training design. The following points act as a guide for designing and conducting training based on SASBIC:

- identify pedagogic methods from research literature;

- identify pedagogic methods and organise them using the SASBIC framework;

- build-up a toolbox of components for training design;

- design innovative training using a broad range of pedagogic methods;

- incorporate SA, SB, I and C into each training session;

- break long sessions into smaller units by integrating a range of non-traditional pedagogic methods;

- prepare, organise and execute training sessions with care;

- include interaction and two-way communication with trainees/students;

- instructors/lecturers should be enthusiastic, passionate and energetic.

We do not claim that Babson College (Massachusetts, US) has a unique recipe for effective ways of designing entrepreneurship courses. We do suggest, however, that our analysis of the approach adopted at Babson provides a sound basis for re-thinking entrepreneurship education in the UK. As demonstrated by recent surveys of courses and lecturing staff in the UK, there is still a very strong reliance on conventional pedagogic approaches in most institutions (Bennett 2006; McKeown *et al.* 2006). Hannon (2006) argues that such courses do little to encourage the development of an enterprise culture amongst UK students. It is important, therefore, that entrepreneurship educationalists in the UK should consider not only the content of their courses but also the most effective approaches for teaching and learning in entrepreneurship. What is critical in designing training is not the choice between traditional approaches (lectures) and alternative/enterprise approaches (action and experiential learning) but the incorporation of the functionalities and benefits offered by each approach.

7. Conclusion

7.1. SASBIC: A Collaborative Model of Entrepreneurship Education

This case study illustrates a two-week training programme designed by Babson College for twenty UK students participating in the NES programme. Based on an analysis of the pedagogic methods used during this programme the SASBIC concept was developed. SASBIC was then used to provide an in-depth investigation of how various teaching methods were actually used in the classroom during the Babson training programme (Table 3 and Table 5). In total there were 37 training sessions of which only six (16%) followed the traditional approach and 31 (84%) were based on the alternative or enterprising approaches (case studies, activities and mixed – A, Table 4). Students attending the programme responded positively to this approach in terms of 'desirability' (rating 5.8 out of 6) and 'usefulness' (rating of 4.6 out of 6). Moreover, as illustrated in Table 6, positive comments were related to the enthusiastic, energetic and passionate training facilitators/instructors. Hence, we argue that approach of the training instructor is a key component of **S**timulus **B** (tools to enhance entrepreneurial learning).

The starting point for this research was a systematic literature review related to entrepreneurship education. Two different modes of teaching were identified which we describe as the traditional and alternative/enterprise approaches. Traditional approaches to pedagogy pass on knowledge using a conventional lecture-type format. Alternative (or enterprise) approaches emphasise the use of action learning or experiential learning where knowledge is constructed by learners through the process of 'doing' (Table 2). Our proposition is that those

engaged in entrepreneurship education should reject the 'either or' approach (traditional or alternative/enterprise) in favour of a collaborative model. The Babson experience suggests that entrepreneurship education is most effective when the traditional and alternative/enterprise approaches are combined. Babson instructors did make more use of alternative pedagogic methods than they did of traditional approaches (frequency, 172 versus 90; pedagogic methods, 20 versus 10; training sessions, 31 versus 6). Nevertheless, traditional pedagogic methods were still a central element of the Babson approach.

As illustrated in Table 3, a conventional lecture format (articulation of concepts through theoretical frameworks), used on 40 occasions, was the most regularly adopted teaching component during the two-week course. The fact that the facilitators used 30 different teaching components, however, demonstrates the importance of combining both traditional and alternative/enterprise approaches. This outcome concurs with Fiet (2000a) who indicates the importance of linking 'theories' with 'action and experiential learning' in the teaching of entrepreneurship. We argue that it is not the choice between traditional and alternative approaches which is important in entrepreneurship education. Rather, what matters is how we incorporate the functionalities and mutual benefits offered by both approaches. The learning scope in entrepreneurship education is enhanced by linking multiple approaches to form a collaborative training model. In short, using a broad range of teaching components within the scope of SASBIC and having enthusiastic training facilitators/instructors helped Babson to introduce theories effectively in training.

We acknowledge that there are a number of limitations to this particular paper. First, our involvement in the Babson programme was not the result of a careful analysis of courses being offered to those wanting to become entrepreneurs. Rather, as a result of Manchester Metropolitan University Business School's long engagement with the NES programme (Taylor *et al.* 2004) we took the opportunity to carry out this study of the 2005 NETS-UK group. We accept, therefore, that there may well be equally imaginative courses being delivered within the UK (as well as at other institutions in the US). Second, this was an intensive two-week programme in which students were in the classroom from 8.30 to 17.00 (or later on some occasions). In that sense, it is very different than a typical undergraduate course based on a one hour lecture and a one hour tutorial for one or two terms/semesters. A third limitation is that the size of the NES group (20) was very small and there are clearly many risks in trying to generalise from this research. Fourth, we also acknowledge that US models of entrepreneurship education may not thrive in different cultural environments (Dana 2001). Nevertheless, we do believe that our study can prove useful to the UK community of entrepreneurship educators. Furthermore, we hope that SASBIC as a concept will evolve through future research in a range of teaching and training environments.

References:

Alavi, M. (1994), "Computer-mediated collaboration learning: an empirical evaluation", *MIS Quart*, 18(0): 159-174.

Aronsson, M. (2004), "Education matters - But does entrepreneurship education? An interview with David Birch", *Academy of Management Learning and Education*, 3(3): 289-292.

Babson, (2005), "Babson to Host England's Entrepreneurs", Babson College. *Citing internet resource*, available at: http://www3.babson.edu/Newsroom/Releases/English.cfm [Accessed on 16th June 2005].

Béchard, J. P. & Grégoire, D. (2005), "Entrepreneurship Education Research Revisited: The Case of Higher Education", *Academy of Management Learning & Education*, 4(1): 22-43.

Bennett, R. (2006), "Business Lecturers' Perceptions of the Nature of Entrepreneurship", *International Journal of Entrepreneurial Behaviour and Research*, 12(3): 165-188.

Bryman, A. & Bell, E. (2003), *Business Research Methods*, Oxford: Oxford University Press.

Clouse, V. G. H. (1990), "A Controlled Experiment Relating Entrepreneurial Education to Students' Start-Up Decisions", *Journal of Small Business Management*, 28(2): 45-53.

Cohen, L., Manion, L. & Morrison, K. (2000), *Research Methods in Education*, London: RoutledgeFalmer.

Collins, A. & Robertson, M. (2003), "The entrepreneurial summer school as a successful model for teaching enterprise", *Education & Training*, 45(6): 324-330.

Cope, J. (2003), "Entrepreneurial Learning and Critical Reflection: Discontinuous Events as Triggers for 'Higher-level' Learning", *Management Learning*, 34(4): 429-450.

Cope, J. & Watts, G. (2000), "Learning by doing - An exploration of experience, critical incidents and reflection in entrepreneurial learning", *International Journal of Entrepreneurial Behaviour & Research*, 6(3): 104-118.

Dana, L. P. (2001), "The education and training of entrepreneurs in Asia", *Education & Training*, Vol. 43(No. 8/9): pp. 405-415.

Detienne, D. R. & Chandler, G. N. (2004), "Opportunity identification and its role in entrepreneurial classroom: A pedagogical approach and empirical test", *Academy of Management, Learning and education*, 3(3): 242-257.

Easterby-Smith, M., Thorpe, R. & Lowe, A. (1991), *Management Research: An Introduction*, London: SAGE Publications.

Faoite, D. D., Henry, C., Johnston, K. & Sijde, P. v. d. (2003), "Education and training for entrepreneurs: a consideration of initiatives in Ireland and The Netherlands", *Education & Training*, 45(8/9): 430-438.

Feldman, H. D. (1995), "Computer-based simulation games: A viable educational technique for entrepreneurship classes?" *Simulation & Gaming*, 26(3): 346-360.

Fiet, J. O. (2000a), "The pedagogical side of entrepreneurship theory", *Journal of Business Venturing*, 16(2): 101-117.

Fiet, J. O. (2000b), "The theoretical side of teaching entrepreneurship", *Journal of Business Venturing*, 16(1): 1-24.

Garavan, T. N. & O'Cinneide, B. (1994a), "Entrepreneurship education and training programmes: A review and evaluation - Part 1", *Journal of European Industrial Training*, 18(8): 3-12.

Garavan, T. N. & O'Cinneide, B. (1994b), "Entrepreneurship education and training programmes: A review and evaluation - Part 2", *Journal of European Industrial Training*, 18(11): 13-21.

Geertz, G. (2004), *Being There.* In C. Seale (ed.), Social Research Method, London: Routledge, 236-240.

Gendron, G. (2004), "Practitioners' perspectives on entrepreneurship education: An interview with Steve Case, Matt Goldman, Tom Golisano, Geraldine Lay Bourne, Jeff Taylor and Alan Webber", *Academy of Management learning and Teaching*, 3(3): 302-314.

Gibb, A. A. (1987), "Designing Effective Programmes for Encouraging the Business Start-Up Process: Lessons from UK Experience", *Journal of European Industrial Training*, 11(4): 24-32.

Gibb, A. A. (1993), "The enterprise culture and education", *International Small Business Journal*, 11(3): 11-34.

Glaser, B. G. & Strauss, A. L. (2004), *Theoretical Sampling.* In C. Seale (ed.), Social Research Method, London: Routledge, 226-231.

Gorman, G., Hanlon, D. & King, W. (1997), "Some research perspectives on entrepreneurship education, enterprise education and education for small business management: A ten-year literature review", *International Small Business Journal*, 15(3): 56-77.

Haines Jr., G. H. (1988), "The Ombudsman: Teaching Entrepreneurship", *Interfaces*, 18(5): 23-30.

Hannon, P. (2006), "Graduate Entrepreneurship in the UK: Defining a Research and Education Policy Framework", *National Council for Graduate Entrepreneurship Working Paper Series*, Available at: http://www.ncge.org.uk/.

Harris, S., Forbes, T. & Fletcher, M. (2000), "Taught and enacted strategic approaches in young enterprises", *International Journal of Entrepreneurial Behaviour & Research*, 6(3): 125-144.

Hart, C. (1998), *Doing literature review: Releasing the social science research imagination*, London: Sage Publications.

Henderson, R. & Robertson, M. (1999), "Who wants to be an entrepreneur? Young adult attitudes to entrepreneurship as a career", *Education & Training*, 41(4/5): 236-245.

Hills, G. E. (1988), "Variations in University Entrepreneurship Education: An Empirical Study of an Evolving Field", *Journal of Business Venturing*, 3(2): 109-122.

Hindle, K. (2002), "A grounded theory for teaching entrepreneurship using simulation games", *Simulation & Gaming*, 33(2): 236-241.

Holcombe, R.G. (2006), "Does the invisible hand hold or lead? Market adjustment in an entrepreneurial economy", *Review of Austrian Economics*, 19:2/3, 189- 205.

Hynes, B. (1996), "Entrepreneurship education and training - introducing entrepreneurship into non-business disciplines", *Journal of European Industrial Training*, 20(8): 10-17.

Hytti, U. & O'Gorman, C. (2004), "What is "enterprise education"? An analysis of the objectives and methods of enterprise education programmes in four European countries", *Education & Training*, 46(1): 11 +.

Ibrahaim, A. B. & Soufani, K. (2002), "Entrepreneurship education and training in Canada: A critical assessment", *Education & Training*, 44(8/9): 421-430.

Junker, B. H. (2004), *The Field Work Situation: Social roles for observation.* In C. Seale (ed.), Social Research Method, London: Routledge, 221-225.

Klofsten, M. (2000a), "Training entrepreneurship at universities: a Swedish case", *Journal of European Industrial Training*, Vol. 24(No. 6): pp. 337-344.

Klofsten, M. (2000b), "Training entrepreneurship at universities: a Swedish case", *Journal of European Industrial Training*, 24(6): 337-344.

Ladzani, W. M. & Vuuren, J. J. v. (2002), "Entrepreneurship training for emerging SMEs in South Africa", *Journal of Small Business Management*, 40(2): 154-161.

Lawless, N., Allan, J. & O'Dwyer, M. (2000), "Face-to-face or distance training: Two different approaches to motivate SMEs to learn", *Education & Training*, 42(4/5): 308-316.

Leitch, C. M. & Harrison, R. T. (1999), "A process model for entrepreneurship education and development", *International Journal of Entrepreneurial Behaviour & Research*, 5(3): 83-109.

Li, J., Zhang, Y. & Matlay, H. (2003), "Entrepreneurship education in China", *Education & Training*, 45(8/9): 495-505.

Loftland, J. (2004), *Field Notes.* In C. Seale (ed.), Social Research Method, London: Routledge, 232-235.

Low, M., Venkataraman, S. & Srivatsan, V. (1994), "Developing an entrepreneurship game for teaching and research", *Simulation & Gaming*, 25(3): 383-401.

Mason, J. (2002), *Qualitative Researching (2nd edn)*, London: SAGE Publications.

McKeown, J., Millman, C., Sursani, S. R., Smith, K. & Martin, L. M. (2006), "UK Graduate Entrepreneurship Education in England, Wales and Scotland", *National Council for Graduate Entrepreneurship Working Paper Series*, Available at: http://www.ncge.org.uk/.

McMullan, W. E. & Long, W. A. (1987), "Entrepreneurship Education in the Nineties", *Journal of Business Venturing*, 2(3): 261-275.

Mitchell, R. K. & Chesteen, S. A. (1995), "Enhancing entrepreneurial expertise: Experiential pedagogy and the new venture expert script", *Simulation & Gaming*, 26(3): 288-306.

National Council for Graduate Entrepreneurship (2006) *Enterprise and Entrepreneurship in English Higher Education* (National Summary Report), Available at: http:// www.ncge.org.uk/ .

Nelson, E. G. (1992), "Enterprise education and training: Dimensions of course design", *Education & Training*, 34(7): 12-19.

NES, (2005a), "New Entrepreneurs find American Inspiration", The New Entrepreneur Scholarship. *Citing internet resource*, available at: http://www.nesprogramme.org/ index.htm?page=media_room/nets04.htm [Accessed on 16th June 2005].

NES, (2005b), The New Entrepreneur Scholarship. *Citing internet resource*, available at: http:// www.nesprogramme.org/index.htm [Accessed on 22nd June 2005].

Oppenheim, A. N. (1992), *Questionnaire Design, Interviewing and Attitude Measurement*, London: Continuum.

Oppenheim, A. N. (2004), *The Quantification of Questionnaire Data.* In C. Seale (ed.), Social Research Method, London: Routledge, pp. 141-148.

Pittaway, L. & Cope, J. (2006a), "Entrepreneurship Education: A Systematic Review of the Evidence", *National Council for Graduate Entrepreneurship Working Paper Series*, Available at: http://www.ncge.org.uk/.

Pittaway, L. & Cope, J. (2006b), "Simulating Entrepreneurial Learning: Integrating Experiential and Collaborative Approaches to Learning", *National Council for Graduate Entrepreneurship Working Paper Series*, Available at: http://www.ncge.org.uk/.

Pittaway, L., Robertson, M., Munir, K. & Denyer, D. (2004), "Networking and Innovation: A systematic Review of the Evidence", *Lancaster University Management School (LUMS) Working Paper series*, 2004(016): 1-53.

Plaschka, G. R. & Welsch, H. P. (1990), "Emerging Structures in Entrepreneurship Education: Curricular Designs and Strategies", *Entrepreneurship Theory and Practice*, 14(3): 55-71.

Porter, L. W. (1994),"The relation of entrepreneurship education to business education", *Simulation & Gaming*, 25(3): 416-419.

Rae, D. (2003), "Opportunity centred learning: an innovation in enterprise education?", *Education & Training*, 45(8/9): 542 +.

Rae, D. & Carswell, M. (2000), "Using a life-story approach in researching entrepreneurial learning: The development of a conceptual model and its implications in the design of learning experiences", *Education & Training*, 42(4/5): 220-227.

Robertson, M. & Collins, A. (2003), "The video role model as an enterprise teaching aid", *Education & Training*, 45(6): 331-340.

Robson, C. (2002), *Real world research: A resource for social scientist and practitioner-researchers*, UK: Blackwell publishing.

Rouse, J. & Boles, K., (2005), "The Big NES Survey 2004: An Evaluation of the Experiences of New Entrepreneurs Scholars", Manchester Metropolitan University Business School. *Citing internet resource*, available at: http://www.nesprogramme.org/index.htm [Accessed on 22nd June 2005].

Schwartz, R. G. & Teach, R. D. (2002), "The Congruence(TM) Game: A team-building exercise for students of entrepreneurship", *Simulation & Gaming*, 33(1): 94-108.

Sexton, D. L. & Bowman-Upton, N. (1988), "Validation of an Innovative Teaching Approach for Entrepreneurship courses", *American Journal of Small Business*, 12(3): 11-21.

Sexton, D. L. & Bowman, N. B. (1984), "Entrepreneurship Education: Suggestions for Increasing Effectiveness", *Journal of Small Business Management*, 22(2): 18-25.

Shaw, E. (2004), "Marketing in the social enterprise context: is it entrepreneurial?" *Qualitative Market Research*, 7(3): 194-205.

Shuell, T. J. (1986), "Cognitive Conceptions of Learning", *Review of education research*, 56(4): 411-436.

Solomon, G. T. & Fernald, L. W., Jr. (1991), "Trends in Small Business Management and Entrepreneurship Education in the United States", *Entrepreneurship Theory and Practice*, 15(3): 25-39.

Sterling, S. (2001), *Sustainable Education: Re-visioning Learning and Change*, UK: Green Books.

Sternberg, R. and Wennekers, S. (2005) "Determinants and effects of new business creation using global entrepreneurship monitor data", *Small Business Economics*, 24:3, 193-214.

Strauss, A. L. & Corbin, J. (2004), *Open Coding,* In C. Seale (ed.), Social Research Method, London: Routledge, 303-306.

Stumpf, S. S., Dunbar, R. L. M. & Mullen, T. P. (1991), "Developing Entrepreneurial Skills Through the Use of Behavioural Simulations", *The Journal of Management Development*, 10(5): 32-45.

Taylor, D. W., Jones, O. & Boles, K. (2004), "Building social capital through action learning: an insight into the entrepreneur", *Education & Training*, 46(4/5): 226-235.

Theroux, J. & Kilbane, C. (2004), "The Real-Time Case Method: A New Approach to an Old Tradition", *Journal of Education for Business*, 79(3): 163-167.

Tranfield, D., Denyer, D. & Smart, P. (2003), "Towards a Methodology for Developing Evidence-Informed Management Knowledge by Means of Systematic review", *British Journal of Management*, 14(0): 207-222.

Ulijn, J. M., Duill, M. O. & Robertson, S. A. (2004), "Teaching Business Plan Negotiation: Fostering Entrepreneurship Among Business and Engineering Students", *Business Communication Quarterly*, 67(1): 41-57.

Ulrich, T. A. & Cole, G. S. (1987), "Toward More Effective Training of Future Entrepreneurs", *Journal of Small Business Management*, 25(4): 32-39.

Vinten, G. & Alcock, S. (2004), "Entrepreneuring in Education", *The International Journal of Education Management*, 18(3): 188-195.

Weinrauch, J. D. (1984), "Educating the Entrepreneur: Understanding Adult Learning Behavior", *Journal of Small Business Management*, 22(2): 32-37.

Whyte, W. F. (2004), *First Efforts,* In C. Seale (ed.), Social Research Method, London: Routledge, 217-220.

Winch, G. & McDonald, J. (1999), "SMEs in an environment of change: computer-based tools to aid learning and change management", *Industrial and Commercial Training*, 31(2): 49-56.

Wittrock, M. C. (1978), "The Cognitive Movement in Instruction", *Educational Psychologist*, 13(0): 15-29.

Wittrock, M. C. (1986), *Students' Thought Processes.* In M. C. Wittrock (ed.), Handbook of Research on Teaching, 3rd edition, New York: MacMillan, 15-29.

Wright, L. K., Bitner, M. J. & Zeithaml, V. A. (1994), "Paradigm shifts in business education: using active learning to deliver services marketing content", *Journal of Marketing Education*, 16(3): 5-19.