Are the dominant teaching theories in higher education adequate to underpin teaching practices in enterprise and entrepreneurship context?

Chinthaka Aluthgama-Baduge and Gary Mulholland

Abstract

It can be comprehended that the models and theories which are currently used to reinforce teaching depict the education practices of transmitting knowledge from teacher to students, which is more traditional, linear, input-output construction of teaching that has dominated adult education for decades including the last half century. As numerous studies (e.g. QAA, 2018) emphasizes that both the needs of learner and learning in enterprise and entrepreneurship education (EEE) context is different from other disciplines and mainstream higher education (HE). This requires further development of teaching methods and practices that can encourage the aspirations of the learner in this particular education setting. When investigating the theories and approaches that are used to examine teaching in HE, the relevance and adequacy of them to review teaching practices in this 21st century and EEE context is a question. Thus, the need of new theoretical models and frameworks can be clearly observed. For example, to investigate teacher’s role in EEE setting, there is a need of adopting more context specific, individual-focused research methods.

When the recent outcomes associated with the UK higher education are taken into account, there is an emerging key debate; i.e. are universities actually turning off potential entrepreneurs. Whether these outcomes are due to teaching, learning environment or other activities within universities, is still largely a question, hence requires further research to find answers.

Introduction

There is a rapidly increasing emphasis on the necessity and influence of entrepreneurship (Kuratko and Morris, 2018). This has led to a vigorous, continuing debate among enterprise and entrepreneurship education (EEE) scholars such as Liguori et al., (2018); Birch et al. (2017); Turner and Mulholland (2017); Gibb (2008); Kirby (2007) about how to develop and educate entrepreneurs. The history of entrepreneurship education in HEIs goes back more than seven decades with some of the first entrepreneurship courses began in 1940s (Katz, 2003), however, do the educators today know how to teach entrepreneurship? Is there an agreed approach to teach entrepreneurship? If the educators know it, why only 1.0% of the students start up a business six months after their graduation in UK (see Fig 4), when actually every university in the UK has allocated substantial resources to nurture entrepreneurs? Can the needs of entrepreneurship education be underpinned by general teaching/learning theories in higher education?

As Hurney (2012) and Hattie (2003) posit, teaching can actually have a significant impact on students’ development and positively affect their achievements in general, conversely, can teaching have such positive influence on an individual’s entrepreneurial development? The study of Aluthgama-Baduge (2017) finds out that there is still dearth of knowledge in the area of influence of teaching in the development of one’s entrepreneurial skills and attributes. Additionally, a knowledge gap can be noticed in theories and models that underpin the EEE teaching practices at HE level, particularly teaching styles, methods and the teachers’ role during the education process (Aluthgama-Baduge, 2017).
This study critically examines the current dominant HE teaching theories and approaches and their implications to comprehend and underpin the teaching practices in EEE context. The study investigates HE theories and practices primarily via the perspective of teaching. The review begins with an analysis of dominant, general HE theories, particularly styles, methods and conceptions of teaching. It will also discuss the types of learning environment and other activities that support learning. The study will then move on to examine the teaching theories and practices within EEE context (HE level) in relation to the above theoretical constructs, i.e. styles, methods and conceptions of teaching, and learning environment and other activities that support learning. UK’s HE environment will be utilized to critically evaluate the current teaching practices within EEE context.

Teaching in Higher Education - A synthesis and analysis of dominant concepts and practices

The analysis here will concentrate on three key concepts within HE pedagogy literature, i.e. styles, methods and conceptions of teaching. Teaching is a central activity of the most educators in higher education (Teichler, 2009; Marriss, 2011; Li, 2015), and one of their major sources of personal satisfaction (O’Brien, 2009), which can have a significant impact on students’ development and positively affect their achievements in general (Hurney, 2012; Hattie, 2003).

Styles of teaching

Gray (1988, p. 07) “teaching style can be defined as a relatively consistent pattern of behaviour or preferred approach, which colours one’s stance towards subject, students, colleagues, methods, media, etc.”. Heimlich and Norland (2002, p. 23) define teaching style as “the study of matching teaching beliefs and values—the philosophy of the individual—with the behaviours used in the teaching-learning exchange.” According to Conti (1985; 2004), teaching style is the distinct qualities exhibited by a teacher, which are consistent from one situation to another even though the content being taught may vary. Jarvis (1995) and Banning (2005) identify three key teaching styles employed by instructors in higher education, which are: didactic, facilitative and Socratic. In universities, the content-oriented didactic style, or in other words lecturing, still remains the predominant form of teaching (Jarvis, 2006b; Kember, 2009). Facilitative style is a more informal approach to teaching which is learning-oriented or focuses on learning skills rather than delivering the subject matter (Brain, 2002). “Facilitation means easing: helping learners realise their capacity to learn is the hallmark of the facilitator, moving education from a delivery of static knowledge to a dialogical relationship where knowledge is co-created” (Gregory, 2002, p. 80). The foundation for Socratic teaching style (or Dialectic or Maieutic) is questioning (Banning, 2005; Tokuhama-Espinosa, 2014), and it is often used in law schools around the world (Sorvatzioti, 2012, p. 61).

Methods of teaching

Weston and Cranton (1986, p. 260) define teaching method “as the vehicle or technique for instructor-student communication”. Grasha (2002a) finds that the teaching methods employed are a key element of teaching style, which can help enhancing understanding of approach to teaching of a lecturer. Some of the popular methods of teaching in HE context include content delivery, case based teaching, problem based teaching and project based teaching (Aluthgama-Baduge, 2017), and from them content delivery is still considered to be the most used (Griffin, 2006).
Conceptions of teaching

Conceptions of teaching can be identified as one of the signature concepts in higher education teaching and learning literature (Kandlbinder, 2013). With respect to teaching, conceptions of teaching may be envisioned as being the lens through which the process of teaching and learning is viewed and shaped” (Apedoe, Holschuh and Reeves, 2009, p. 157). Devlin (2006) defines conceptions of university teaching as “specific meanings attached to university teaching and learning phenomena, which are claimed to then mediate a teacher’s view of, and responses to, their teaching context” (p, 112). Teachers at all levels have their own conceptions of teaching which they gradually develop with their classroom experience as students and later as teachers (Ramsden, 1992).

Teaching in university context is traditionally dominated by the conception of conveying information and knowledge from the teacher to the learner (Heimlich and Norland, 2002; Blenker et al., 2006). In other words, teaching has conventionally been associated with the notion that there is a truth proposition (knowledge) or an established theory that can be disseminated via the agency of the teacher (Jarvis, 2006b). Not only the conceptions but also the dominant teaching practices in universities continue to portray this transmittive, didactic, teacher-centered traditional lecturing approach or its remnants (Ramsden, 2003; Jarvis, 2006a; Kember, 2009; Goedhart, 2015), where the students passively accept the information given by the instructor (Jarvis, 1995; McComas, 2013).

When considering the key theories that underpin teaching practices in HE, Kember (1997) and Kember and Kwan (2000) developed the following model (See Fig 1), which Kember reproduced later in 2009 with some changes. The model suggests that the conceptions of teaching have influence on approaches to teaching which then have impact on students’ approaches to learning, and subsequently learning outcomes.

Trigwell, Prosser and Waterhouse (1999, p. 60) also developed a similar model (Fig 2) to the model of Kember (1997, 2009) and Kember and Kwan (2000), depicting the relationship between teaching and learning, however, it does not show a clear link between approach to teaching and approach to learning.

Fig: 1 The relationship between conceptions of teaching, teaching approaches and learning outcomes

Authors simplified model. Adapted from: Kember (1997, p. 269, Fig. 3); Kember and Kwan (2000, p. 471, Fig. 1)
Established links between teachers’ conceptions of teaching and learning and students’ learning outcomes

Authors simplified interpretation. Source: Trigwell, Prosser and Waterhouse (1999, p. 60, Fig. 2)

Towards a new model to underpin and generate deeper understanding of teaching practices in HE?

These Kember (1997; 2009), Kember and Kwan (2000) and Trigwell, Prosser and Waterhouse’s (1999) models provide insights into understanding the dominant input (teaching) output (learning outcomes) conception of higher education. These models depict the education practices of transmitting knowledge from teacher to students, which is traditional, linear, input-output construction of teaching that has dominated adult education for decades including the last half century. Does this still apply today, and in particular in relation to EEE is there a difference?

On the one hand, the less reference made to style of teaching can be noticed within general HE teaching and learning literature, which has been acknowledged by a number of researchers such as Trigwell and Prosser (2004); Jarvis (2006b); Shaari et al. (2014) and Aluthgama-Baduge (2017). Does this not mean there are even less studies that have made reference to styles of teaching within EEE? On the other hand, there is tendency to examine teaching style as if it is synonymous with method, or technique of teaching (Heimlich and Norland, 2002; Jarvis, 2006b). The difference between teaching style and method as Jarvis (2006b, p. 29) claims, “methods focus on the techniques that teachers employ; they are ways of doing it - process, technique”. To explain further, “teaching methods are about the technical processes of teaching whilst teaching styles are more about the teachers and the way that they conduct themselves during the teaching session” (Jarvis, 2006b, p. 30).
As Salama (2015) argues, it is the adopted style and method of teaching create the learning environment that can be either active or passive, which also has a significant influence on students’ learning approaches (Cambaliza, Mazzolini and Alarcon, 2004), and subsequently learning outcomes (Noroozi and Hagh, 2013). In an active learning environment, students’ role goes beyond simply listening and watching: they are encouraged to argue, question, do discussions and brainstorming, and engage in active experimentation and reflective observation (Huang and Hang, 2011). In contrast, the focus of the passive learning environment is learning facts and information with no or minimal discussions, questioning and collaboration with peers, which result in students not being able to think outside the regurgitation of book information (Magnan, 2013). Arasti, Falavarjani and Imanipour (2012) posit that, the instructors who use facilitative, student-centred teaching approach tend to utilise various other activities such as workshops, project works, industry visits, competitions or guest speakers which help making the learning environment more active.

Based on the above critical review of key theoretical constructs, Aluthgama-Baduge (2017) developed a model to generate a deeper understanding of teaching in HE (See Fig 3).

![Fig 3: Aluthgama-Baduge model of teaching in HE.](image)

**Source:** Aluthgama-Baduge (2017)

When considering the theories that are used to investigate teaching in HE, are they adequate to teaching approaches and practices in this 21st century? One good example is the use of Lippitt and White’s (1958) leadership styles theory to examine teaching, which classifies styles of teaching to three categories, i.e. authoritarian, democratic and laissez-faire. This 1950’s framework has been continually utilised to investigate teaching styles by numerous researchers including Jarvis (2006b); Jarvis (2012) and Frunza (2014). Given the fact that every teacher has a unique style (Dean, 2005; Aluthgama-Baduge, 2017), can three or four styles of teaching be generalised to all the lecturers in HE?

**Enterprise and Entrepreneurship Education in Higher Education**

EEE has established its place within HE around the globe (Jones, Matlay and Maritz, 2012), and is now delivered in various education contexts and as part of diverse disciplines such as
business, engineering, health sciences and design (Vanevenhoven and Drago, 2015). Nevertheless, how to educate entrepreneurs is still vigorously debated at all levels of education without common consensus to date (Kirby, 2007; Neck, Greene and Brush, 2014). On the contrary, worldwide, there is a rapidly increasing emphasis on the necessity and influence of entrepreneurship (Thompson, Mawson and Martin, 2017).

Meantime, the rapid growth of EEE has actually outpaced the understanding of what to teach, how to teach it, and how entrepreneurial learning is best evaluated (Morris and Liguori, 2016). When considering how to teach entrepreneurship in particular, there may be suitable education contexts to adopt such teacher-centered approach, however, is it adequate to develop one’s entrepreneurial skills and attributes? What teaching methods and approaches are actually used in EEE context in HEIs? EEE is different from other disciplines (Beugre, 2017). The QAA (2012; 2018) guidance for EEE in HE is a good example that emphasises this uniqueness. The guidance highlights the need for more active education environment and approaches. A number of experts (Arasti, Falavarjani and Imanipour, 2012; Alalwany and Saad, 2015) argue that facilitative, student-centred, action-based teaching styles and approaches are appropriate. Kirby (2004; 2007) requires HEIs to not only teach about enterprise and entrepreneurship, but also to educate for entrepreneurship.

Teaching entrepreneurship in HE context - A synthesis and analysis of dominant concepts and practices

When examining the teaching practices and theories in EEE context, numerous research with individual cases of diverse courses, curriculums and teaching practices can be noticed. The collections of studies of Neck, Greene and Brush (2014); Crittenden et al. (2015); Volkmann and Audretsch (2017); Jones, Maas and Pittaway (2017) and Turner and Mulholland (2018) are good examples.

Styles of teaching

Interestingly the less reference made to styles of teaching within EEE literature is clearly evident, apart from the attempts of a small number of researchers such as Bechard and Gregoire (2005; 2007), Kozlinska (2016) and Aluthgama-Baduge (2017). Due to the multifaceted roles (e.g coach, consultant, storyteller) a lecturer may play in EEE context (Tavangar, 2016; Aluthgama-Baduge, 2017), the styles of teaching in EEE are significantly different from one teacher to another (Aluthgama-Baduge, 2017). Thus, to generate a deeper understanding of teaching styles and approaches in EEE, there is a need of adopting context specific, individual focused research methods (Aluthgama-Baduge, 2017). Kozlinska’s (2016) work applies and highlights the study carried out by Bechard and Gregoire (2005; 2007) on teaching in EEE. Bechard and Gregoire (2005; 2007) examine three teaching archetypes or models in higher education based on existing literature, and go on to propose the concept of teaching models in entrepreneurship at higher education level. However, the “framework has been unfairly neglected in the empirical entrepreneurship education literature despite being comprehensive and simple to use” (Kozlinska, 2016, p. 290). The important point with teaching model here is that “teaching model form a bridge between educators’ knowledge, conceptions and beliefs about teaching, and their teaching behaviour per se” (Bechard and Gregoire, 2007, p. 264): it “is centred on the link that unites the conceptions that scholars and educators have about teaching, and their actual teaching behaviour” (Bechard and Gregoire, 2005, p. 105). A teaching model is “an instructional design which describes the process of specifying and producing particular environmental situations which cause the students to interact in such a way that a specific change occurs in their behaviour” (Mohan, 2007, p. 79;
Singh, Sharma and Upadhya, 2008, p. 219). Joyce and Weil (1985) define model of teaching as “a plan or pattern that can be used to shape curriculum (long-term courses of studies), to design instructional materials, and to guide instruction in the classroom and other settings”. Bechard and Gregoire (2005) firstly examines three teaching models in higher education, which are: the supply model, the demand model and the competence model. The supply model of teaching focuses on imparting knowledge and information from the educator to the learner, which makes learner a passive receiver of that information (Bechard and Gregoire, 2007). This teaching model corresponds to Ramsden’s (2003) ‘teaching as telling or transmission’. When the supply teaching model is investigated within entrepreneurship education context, it is entirely teaching-centred and related to education about entrepreneurship; the focus is on transmission of information and knowledge, particularly theoretical study of entrepreneurship rather than entrepreneurial training (Kozlinska, 2016); thus, can be less interesting, and also less effective for students to develop their entrepreneurial thinking and behaviour (Fiet, 2000a).

The demand model of teaching “focuses on answering the learning goals, motives and needs of the students” (Bechard and Gregoire, 2007, p. 264), and it stands on the principles of constructivist learning paradigm (Kozlinska, 2016). Ramsden’s (2003) ‘teaching as organising student activity’ corresponds to this model of teaching. The demand teaching model in entrepreneurship, is related to education through entrepreneurship as it focuses on developing entrepreneurial personalities: the approach to teaching is both content and process-driven: educators let and make students experience the elements of entrepreneurial process both inside and outside the classroom: teaching is conceived in terms of developing and supporting the environment that enables the appropriation of knowledge, while the curricular focus rests with entrepreneurial personality development, facilitation of self-discovery and self-appropriation in students (Kozlinska, 2016, p.68-69).

The competence model “focuses neither on the supply nor on the demand of education, but on the interaction between the two” (Bechard and Gregoire, 2005, p. 111) or, in other words, an interactive process between the learner and teacher (Kember, 1997). The aim teaching here is to develop students’ competences that include the knowledge of how to solve complex problems using relevant knowledge (Bechard and Gregoire, 2007). Bechard and Gregoire (2005) posit that this model corresponds to Ramsden’s (2003) concept - ‘teaching as making learning possible’. Teaching is more about coaching and acting as developers, and the students are seen as “individuals who actively construct their knowledge through their interaction with their educator(s) and peers” (Bechard and Gregoire, 2007, p. 265). The competence teaching model in entrepreneurship is linked to educating for entrepreneurship as the focus there is on coaching and training entrepreneurs (Kozlinska, 2016). In the competence model of teaching in entrepreneurship, one of the characteristics of the students is their active participation in the co-construction of their knowledge (Bird, 2002).

Bechard and Gregoire (2005) apply the three teaching models - supply, demand and competence - in the context of entrepreneurship education, and go on to propose two more teaching models by combining the elements of the three teaching models. One hybrid model combines elements from the supply and demand models (supply-demand model); the other combines elements from demand and competence models (demand-competence model) (Bechard and Gregoire, 2005).
The first hybrid model - supply-demand model - contains the characteristic from both supply and demand models, but is more closer to the demand model than to the supply model since this conception of education begins from the needs of the students (Bechard and Gregoire, 2005). However, educator is still the one who defines the essence of entrepreneurship and the entrepreneurial experience (Benson, 1992). In other words, it is one of the key tasks of the educator to impart the essence of entrepreneurship to the learners, although his or her “primary role is to be a facilitator, a coach and a cheerleader in helping students to go through a process of self-discovery and self-appropriation with regard to entrepreneurship as a field of study and a career path” (Benson, 1992, p.137). According to Kozlinska (2016), traditional entrepreneurship education falls under supply and supply-demand models.

The second hybrid model - the demand-competence model - comprises the characteristics of both demand and competence teaching models (Bechard and Gregoire, 2005). “More open, simple, supportive, equal and interactive relationships are a sign of demand-competence models” (Kozlinska, 2016, p.169-170). Adopting a highly experiential teaching, this model of education creates space for more entrepreneurial activity, and these educators develop friendly and supportive relationships with students (Kozlinska, 2016). Here the “content is primarily defined by students’ needs vis-a-vis entrepreneurship, and by problems to be solved by competent actors in real-life situations” (Bechard and Gregoire, 2007, p. 269). Teaching goals include: 1 “helping students develop basic learning skills; fostering student development and personal growth; helping students develop higher order thinking skills and preparing students for jobs/careers” (Bechard and Gregoire, 2007, p. 269-270).

Methods of teaching
As Cieslik (2011) and Aluthgama-Baduge (2017) argue, there is no single recipe of teaching used in EEE context. “It is difficult to point out methods that are universally effective; instead, mixed methods and tools for teaching entrepreneurship have proven to be most effective” (Cieslik, 2011, p. 108). However, there are some popular, dominantly used methods (e.g. case based teaching, content delivery, project-based and problem-based teaching/learning) can be noted (Aluthgama-Baduge, 2017).

Gibb (1994, quoted in Gibb, 2007, p. 73) asserts that the use of traditional case based teaching can actually turn into an anti-entrepreneurial approach to teaching “if its emphasis is upon rationale analytical analysis rather than intuitive decision-making and creative experiment”. Traditional case method means here is the “in-class discussions of cases of five to twenty pages in length, which students prepare in advance and where the instructor’s role is that of the sole moderator of the case” (Maiksteniene, 2013, p. 61).

As Venesaar (2008) and Aluthgama-Baduge (2017) find out, there are cases of teachers tend to using content delivery methods to raise awareness of entrepreneurship and the theoretical constructs underpin the phenomenon. Nonetheless, when considering entrepreneurship which requires incorporating both practical experience and personal practice, adopting content delivery methods are a mismatch in EEE context (Zunfeng and Chunling, 2011).

Project based education where the learning is not linear matches the non-linear process of entrepreneurship, thus, projects are used as a dominant teaching method in EEE context (Kennedy, 2016; Aluthgama-Baduge, 2017). Despite these commonalities, “projects can certainly be pursued in a way that is not at all entrepreneurial” (Gibb, 2002, p. 239). Therefore,
using projects in a way that supports and sparks entrepreneurial attributes (e.g. creativity, problem solving and critical thinking) is important.

The skill of problem solving is essential in the entrepreneurship journey since entrepreneurs usually tend to evaluate a problem by looking at it from every possible angle (Kuratko, 2009). San Tan and Ng (2006) find that learning through solving ‘real-world’ problems, particularly the ones that simulate entrepreneurial circumstances, are effective in enhancing “students ability to think and respond strategically towards new venture creation; students’ appreciation and capacity for entrepreneurship” (p. 416).

**Conceptions of teaching**

For a deeper investigation of teaching in EEE, developing a deeper understanding of teachers’ beliefs and conceptions of teaching is significant (Brown, 2003; Kember, 2009). When examining the conceptions of lecturers in EEE, Aluthgama-Baduge’s (2017) study finds that EE educators hold conceptions about students (e.g. students who just want to pass) and conceptions of entrepreneurship process (e.g. learn via making mistakes), which have significant impact on conceptions of teaching (e.g. whether entrepreneurship can be taught or not). However, the dearth of knowledge of conceptions of teaching in EEE context can be noted within HE teaching and learning literature, thus, there is a need of further research to understand both conceptions and if the conceptions of effective teaching are translated into practice (Aluthgama-Baduge, 2017).

**Learning Environment**

Both the teacher’s role and teaching/learning environment are of great importance in EEE context (Jones and Iredale, 2010). The attempt of entrepreneurship educators to make the learning environment active (Engel et al., 2016), and stimulating to make sure all can contribute, develop and enjoy the learning experience, can clearly be noticed in EEE setting (Bouchard, 2007). The study of Aluthgama-Baduge (2017) finds out that the lecturers in EE are in fact active, key contributors in designing and developing the learning environment needed for entrepreneurship in the education establishments they are part of. EEE is still a growing and relatively new discipline (Solomon and Matthews, 2014), thus, the lecturers in EE are in a distinctive position to be able to design the learning environment and curriculum in a way that suits the journey of entrepreneurs (Aluthgama-Baduge, 2017; O’Connor, 2015), however, are these educators capitalizing on this unmatchable opportunity is still a question.

**Other activities that support learning**

Alexander and Hjortso (2013) assert that, business plan writing activities are actually one of the key instruments utilised by entrepreneurship educators. The main reason for this is that business plan writing and competitions are considered as a convenient method to assess student progress and performance (Collet and O’Cinneide, 2010). Business plans are undoubtedly important (Blundel and Lockett, 2011), nonetheless, the researchers, practitioner and policy makers (Gibb, 2008; Weber and Funke, 2014) critique the education approach of ‘only writing business plans’ by stating that it is insufficient, as it is possible for an individual to go through an entrepreneurship / new venture creation program and end up with a business plan without ever experiencing the ‘feel’ of what it is like to be an entrepreneur. Schindehutte and Morris (2016) suggest an experiential learning portfolio that can be used to enrich student experience in EEE context.
Out of these suggested activities, Aluthgama-Baduge’s (2017) study finds five activities that are frequently used and more popular among current EE lecturers in UK, which are: business plan writing, bring in guest lecturers, elevator pitch competitions, interviewing an entrepreneur and business clinics.

**Experiential learning portfolio**

**Course-based**
- Idea diaries
- Business models
- Business plans
- Feasibility studies
- Written or video case studies
- Mini-and full case studies
- Live cases
- Interviews of entrepreneurs
- YouTube videos of entrepreneurs
- Hollywood movies
- Entrepreneurial audits
- Marketing inventions
- Small business consulting projects
- In-class games or exercises
- Simulations
- Adopting a family firm
- Role plays
- Negotiations
- Guest lectures by entrepreneurs
- Lean start-up methodologies
- Experiential exams

**Co-curricular**
- Idea jams
- Internships at local ventures and incubators
- Entrepreneurial mentors for students
- Entrepreneurship study abroad programs
- Elevator pitch competitions
- Pitching to a banker
- Campus business plan competitions
- Students competing in regional or national competitions
- Student venture hatcheries
- Campus-based business run by students
- Prototype development/fab labs
- Website development
- Start-up weekends
- Shadowing entrepreneurs
- Student venture fairs
- Speaker series
- Community outreach initiatives (e.g. bootcamps, women’s symposia)
- Technology commercialization projects
- Students mentoring high school or disadvantaged students

**Source: Schindehutte and Morris (2016, p. 167, Table 8.1)**

However, research (Pittaway and Edwards, 2012; Collet, 2011; Gibb, 2008) indicates that the current EEE environment is heavily influenced by the more traditional, passive, mainstream HE teaching styles, methods and conceptions, which are learning ‘about’ entrepreneurship delivery rather than more active, experiential, learning ‘for’ approach. Andrijevskaja and Mets (2008) point out that, even in a country such as the UK, which is known for its business supportive environment, is critiqued for its entrepreneurship teaching practices. Studies of Birch et al. (2017); Matlay (2008) and Kirby (2004; 2007) are good examples that have questioned the EE teaching practices in UK HEIs. As Andrijevskaja and Mets (2008) critique, numerous entrepreneurship programs in the UK are delivered with no clear structure and objectives, and focus on promoting the innovative curriculums rather than the quality of the education experience. Isn’t this still a valid argument when considering the following outcomes of UK HEIs?
Entrepreneurship education practices in UK and graduate entrepreneurship

In the UK, the urge from higher education stakeholders such as educators and researchers (Kirby, 2004; Matlay, 2005; Wilson, 2012), and policy makers (QAA, 2018; Lord Young, 2014; Department for Business Innovation & Skills, 2015) for higher education institutions (HEIs) to concentrate more on nurturing entrepreneurs is distinctly evident. Studies of Birch et al. (2017); Hanage, Scott and Davies, (2016); Nabi, Walmsley and Holden (2015); Matlay (2008) have emphasised the need of graduate entrepreneurs in the UK. In fact, enterprise and entrepreneurship education is present in almost all the UK HEIs (Rae et al., 2014), with a considerable amount of dedicated resources to stimulate entrepreneurial activities among students, scholars, policy makers and professionals. The constantly updating policy initiatives such as QAA (2018; 2012) policy documents (i.e. EEE guidance for UK HEIs), entrepreneurship centers (Jones and Maas, 2017), entrepreneurs in residence (Lloyd-Reason, 2016), are some good example for such dedicated resources. However, has this ambition been embraced by the existing, dominant teaching practices within higher education institutions?

Despite these evidences of reorientation of UK universities towards preparing students for enterprise initiatives, the figures actually are still unconvincing, even though the recent reports (e.g. Higher Education Business and Community Interaction survey published by the Higher Education Funding Council for England/HEFCE, 2016), indicate substantial gains of existing university spin-offs, in terms of employment and turnover growth. Studies such as Blackburn and Iskandarova (2014) reveal that the entrepreneurial intentions of UK graduates are actually declining. “In England the percentage of students who would like to pursue an entrepreneurial career (potential founders and successors) right after finishing their studies dropped significantly – from 19.7% in 2011 to 8.8% in 2013/2014” (Blackburn and Iskandarova, 2014, p. 29). Also, the percentage of students who would like to pursue an entrepreneurial career 5 years after their studies, has declined from 49% in 2011 to 37.9% in 2013/2014 (Blackburn and Iskandarova, 2014) in England. Saridakis, Iskandarova and Blackburn’s (2016, p. 11) report finds that, in the UK only 7.17% intend to pursue an entrepreneurial career (6.52% founders and 0.65% successors) straight after their studies and, 33.36% (28.98% founders and 4.38% successors) after five years. In fact, more than eighty percent (81.73%) of the students in the UK prefer to work as employees immediately after their studies (Saridakis, Iskandarova and Blackburn, 2016).

More interestingly, a study carried out in 2012 by the OECD (2013, p. 83) found that, about 35% of the people in the UK consider that the school education provided them with the required “sense of initiative and a sort of entrepreneurial attitude”, and that nearly 30% considered that they were provided with enabling skills and know-how to start and run a business (see Fig 4). Nonetheless, after entering and going through the university education process, only 1.0% of the students starting-up a business six months after graduation (Higher Education Statistics Agency, 2016). This in a way implies that, there is a higher proportion of individuals with appropriate attitude, skills and know-how to start-up a business enter the university, however, only 1% of them starting up an own business after six months of graduation (see Fig 5). In other words, does this not indicate that there are individuals with entrepreneurial intentions and skills to start-up a business, yet they become less likely to choose entrepreneurship as a career option after going through the university process?
Fig 4 School education provided enabling skills and know-how to start and run a business (UK)

![Pie chart showing the proportion of school education that did not provide business startup skills](image)

Adapted from: OECD (2013)

Fig 5. Destination of university graduates in the UK (after 6 months of graduation)

![Diagram showing the destination of university graduates](image)

Adapted from: Jayananda and Mulholland (2014a)

It is only 3,890 students left university to start up their own businesses in 2015/2016 in the UK (Higher Education Statistics Agency, 2017). Equally the universities that top the start-up leagues are not those with the highest profile or university ranking. On the one hand, this portrays the complex relationship between the aspirations of young people entering tertiary education, the experiences they receive whilst in that education and the resultant intentions of graduates upon graduation. On the other hand these results revealed by the various studies lead to critique the UK higher education system including the business educators therein. For example, questions come about such as why only a small percentage of graduates consider entrepreneurship as a viable career option; whether it has to do with the way students are taught in the universities and business schools?

Conclusion and recommendations

The analysis suggests that this dominant higher education theories - the input-output, didactic teaching/education approaches depicted in the more widely recognised and cited academic theories and models - are not sufficient to underpin and develop a deeper understanding of teaching practices in EEE, and 21st century HE teaching practices in general. Therefore, the need of new frameworks and theories can be clearly observed. When the teacher’s role in EEE context is investigated, there is a need of adopting context specific, individual focused research methods to comprehend teaching in EEE (Aluthgama-Baduge, 2017).
Numerous research on individual cases of diverse courses, curriculums and teaching practices can be found within EEE literature. Bechard and Gregoire’s (2005; 2007) work is a notable start for research to focus on styles of teaching in EEE, however, as Aluthgama-Baduge (2017) concludes, there is a dearth of knowledge in HE literature about styles of teaching in this specific context of education.

Entrepreneurship education is different from teaching in other disciplines in HE (Beugre, 2017). The QAA (2012; 2018) guidance for EEE providers in HE is a good example that indicates this uniqueness within the sector. Nonetheless, the research (Pittaway and Edwards, 2012; Collet, 2011; Gibb, 2008) portrays that the existing EEE environment is heavily influenced by the more traditional, passive, mainstream HE teaching styles, methods and conceptions, which are learning ‘about’ entrepreneurship delivery rather than more active, experiential, learning ‘for’ approach despite the continuing critiques against these education methods.

Aluthgama-Baduge (2017) finds out that the lecturers in EE are in fact active, key contributors in designing and developing the learning environment needed for entrepreneurship in the education establishments they are part of. EEE is a growing and relatively new discipline (Solomon and Matthews, 2014), thus, the EE educators are in a distinctive position to be able to design the learning environment and curriculum in a way that suits the journey of entrepreneurs (Aluthgama-Baduge, 2017; O’Connor, 2015). However, are these educators capitalizing on this unmatchable opportunity, is an area that needs to be further investigated.

When considering the other activities that support learning, Schindehutte and Morris (2016) suggest an experiential learning portfolio to be used in EEE context, however, Aluthgama-Baduge (2017) concludes that the educators tend to use certain activities (e.g. business plan and elevator pitch competitions) frequently and predominantly. Making use of these experiential learning portfolios can enrich student experience in EEE setting. Is HE turning off potential graduate entrepreneurs (Birch et al., 2017), an argument that is becoming increasingly persuasive, particularly the recent outcomes associated with the UK higher education are taken into account. Aluthgama-Baduge’s (2017) study indicates that there is something happening within UK HEIs contributing to lessen the entrepreneurial intentions and behaviors of students. Whether this ‘something’ is teaching, learning environment or other activities within the universities, is an area for further research. When this recent outcomes of UK HEIs are carefully considered, Kirby’s (2004, p. 517) recommendation for UK EE educators and practitioners to bring about “significant changes in not only what is taught but how it is taught”, contains a valid argument that needs to be revisited.

As Birch et al. (2017) argue, the university students have been educated to be employees for far too long, not entrepreneurs. Additionally, the pedagogical practices have not been corresponding with the aspiration of the students who wish to develop entrepreneurial skills (Birch et al., 2017), which hints the need of significant changes to current EEE practices and theories that underpin teaching within the discipline.
References

Alalwany, H. and Saad, F. (2015), Entrepreneurial education programmes and their impact on entrepreneurs’ attributes, In: R. P. Dameri and L. Beltrametti (eds.), Proceedings of the 10th European Conference on Innovation and Entrepreneurship, Reading, Academic Publishing Limited, 2015, pp. 15-24

Alexander, I. K. and Hjortso, C. N. (2013), Cultural considerations when designing entrepreneurial pedagogies, Proceedings of education and learning issues in entrepreneurship workshop, National and Kapodistrian University of Athens, 4-5 July 2013, pp. 17-36

Aluthgama-Baduge, C. J. (2017), Educating for enterprise: Exploring the role of the teacher. An Interpretative Phenomenological Analysis, PhD Thesis, Abertay University, UK

Andrijevskaja, J. and Mets, T. (2008), Master Program in Entrepreneurship and Technology Management in Estonia, In: P. V. D. Sijde et al. (eds.), Teaching Entrepreneurship: Cases for Education and Training, Heidelberg, Physica-Verlag, (2008), pp. 99-107

Apedoe. X. S, Holschuh, D. R. and Reeves, T. C. (2009), The interplay of teaching conceptions and a course management system among award-winning university professors, In: M. Orey, V. J. McClendon and R. M. Branch (eds.), Educational media and technology yearbook, Vol. 34, New York, Springer, 2009, pp. 155-170

Arasti, Z., Falavarjani, M. K. and Imanipour, N. (2012), A Study of Teaching Methods in Entrepreneurship Education for Graduate Students, Higher Education Studies, Vol. 2 No. 1, pp. 2-10

Banning, M. (2005), Approaches to teaching: Current opinions and related research, Nurse Education Today, Vol. 25, pp. 502-508

Bechard, J. P. and Gregoire, D. (2005), Understanding teaching models in entrepreneurship for higher education, In: P. Kýro and C. Carrier (eds.), The Dynamics of Learning Entrepreneurship in a Cross-cultural University Context, Faculty of Education, Tampere, University of Tampere, 2005, pp. 104-34

Bechard, J. P. and Gregoire, D. (2007), Archetypes of pedagogical innovation for entrepreneurship education: model and illustrations, In: A. Fayolle (ed.), Handbook of Research in Entrepreneurship Education, Vol. 1, Cheltenham, Edward Elgar Publishing, 2007, pp. 261-284

Benson, G. L. (1992), Teaching entrepreneurship through the classics, Journal of Applied Business Research, Vol. 8 No. 4, pp. 135-141

Beugre, C. D. (2017), Building entrepreneurial ecosystems in Sub-Saharan Africa: A Quintuple Helix Model, New York, Springer Nature
Birch, C. et al. (2017), An enquiry into potential graduate entrepreneurship: Is higher education turning off the pipeline of graduate entrepreneurs?, *Journal of Management Development*, Vol. 36 No. 6, pp. 743-760

Bird, B. J. (2002), Learning entrepreneurship competencies: the self-directed learning approach, *International Journal of Entrepreneurship Education*, Vol. 1 No. 2, pp. 203-227

Blackburn, R. and Iskandarova, M. (2014), Student Entrepreneurship Across the Globe: Intentions and Activities: Report for England 2013/2014, Small Business Research Centre, Kingston University, UK

Blenker, P. et al. (2006), Learning and teaching entrepreneurship: dilemmas, reflections and strategies, In: A Fayolle and H Klandt, eds. *International Entrepreneurship Education: Issues and Newness*, Cheltenham, Edward Elgar Publishing Limited, 2006, pp. 21-34

Blundel, R. and Lockett, N. (2011), *Exploring entrepreneurship: Practices and perspectives*, Oxford, Oxford University Press

Bouchard, V. (2007), Teaching corporate entrepreneurship the experimental way. In. A. Fayolle (ed.), *Handbook of Research in Entrepreneurship Education: Volume 2: Contextual Perspectives*, Cheltenham, Edward Elgar, 2007, pp. 84-98

Brain, C. (2002), *Advanced Psychology: Applications, Issues and Perspectives*, Cheltenham, Nelson Thomas Ltd

Brown, N. L. (2003), *How Lecturers Experience Student-Centred Teaching*, PhD thesis, Lancaster University

Cambaliza, O. L., Mazzolini, A. P. and Alarcon, M. C. (2004), Adapting active learning approaches in physics education to local Asian environment, In: Y. Park (ed.), *Teaching and learning of physics in cultural contexts*, New Jersey, World Scientific, 2004, pp. 89-97

Cieslik, J. (2011), University-level entrepreneurship education in Poland, In: F. Welter and D. Smallbone (eds.), *Handbook of research on entrepreneurship policies in Central and Eastern Europe*, Cheltenham, Edward Elgar, 2011, pp. 102-119

Collet, C. (2011), Entrepreneurship education in non-business schools: Best practice for Australian contexts of knowledge and innovation communities, Queensland University of Technology. [online]. Available from: [http://eprints.qut.edu.au/51466/1/51466P.pdf](http://eprints.qut.edu.au/51466/1/51466P.pdf) [Accessed: 23-12-2016]

Collet, C. and O’Cinneide, B. (2010), Entrepreneurship Educators Need to be Enterprising, In: F. Kiesner (ed.), *Creating entrepreneurs: Making miracles happen*, Singapore, World Scientific Publishing, 2010, pp. 169-194

Conti, G. J. (1985), Assessing teaching style in adult education: How and why, *Lifelong Learning*, Vol. 8 No. 08, pp. 07-28
Conti, G. J. (2004), Identifying Your Teaching Style, In: M. W. Galbraith (ed.), *Adult learning methods: A guide for effective instruction*, 3rd ed., Malabar, FL: Krieger Publishing Company, 2004, pp. 76-91

Crittenden V. L. *et al.* (2015), Evolving Entrepreneurial Education: Innovation in the Babson classroom, Bingley, Emerald Group Publishing

Dean, J. (2005), *The Effective Primary School Classroom: The essential guide for new teachers*, Abingdon, Routledge

Department for Business Innovation & Skills, UK. (2015), Fulfilling our potential: Teaching Excellence, Social Mobility and Student Choice (November), [online], Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/474266/BIS-15-623-fulfilling-our-potential-teaching-excellence-social-mobility-and-student-choice-accessible.pdf [Accessed: 06/11/2015]

Devlin, M. (2006), Challenging accepted wisdom about the place of conceptions of teaching in university teaching improvement, *International Journal of Teaching and Learning in Higher Education*, Vol. 18 No. 02, pp. 112-119

Engel, J. S. *et al.* (2016), What I have learned about teaching entrepreneurship: perspectives of five master educators, In: M. H. Morris and E. Liguori (eds.), *Annals of entrepreneurship education and pedagogy - 2016*, Cheltenham, Edward Elgar Publishing, 2016, pp. 03-25

Fiet, J. O. (2000a), The Theoretical side of teaching entrepreneurship, *Journal of Business Venturing*, Vol. 16, pp. 1-24

Frunza, V. (2014), Implications of teaching styles on learning efficiency, *Precedia - Social and Behavioral Sciences*, Vol. 127, pp. 342-346

Gibb, A. A. (1994), The case method in entrepreneurship teaching – a background paper to an EFMD debate, unpublished paper, Sheffield

Gibb, A. A. (2002), In pursuit of a new ‘enterprise’ and ‘entrepreneurship’ paradigm for learning: creative destruction, new values, new ways of doing things and new combinations of knowledge, *International Journal of Management Reviews*, Vol. 4 No. 3, pp. 233-269

Gibb, A. A. (2007), Creating the entrepreneurial university: do we need a wholly different model of entrepreneurship, In: A. Fayolle (eds.), *Handbook of Research in Entrepreneurship Education: Volume 1: A General Perspective*, Cheltenham, Edward Elgar, 2007, pp. 67-103

Gibb, A. A. (2008), Entrepreneurship and Enterprise Education in Schools and Colleges: Insights from UK practice, *International Journal of Entrepreneurship Education*, Vol. 6 No. 2, pp. 101-144

Goedhart, M. J. (2015), Changing perspectives on the undergraduate chemistry curriculum, In: J. Garcia-Martinez and E. Serrano-Torregrosa (eds.), *Chemistry Education: Best Practices, Opportunities and Trends*, Weinheim, Wiley-VCH, pp. 73-98
Grasha, A. F. (2002a), *Teaching with style: A practical guide to enhancing learning by understanding teaching and learning styles*, CA, Alliance Publishers

Gray, C. (1988), *Teaching styles in higher art education*, PhD thesis, University of Aberdeen

Gregory, J. (2002), Facilitation and facilitator style. In: Jarvis, P. eds. *The Theory and Practice of Teaching*, London, Kogan Page. 2002, pp. 79-93

Griffin, C. (2006), Didacticism: Lectures and lecturing. In: P. Jarvis, eds. *The theory and practice of teaching*, 2nd ed., New York, Routledge, 2006, pp. 73-89

Hanage, R., Scott, J. M. and Davies A. P. (2016), From “great expectations” to “hard times”: A longitudinal study of creative graduate new ventures, *International Journal of Entrepreneurial Behavior & Research*, Vol. 22 No. 01, pp. 17-38

Hattie, J. (2003), Teachers Make a Difference: What is the research evidence?, October, Australian Council for Education Research

Heimlich, J. E. and Norland, E. (2002), Teaching style: Where are we now?, *New Directions for Adult and Continuing Education*, Vol. 2002 N. 93, pp. 17-26

Higher Education Funding Council for England (HEFCE) (2016), Higher Education - Business and Community Interaction survey 2014-15, [online], Available from: http://www.hefce.ac.uk/media/HEFCE,2014/Content/Pubs/2016/201619/HEFCE2016_19.pdf [Accessed 25/02/2017]

Higher Education Statistics Agency (HESA) (2016), *Destination of Leavers From Higher Education in the United Kingdom for the Academic Year 2014/15*, [online]. Available from: https://www.hesa.ac.uk/news/21-07-2016/graduate-destinations [Accessed: 06/11/2016]

Higher Education Statistics Agency (HESA) (2017), *3890 new graduate start-ups in 2015/16: Results of 2015/16 HE Business and Community Interaction Survey Released*, [online], Available from: https://www.hesa.ac.uk/news/06-04-2017/HEBCI-graduate-start-ups-201516 [Accessed: 06/04/2018]

Huang, J. and Hang, L. (2011), A comprehensive approach for improving Chinese computing undergraduates’ entrepreneurial spirits, In: M. Zhu (ed.), *Information and Management Engineering: International Conference, Proceedings Part 5*, Heidelberg, Springer-Verlag, 2011, pp. 268-274

Hurney, C. A. (2012), Learner - Centred Teaching in Nonmajors Introductory Biology: The impact of Giving Students Choices, *Journal of Microbiology & Biological Education*, Vol 13 No. 2, pp. 133-141

Jarvis, P. (1995), *Adult and Continuing Education: Theory and practice*, 2nd ed., London, Routledge

Jarvis, P. (2006a), Teaching in a changing world, In: P. Jarvis, eds. *The theory and practice of teaching*, 2nd ed., New York, Routledge, 2006, pp. 03-15
Jarvis, P. (2006b), Teaching styles and teaching methods, In: P. Jarvis, eds. The theory and practice of teaching, 2nd ed., New York, Routledge, 2006, pp. 28-38
Jarvis, P. (2012), Paradoxes of learning: On becoming an individual in society, London, Routledge
Jayananda, A. B. C. and Mulholland, G. (2014a), Can British higher education institutions meet the challenge of developing more entrepreneurs?, [PowerPoint slides], Paper presented at: 3rd ISMO Conference, University of Greenwich, 8-9 December
Jones, B. and Iredale, N. (2010), Enterprise education as pedagogy, Education+Training, Vol. 52 No. 1, pp. 7-19
Jones, C., Matlay, H. and Maritz, A. (2012), Enterprise education: for all or just some?, Education+Training, Vol. 54 No. 8/9, pp. 813-824
Jones, P. and Maas, G. (2017), The Role of Entrepreneurship Centres, In: G. Maas and P. Jones (eds.), Entrepreneurship Centres: Global Perspectives on their Contributions to Higher Education Institutions, London, Palgrave, 2017, pp. 11-18
Jones, P., Maas, G. and Pittaway, L. (2017), Entrepreneurship Education: New Perspectives on Entrepreneurship Education, Bingley, Emerald Group Publishing
Joyce, B. and Weil, M. (1985), Models of teaching, Englewood Cliffs, Prentice Hall
Kandlbinder, P. (2013), Signature concepts of key researchers in higher education teaching and learning, Teaching in Higher Education, Vol. 18 No. 1, pp. 1-12
Katz, J. A. (2003), The chronology and intellectual trajectory of American entrepreneurship education 1876-1999, Journal of Business Venturing, Vol. 18 No. 02, pp. 283-300
Kember, D. (1997), A reconceptualization of the research into university academics’ conceptions of teaching, Learning and Instruction, Vol. 7 No. 3, pp. 255–275
Kember, D. (2009), Promoting student-centred forms of learning across an entire university, Higher Education, Vol. 58 No. 01, pp. 1-13
Kember, D. and Kwan, K. (2000), Lecturers’ approaches to teaching and their relationship to conceptions of good teaching, Instructional Science, Vol. 28 No. 05, pp. 469-490
Kennedy, K. (2016), A case study of college/rural community collaboration for project-based learning entrepreneurship education, In: K. A. Grant and S. Wise (eds.), Proceedings of the 4th International Conference on Innovation and Entrepreneurship, Reading, Academic Conferences and Publishing, 2016, pp. 122-130
Kirby, D. (2007), Changing the entrepreneurship education paradigm, In: A. Fayolle. eds. Handbook of Research in Entrepreneurship Education, Volume 1: A General Perspective, Cheltenham, Edward Elgar Publishing. 2007, pp. 21-45
Kirby, D. A. (2004), Entrepreneurship education: can business schools meet the challenge?, Education + Training, Vol. 46 no. 8/9, pp. 510-519
Kozlinska, I. (2016), *Evaluation of the outcomes of entrepreneurship education revisited: Evidence from Estonia and Latvia*, PhD thesis, University of Turku

Kuratko, D. F. (2009), *Entrepreneurship: Theory, Process, Practice, 8th ed.*, Mason, Cengage Learning

Kuratko, D. F. and Morris, M. H. (2018), Corporate Entrepreneurship: A Critical Challenge for Educators and Researchers, *Entrepreneurship Education and Pedagogy*, Vol. 1 No. 1, pp. 42-60

Li, M. (2015), Preface, In: M. Li and Y. Zhao (eds.), *Exploring Learning and Teaching in Higher Education*, Heidelberg, Springer, 2015, pp. v-xii

Liguori, E. *et al.* (2018), The Entrepreneurship Education Imperative: Introducing EE&P, *Entrepreneurship Education and Pedagogy*, Vol. 1 No. 1, pp. 5-7

Lippitt, R. and R. K. White (1958), An experimental study of leadership and group life, In: E. E. Maccoby, T. M. Newcomb and E. L. Hartley (eds.), *Reading in social psychology*, 3rd ed., New York, Holt Rinehart and Winston Inc., pp. 496-511

Lloyd-Reason, L. (2016), Preparing our students for an entrepreneurial life: are universities part of the solution or part of the problem, In: O. Nicolescu and L. Lloyd-Reason (eds.), *Challenges, Performances and Tendencies in Organizational Management*, Singapore, World Scientific Publishing, pp. 185-193

Lord Young (2014), Enterprise for All: The Relevance of Enterprise in Education, [online], Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/338749/EnterpriseforAll-lowres-200614.pdf [Accessed: 28/09/2014]

Magnan, R. A. (2013), *Discover design pattern thinking: Applying new design techniques to improve our mental operacy*, Bloomington, Xlibris LLC

Maiksteniene, K. (2013), Encouraging Enquiry-Based Learning: A Ten-Sentence Case That Expands Itself, In: E. Doyle, P. Buckley and C. Carroll (eds.), *Innovative Business School Teaching: Engaging the Millennial Generation*, New York, Routledge, 2013, pp. 59-69

Marriss, D. (2011), Academic staff development, In: A Mcintosh, J. Gidman & E. M. Whitehead (eds.), *Key concepts in healthcare education*, London, Sage, 2011, pp. 01-05

Matlay, H. (2005), Entrepreneurship education in UK business schools: conceptual, contextual, and policy considerations, *Journal of Small Business and Enterprise Development*, Vol. 12 No. 4, pp. 627-643

Matlay, H. (2008), The impact of entrepreneurship education on entrepreneurial outcomes, *Journal of Small Business and Enterprise Development*, Vol. 15 No. 2, pp. 382-396

McComas, W. F. (2013), *The Language of Science Education: An Expanded Glossary of Key Terms and Concepts in Science Teaching and Learning*, Rotterdam, Sense Publishers
Mohan, R. (2007), *Innovative science teaching: For physical science teachers*, 3rd ed., New Delhi, PHI Learning

Morris, M. H. and Liguori, E. W. (2016), Preface: Teaching reason and the unreasonable, In. M. H. Morris and E. W. Liguori (eds.), *Annals of entrepreneurship education and pedagogy* (Vol. 2), Cheltenham, Edward Elgar, pp. xiv – xxii

Nabi, G., Walmsley, A. and Holden, R. (2015), Pushed or pulled? Exploring the factors underpinning graduate start-ups and non-start-ups, *Journal of Education and Work*, Vol. 28 No. 05, pp. 481-506

Neck, H. M., Greene, P. G. and Brush, C. G. (2014), The practice of experimentation, In: H. M. Neck *et al.* (eds.), *Teaching entrepreneurship: A Practice-based approach*, Cheltenham, Edward Elgar, pp. 70-83

Noroozi, B. and Haggi, A. K. (2013), Distance Learning, Virtual Classroom, and Teaching Pedagogy in the Internet Environment, In: R. Luppicini and A. K. Haggi (eds.), *Education for a Digital World: Present Realities and Future Possibilities*, Oakville, Apple Academic Press, 2013, pp. 119-132

O’Brian, S. (2009), Classes - preparation and participation, In: M. Abbott (ed.), *History Skills: A student’s handbook*, 2nd ed., London, Routledge, 2009, pp. 51-72

O’Connor, A. (2015), Questioning the ethics of university entrepreneurship curriculum, In: S. Hoskinson and D. F. Kuratko (eds.), *The challenges of ethics and entrepreneurship in the global environment*, Bingley, Emerald Group Publishing, 2015, pp. 79-108

OECD (Organisation for Economic Co-operation and Development) (2013), *Entrepreneurship at a Glance 2013*, [online], Available from: http://www.oecd-ilibrary.org/docserver/download/3013011e.pdf?expires=1415200951&id=id&accname=guest&checksum=8EDFFABEB90A5B15285EA3A0FD8CD900 [Accessed: 14/06/2014]

Pittaway L. and Edwards C. (2012), Assessment: examining practice in entrepreneurship education, *Education & Training*, Vol. 54 No.8/9, pp.778-800

QAA (Quality Assurance Agency) (2012), Enterprise and entrepreneurship education: Guidance for UK higher education providers, (September) [online], Available from: http://www.qaa.ac.uk/en/Publications/Documents/enterprise-entrepreneurship-guidance.pdf [Accessed 15/05/2014]

QAA (Quality Assurance Agency) (2018), Enterprise and Entrepreneurship Education: Guidance for UK Higher Education Providers (January), [online], Available from: http://www.qaa.ac.uk/en/Publications/Documents/Enterprise-and-entrepreneurship-education-2018.pdf [Accessed: 20/02/2018]

Rae, D. *et al.* (2014), Freedom or prescription: the case for curriculum guidance in enterprise and entrepreneurship education, *Industry & Higher Education*, Vol. 28 No. 6, pp. 387-398

Ramsden, P. (1992), *Learning to teach in higher education*, London, Routledge
Ramsden, P. (2003), *Learning to teach in higher education*, 2nd ed., London, Routledge
Salama, A. M. (2015), *Spatial Design Education: New Directions for Pedagogy in Architecture and Beyond*, Farnham, Ashgate Publishing
San Tan, S. and Ng, C. F. (2006), A problem-based learning approach to entrepreneurship education, *Education + Training*, Vol. 48 No. 04, pp. 416-428
Saridakis, G., Iskandarova, M. and Blackburn, R. (2016), Student Entrepreneurship in Great Britain: Intentions and Activities, The British Report of the 2016 GUESSS Project, Small Business Research Centre, Kingston University, UK
Schindehutte, M. and Morris, M. H. (2016), The experiential learning portfolio and entrepreneurship education, In: M. H. Morris and E. Liguori (eds.), *Annals of entrepreneurship education and pedagogy - 2016*, Cheltenham, Edward Elgar Publishing, 2016, pp. 161-175
Shaari et al. (2014), The relationship between lecturer’s teaching style and students’ academic engagement, *Procedia - Social and Behavioural Sciences*, No. 118, pp. 10-20
Singh, Y. K., Sharma, T. K. and Upadhya, B. (2008), *Educational technology: Teaching and learning*, New Delhi, APH Publishing
Solomon, G. and Matthews, C. (2014), The curricular confusion between entrepreneurship education and small business management: a qualitative analysis, In: M. H. Morris (ed.), *Annals of entrepreneurship education and pedagogy - 2014*, Cheltenham, Edward Elgar, 2014, pp. 91-115
Sorvatzioti, D. F. (2012), The Socratic Method of Teaching in a Multidisciplinary Educational Setting, *International Journal of Arts and Science*, Vol. 5 No. 5, pp. 61-71
Tavangar, H. (2016), Mentoring and guidance the role of adults, In: Y. Zhao et al. (eds.), *The take-action guide to world-class learners: Personalised education for autonomous learning and student-driven curriculum*, Thousand Oaks, Corwin, 2016, pp. 105-128
Teichler, U. (2009), Types, Ranks and Profiles: The patterns and causes of diversity in higher education, *Journal of Agriculture and Rural Development in the Tropics and Subtropics*, Vol. 91, pp. 115-132
Thompson, M., Mawson, S. and Martin. F. (2017), *Social Entrepreneurs: Can They Change the World? : High-Impact Social Ventures*, 2nd ed., London, Palgrave
Tokuhama-Espinosa, T. (2014), *Making classroom better: 50 Practical application of mind, brain, and education science*, New York, W. W. Norton & Company
Trigwell, K. and Prosser, M. (2004), Development and Use of the Approaches to Teaching Inventory, *Educational Psychology Review*, Vol. 16 No. 4, pp. 409-424
Trigwell, K., Prosser, M. and Waterhouse, F. (1999), Relations between teachers’ approaches to teaching and students’ approaches to learning, *Higher Education*, Vol. 37, pp. 57-70
Turner, J. and Mulholland, G. (2017), Enterprise education: Towards a framework for effective engagement with the learner of today, *Journal of Management Development*, Vol. 36 No. 6, pp. 801-816

Turner, J. J. and Mulholland, G. (2018), *International Enterprise Education: Perspectives on Theory and Practice*, Oxon, Routledge

Vanevenhoven, J. and Drago, W. A. (2015), The structure and scope of entrepreneurship programs in higher education around the world, In: D. Rae and C. L. Wang (eds.), *Entrepreneurial Learning: New perspectives in research, education and practice*, Oxon, Routledge, pp. 117-133

Venesaar, V. (2008), Teaching Entrepreneurship and Business Planning at Tallinn University of Technology, In: P. V. D. Sijde et al. (eds.), *Teaching Entrepreneurship: Cases for Education and Training*, Heidelberg, Physica-Verlag, (2008), pp. 15-21

Volkmann, C. K. and Audretsch, D. B. (2017), Entrepreneurship Education at Universities: Learning from Twenty European Cases, Cham, Springer

Weber, S. and Funke, S. (2014), A research- and evidence-based entrepreneurship education program at Ludwig-Maximilians University (LMU), Munich, In: S. Weber et al. (eds.), *Becoming an entrepreneur*, Rotterdam, Sense Publishers, 2014, pp. 177-196

Weston, C. and Cranton, P. A. (1986), Selecting instructional strategies, *The Journal of Higher Education*, Vol. 57 No. 03, pp. 259-288

Wilson, T. (2012), A Review of Business-University Collaboration [Online], Available from: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/32383/12-610-wilson-review-business-university-collaboration.pdf [Accessed 12/03/18]

Zunfeng, L. and Chunling, Z. (2011), Research on entrepreneurship education based on E-Commerce, In: M. Zhu (ed.), *Information and Management Engineering: International Conference, Proceedings Part 5*, Heidelberg, Springer-Verlag, 2011, pp. 381-388