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Chidimma Odira Okeke
David Gun Fie Yong

Multimedia University, Cyberjaya, Malaysia

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Assessment of entrepreneurship pedagogy on entrepreneurship knowledge and entrepreneurial human capital asset: A conceptual model

Chidimma Odira Okeke

Faculty of Management
Multimedia University, Cyberjaya, Malaysia
E-mail: chidiodira@gmail.com

David Gun Fie Yong*

Faculty of Management
Multimedia University, Cyberjaya, Malaysia
E-mail: gfyong@mmu.edu.my

*Corresponding author

Abstract: This study is an effort to propose a conceptual model to measure the impact assessment of entrepreneurship pedagogic. It delineates entrepreneurship education pedagogic into four dimensions and opined specific level for each dimension. Reviewing the entrepreneurship education programme, assessment of entrepreneurship pedagogic evaluates the structure that influence growth mindset development through embedded heuristic strategies, thus, the impact on entrepreneurship knowledge and entrepreneurial capital asset context is proposed. Affirming Fayolle, Gailly, and Lassa-Clerc conceptual affinity that entrepreneurship education share with learning theories and entrepreneurship pedagogical content knowledge were conceptualized to suggest some practical realism guidelines of what insightful philosophy of teaching entrepreneurship need to achieve. With direct synthesis of relevant literature, propositions relating to entrepreneurship pedagogic structure along with the institutional connectedness and associated dimensions of entrepreneurship pedagogic assessment outcome were postulated. Also, the paper proposes the need for further assessment of specific forms of pedagogic impact on entrepreneurial human capital asset.

Keywords: Entrepreneurship education; Entrepreneurship knowledge; Assessment; Entrepreneurship pedagogic; Institutional connectedness

Biographical notes: Chidimma Odira Okeke is a doctoral candidate at Faculty of Management, Multimedia University Malaysia. His current research focus is on assessment of entrepreneurship pedagogy and other areas of research interest include entrepreneurship education, entrepreneurship knowledge management, human capital development and entrepreneurial capital assets.

Dr. David Gun Fie Yong is an Associate Professor in the Faculty of Management, Multimedia University Malaysia. He teaches Strategic Management, International/Global Management, Global Marketing, Marketing Management, Service Business Management and Organizational Behaviour and his areas of research topics include strategic management, management, organizational behavior, marketing and higher education.

1. Introduction

The concept of assessment of entrepreneurial pedagogy can be defined as an active model of instruction that is premised through active participation of students to initiate and comprehend creativity, encourage field thinking skills, and resourceful use of networks to activate transformative learning (Fayolle, Gailly, & Lassas-Clerc, 2006). Scholars opined assessment of entrepreneurial pedagogy as a measure for evaluating the educators' transformative cognitive form of transmitting knowledge. It imbibes systematic process to reframe students' mindsets to be ready for reflective learning, self-efficacy, personal development along with the potent force of applicability of theory to real life experience (Cheng, Chan, & Mahmood, 2009; Duval-Couetil, 2013).

Indeed, the inquest into the assessment of entrepreneurship education has attracted scholars' significant interests. This has led to informed research on identification and diffusion of effective instructional practices (Fiet, 2000), entrepreneurship didactics of contents (Azim and Al-kahtani, 2014), as well as structures of entrepreneurship pedagogics to effectively advance schemas of skills to support creativity and growth mindset (Fayolle & Toutain, 2013; Bell, 2015). However, contemporary studies on entrepreneurship education program considers developing assessment tools for entrepreneurial pedagogy as pertinent to specific evaluation of investment in human capital development. In addition, understanding the impact on students' mindset signifies a premise towards creativity, knowledge creation and entrepreneurship human capital assets outcome (Cheng, Chan, & Mahmood, 2009; Unger, Rauch, Frese, & Rosenbusch, 2011; Fayolle & Toutain, 2013; Ahmad, Ismail, & Buchanan, 2014).

Fayolle, Gailly, and Lassas-Clerc (2006) entrepreneurship assessment model has drawn strong empirical postulations on entrepreneurial intentions and students perceived behavioural control. Gries and Naude (2011) in evaluating entrepreneurship education and human capital development argued that the capability approach is fundamental to the functioning of institutions, theories of teaching and effectual impact on resource capital assets. Subsequently, scholarly exposition of Acs and Szerb (2010) attest that teaching entrepreneurship as a resource capital assets should consider its impact on students' mindset as well as the transitive process from factor-driven and efficiency-driven stages into the holistic innovative-driven stage. This encourages the mindset of entrepreneurial knowledge and effectual outcome on human capital assets and economy.

Interestingly, earlier research on assessment of entrepreneurship education have focused more on entrepreneurship curriculum, entrepreneurial intentions and behavioural outcome (Fayolle, Gailly, & Lassas-Clerc, 2006; Cheng, Chan, & Mahmood, 2009; Neck & Greene, 2011; Ahmad, Ismail, & Buchanan, 2014). Nevertheless, recent assessments of entrepreneurship education are yet to situate the role and impact of pedagogy in classroom structure and teaching (Pittaway & Edwards, 2012). For a realistic and hypothetical proposition, Ahmad, Ismail, and Buchanan (2014) investigated the curriculum of entrepreneurship education on levels of teachability and capacity of Malaysian polytechnics for entrepreneurship knowledge transfer. However, the concept of pedagogic framework to assess content specificity, entrepreneurial knowledge and decisional capital are quite lacking in measuring the impact on students' growth mindset development as the foundation to capture the needed entrepreneurial knowledge and entrepreneurship human capital asset.

In view of these gaps, this study proposes a conceptual model to assess the entrepreneurship education pedagogy impact along with the institutional connectedness of teacher support and career ambitions in the acquisition of entrepreneurship knowledge and entrepreneurial human capital assets outcome. Empirical studies from Gibb (2011), Pittaway and Edwards (2012), Martin, McNally, and Kay (2013), and Ahmad, Ismail, and Buchanan (2014) have advocated that the lack of assessment education of the pedagogic outcome impairs level of capital knowledge accumulation, education capacity to measure actual/in-depth intellectual dimensions as well as the scarcity in entrepreneurial skills and employability development in non-advanced economies. By incorporating some of the entrepreneurship education pedagogic views, the proposed conceptual model evaluates some of the premise for the process of entrepreneurship pedagogic assessment outcome.

To capture these fundamentals, this paper expands Fayolle, Gailly, and Lassas-Clerc (2006) evaluation of entrepreneurship education program (EEP) assessment model, which explains the entrepreneurial intentions and behaviours. As such, the conceptual model draws on the learning theories of entrepreneurship education psychology research literature to explain the rethinking and reconceptualization of entrepreneurship pedagogic. This paper is organized by discussing the conceptual background of entrepreneurship pedagogics, with the subsections elucidating the assessment practice and assessment of entrepreneurship pedagogic. This paper is organized by discussing the conceptual background of entrepreneurship pedagogics, with the subsections elucidating the assessment practice and assessment of entrepreneurship pedagogics. The hypothesized relationships of the conceptual models are developed and examined. In addition, presented ahead before relevant conclusion is drawn, are the theoretical contributions and practical implications.

2. Conceptual background

2.1. Exposition of assessment practice

Assessment describes the educational evaluation and systematic review of student's performance of knowledge transmitted by educators/teachers with the aim of the development and improvement of student knowledge (Banta & Palomba, 1995). Illuminating the concept of assessment, Pittaway, Hannon, Gibb, and Thompson (2009) described it as the assuring method of "*educational standard*" - through a combined metrics of summative, formative (educative assessment), diagnostic (initial assessment), norm-referenced and interim/benchmark assessments to teach, predict performance as well as receive feedbacks from students. Draycott, Rae, and Vause (2011) ascertained that assessment measures real/actual accomplishment with reference to quality standards to inform educational investment outcomes (human capital) in terms of social and economic level in society. Thus, considering assessment as a core factor in the value chain of learning structure, and the impact on classroom teaching design, is significant to create knowledge with substantial human capital assets.

To this end, efficiency and efficacy of assessment practice in entrepreneurship education pedagogic should develop robust and systematic model to measure specifics - reliability (stability and repeatability) and validity (elucidates values) for quality sustainability (Fayolle & Gailly, 2008; Duval-Couetil, 2013). At the reliability stage, the educator's curriculum structures are considered along with forms of EE, to ensure the right deep thought capacity to develop detailed strategic approach to instructional design. While the validity stage evaluates analytic measures to ensure robust feedback channel to

create confidence as well as strategic collaboration with external environment for constant reproduction of needed skills, knowledge and human capital formation (Draycott, Rae, & Vause, 2011; Duval-Couetil, 2013; Martin, McNally, & Kay, 2013).

Furthermore, rather than extending the norm of traditional approach of assessment that considers more on program institutional development, this model will reflect more on the impact of entrepreneurship education pedagogic on individual student growth mindset, with focuses on value-knowledge creation beyond understanding, knowing, and talking; rather it requires using, applying and acting (Neck & Greene, 2011). This process creates a pattern for sustainable assessment methodology to measure the knowledge transmitted to students and the standards for entrepreneurship educators. Accordingly, the semblance of the validity and reliability of the entrepreneurship programs is produced in the form of value creation and human capital investment outcomes (Duval-Couetil, 2013).

According to Martin, McNally, and Kay (2013), the dynamics of human capital formation outcome through entrepreneurship education is assessed by delineating the educational teachers' support influence on students' skill development competency. In other words, the support a teacher provides their students to develop their competencies sets the boundaries for the individual student to experience it as an asset or liability (Welter & Smallbone, 2011). To advance entrepreneurship pedagogy, this paper posits the assessment of curriculum structure along with forms of entrepreneurship education influence to reframe students' growth mindset (Haynie, Shepherd, Mosakowski, & Earley, 2010) and thus, evaluate the impact on individual students' cognitive and non-cognitive entrepreneurial skills for collective entrepreneurship knowledge creation and human capital assets (Martin, McNally, & Kay, 2013; Moberg, 2014).

2.2. Description of entrepreneurship education pedagogics assessments

The purpose of pedagogical assessment is attained when plans and tutoring stratagems are recognised through capacity development that attempt to connect both educators and learners with shared in-depth learning bond between schools and external stakeholders. As such, this assessment model is the tool to develop framework that will measure in specific, perceived skills acquired, level of growth mindset, and entrepreneurship knowledge as the premise to attain long term objectives of assessment outcomes e.g. know-how, and entrepreneurial related career (Kolvereid & Amo, 2007; Heuer & Kolvereid, 2014).

Evidently, the new challenges for educators in teaching entrepreneurship, identified as contextual, didactic, pedagogical, and attitude are psychological constructs, as such, if the assessment framework tool is developed, the value of teacher-to-learner knowledge transfer as catalyst to entrepreneurship pedagogic assessment outcome can be explored (Mwasalwiba, 2010; Hatak, 2011; Ruskovaara & Pihkala, 2013).

Indeed, in explicating the pedagogic of entrepreneurship education, key metrics such as personality, motivation, curricula context, content knowledge, forms of entrepreneurship education and skills remain active in process of knowledge creation (Draycott, Rae, & Vause, 2011; Pittaway & Edwards, 2012; Rih & Guedira, 2014). However, the concept about preparing student to be innovative and independent about the complex social and economic dynamics along with the production of knowledge capital is premised on dynamisms of the learning process. This involves the shared experiences and exchanges among individuals to be able to access information and the development of tacit knowledge, significant in developing graduates that can articulate learning and raise self confidence (Fayolle & Toutain, 2013; Heuer & Kolvereid, 2014). The

underlying suggestions, with the conceptual model, are explained in the subsequent section.

3. Conceptual model to explicate entrepreneurship education pedagogics, entrepreneurship pedagogic assessment outcome and institutional connectedness

As elucidated by Linan, Fernandez-Serrano, and Romero (2013), entrepreneurship education pedagogic assessment evaluates, in specifics, the impact of instructional, teaching designs and curriculum structures at students' levels: the skills, knowledge and human capital assets with common identified competence. Conversely, the diffusion of entrepreneurship pedagogic is aptly captured as the discrete foundation to transform skills and innovative capacity to value frames of entrepreneurial capital assets (Fiet, 2000). Fayolle, Gailly, and Lassas-Clerc (2006) developed EEP assessment model to develop behavioural intensions and attitude. Similarly, to explain entrepreneurship education assessment, this study considers critical literature referencing entrepreneurship education (Cheng, Chan, & Mahmood, 2009), pedagogical content knowledge (Shulman, 1986), experiential learning pedagogy (Kolb, 1984; Fiet, 2000), and conceptual studies on creativity (Amabile, 1996; Hamidi, Wennberg, & Berglund, 2008).

As revealed in Fig. 1, the conceptual model describes entrepreneurship education pedagogic into curriculum structures and forms of EE to understand its impacts on student's growth mindset as well as its relationship to entrepreneurship knowledge and human capital assets outcome. The following sections expound the constructs as well as their relationships, and the fundamental propositions of the assessment tool.

4. Entrepreneurship education pedagogic

Scholars (Fayolle, Gailly, & Lassas-Clerc, 2006; Pittaway, Hannon, Gibb, & Thompson, 2009; Martin, McNally, & Kay, 2013) suggested that delineating entrepreneurship education assessment as the discrete measure used to clarify clear effective and efficient impact of entrepreneurship. Empirical studies (Linan & Chen, 2009; Linan, Fernandez-Serrano, & Romero, 2013) showed that right mix of curriculum structure along with forms of entrepreneurship education evolves individual's mindset, competency development, knowledge reactivation and awareness of values towards realistic entrepreneurial capital assets.

Fiet (2000) in explaining the dynamic role of teachers for effectual entrepreneurship education postulated the assessment of multilevel transformative teaching phenomenon. Wherein, the higher level of outcome involves teacher's mastery of content knowledge with relevant theory, and other strategic designs to attain entrepreneurial competencies. More importantly, the design of pedagogic approach that foster curriculum structure of knowledge that is beyond learning theory, which encompasses forms of education to institutionalize evolved mindset to make social and economic impact (Haynie, Shepherd, Mosakowski, & Earley, 2010; Lundqvist & Middleton, 2013).

Following Fayolle, Gailly, and Lassas-Clerc (2006), scholars of entrepreneurship education assessment concept have argued for the need to clarify the impact of pedagogic rather than limit to study on entrepreneurial intensions and outcomes at individual stage (Fayolle & Toutain, 2013; Moberg, 2014). Hamidi, Wennberg, and Berglund (2008)

postulated that individual's ability to gain creative and innovative knowledge is premised on fundamental pedagogic as predictors to salient cognitive capacity, while the assessment of entrepreneurship education pedagogic is a prerequisite for skills value renaissance and knowledge performance (Fayolle & Toutain, 2013; Chang, Tsai, & Peng, 2014). Herbel-Eisenmann, Lubienski, and Id-Deen (2006) study empirically documented the effect of pedagogic assessment in educational psychology to explain teacher's competence in developing instructional materials based on the aims and objectives of the scope of study to be attained.

Advancing similar paradigm, the present concept leverage on Kirkpatrick's framework on the level of educational assessment i.e. student satisfaction, knowledge and skill competency acquired, change of mindset, and the desired outcome attained as direct response to assessing entrepreneurship pedagogic, thereby justifying the current theoretical propositions. In extending the pedagogical content knowledge (Shulman, 1986), forms of entrepreneurship education (Mwasalwiba, 2010), the assessment impact of entrepreneurship pedagogic structure, are postulated. The impact assessment of entrepreneurship education pedagogic structure constitute of curriculum structures (i.e. context knowledge, content knowledge, and content delivery) and forms of EE that predicts the impact on student's growth mindset, while the institutional connectedness is hypothesised to be moderating relationship between student growth mindset and entrepreneurship knowledge creation along with entrepreneurial human capital assets.

4.1. Curriculum context knowledge

Shulman (1986) contended that curriculum context knowledge (i.e. teacher's subject matter knowledge) is a significant decisive factor to high-quality teaching. Amabile (1996) related it as prior knowledge which is a precipitates of individual capacity to produce transferable knowledge. Comparably, teacher's prior intelligence of context knowledge functions is fundamental for the transformative catalyst of knowledge transfer, skill development and informs minds to create innovative frames of concept for students' action.

Cochran, King, and DeRuiter (1991) found that teacher's curriculum context knowledge influences the subject matter know-how, and consequently, enhances the fundamentals that shape the student's basis for new knowledge. Shulman (1986) validated contextual knowledge of educators as the link between effective transfer of theory and concepts into teachable forms. Given teacher's individual capacity to teach, Amabile (1996) illustrated that individual teacher's domain of contextual knowledge is a factor to develop specialist knowledge and practical adeptness which reflects on the creativity of student's know-how. Scholars in educational psychology (Leach & Moon, 2000; Shulman & Shulman, 2004; Ellis, 2007) attested that individuals' level of curriculum context knowledge in relevant disciplines has influence on how expertise in ideology and knowledge are transmitted with a touch of transformational initiatives.

In addition, research has investigated the dynamic of social complex system (Ellis, 2007), and communal collective knowledge (Akmaliah, Pihie, & Hamzah, 1997) on curriculum context knowledge. For example, Shulman and Shulman (2004) substantiated that educators' insights of context knowledge contribute to the individual development, as well as connectedness with the curriculum, to enhance teacher's planning towards fostering constructive classrooms. Empirical study on teachers' capacity confirmed student's intellectual and social work adeptness to knowledge is related to the continuous assessment of teacher's curriculum and classroom designs (Ellis, 2007).

Premised on the above, it can be argued that curriculum context knowledge can impact teaching, develop transformative mindsets, and thus, enforce the creation of new knowledge and entrepreneurial human capital assets. As noted by Crossan, Lane, and White (1999) expert intuition of individual is predicated on the ability to accumulate and assimilate knowledge within the right frame of reference. Through curriculum context knowledge, teachers’ are able to practise classroom vision of communal learning, engage concepts and design instructional practice needed for transformative learning experience (Shulman & Shulman, 2004; Ellis, 2007). Based on the above, the following proposition is suggested:

P1a: Teachers’ curriculum context knowledge is a positive factor which impacts the development of students’ growth mindset

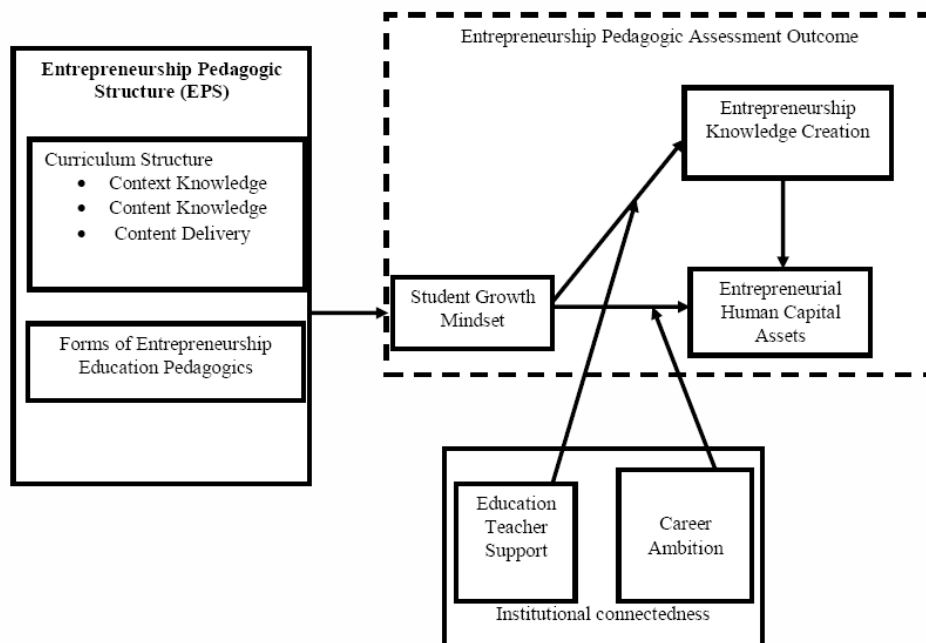


Fig. 1. Conceptual model of assessing entrepreneurship education pedagogics, entrepreneurship pedagogics assessment outcome, and institutional connectedness

4.2. Curriculum content knowledge

Cochran, King, and DeRuiter (1991) explained that content knowledge serves as the foundation of teaching and knowledge that delineate teachers’ competence rather than just being subject-matter experts. Basically, the process of attaining creative competence skills is a function of effectual application of content knowledge (Amabile, 1996). Furthermore, Gibb (2011) contended that entrepreneurship content knowledge assessment ensures the embedded structure of pedagogies that initiate innovative delivery and redefine conceptual barriers for knowledge and human capital formation.

Furthermore, the logic for the assessment of curriculum content knowledge is to enhance teachers’ process of transforming context knowledge into nodes of information, analogies, problems and classroom functions that facilitate the catalytic creation of

entrepreneurial key competence (Cochran, King, & DeRuiter, 1991; European Commission, 2011). Basically, curriculum content knowledge predicts the framework for intellectual entrepreneurship, along with transformative instruction mechanisms to curriculum delivery plan (Cherwitz & Sullivan, 2002).

Theorizing on teachers' proclivity towards teaching, instructional strategy, and assessments in classroom setting, Gravier and Farris (2008) emphasized that content knowledge relates to delineating curriculum, developing content and skill taught as well as refining teaching methods. As such, Bausmith and Barry (2011) agreed that content knowledge assessment can persuade and impact teaching, learning and determine educational investment outcomes.

Task performance in entrepreneurship pedagogic requires transformative teaching, which elucidates innovation as the result of entrepreneurial behaviour (Gibb, 2011). Another related empirical study on content knowledge is the Kolb's learning model of adopting reflective observation and concrete experience to build content knowledge, thereby enrich students' creative and intellectual assimilation, skill process to form abstract and active inclination of entrepreneurship (Dana 1987; Gorman, Hanlon, & King, 1997). Premised on the above, the following proposition thus ensues:

P1b: *Teacher curriculum content knowledge is a positive factor in developing the right frames for students' growth mindset*

4.3. Curriculum content delivery and forms of entrepreneurship education (EE) pedagogic

Both content delivery and forms of entrepreneurship pedagogic assessments are salient determinant factor to holistic students' learning development (Bechard & Toulouse, 1991; 1996). Creative researchers opined that forms of education and delivery content pattern predicts learning outcome, and conversely, are dependent on teachers' method along with approach philosophy to education as well as educational objectives of the curriculum (Amabile, 1998; Mwasalwiba, 2010).

The literature on entrepreneurship education indicates that content delivery and forms of EE pedagogic elucidates more than didactic teaching, they rather expound the process of competency development (Fiet, 2000), entrepreneurship skill knowledge (Fayolle & Gailly, 2008) and apt capacity to strategic thinking (Mwasalwiba, 2010). However, assessment of content delivery and forms of EE pedagogic, conversely, has significant measures to achieve teaching philosophy that broadens, educates and inspires mindset to develop innate capacity, thereby stimulating value creation attitude (Fayolle & Gailly, 2008; Pittaway & Edwards, 2012).

White, Hertz, and D'Souza (2011) in their groundwork with the goal to propose a theory to boost teaching performance reinforced that the assessment of entrepreneurship education is the basis of sustaining a curriculum that creates knowledge. Fayolle and Gailly (2008) envisaged robust content delivery and forms of EE pedagogic as the precursor to building relevant schemas of knowledge in theory, and also unique factors in recognizing human powers (Trivedi, 2014). As noted by Williams Middleton and Donnellon (2014), this taxonomy ensures the delivery of specific contents and forms of EE pedagogic that is consistent even in the face of ambiguous didactic concept.

With respect to the assessment of content delivery and forms of EE pedagogic, Develay (1992) diffused diverse forms of content delivery and forms of entrepreneurship to teach entrepreneurship as a craft to science. The fundamental is to craft systematic

educative approach to understand diverse context, ideas, and perceptions inherent in the study of entrepreneurship. As clarified, Fayolle and Gailly (2008), demonstrated the paradigm of interactionism philosophy that allows teacher-student orientation as active recipients and participants in the co-construction of their knowledge.

Consequently, the assessment is to measure the impact of knowledge or skill to meet expected performance standards, whereby the innate capacities of schools to develop instructions to stimulate mental and mindset growth are maintained. Therefore, the following propositions are anticipated:

P1c: Teachers' curriculum content delivery is a positive factor to the development of student mindset

P2: Teachers' form of entrepreneurship pedagogic adopted is a positive factor to the development of student mindset

5. Entrepreneurship pedagogic assessment outcome

5.1. Student growth mindset

Following Dweck (1999), mindset is individual's perception and belief to trust ones intelligence, talents and ability to achieve most basic activities. Research has established that students' perception of their intellect ability is premised on their mindset before or during the period of taking any subject. However, this perception has significant effect on students' motivation, performance, success and intended learning outcome (Merriam, Caffarella, & Baumgartner, 2007; Dweck, 2010; Auten, 2013).

Fundamental to growth mindsets is the assessment of pedagogic, the development of intelligence capability to embrace challenge, persisting despite obstacles, seeing effort as part of mastery, learn from criticism and be inspired by other people's success. Equally, research has emphasized that the gradual development of students' intelligence has shown strong correlation with academic performance compared to real intelligence score (Sternberg, 2005). This capacity formation process can lead to proactive attitude to innovation as well as positive desire to entrepreneurship education and entrepreneurship knowledge exploit (Farrington et al., 2012; Auten, 2013).

According to Rheinberg, Vollmeyer, and Rollett (2000) and Doidge (2007) a teacher's mindset, which students perceive as in the forms of attitude, perception and instructional patterns, significantly impacts students' academic performance as well as motivate entrepreneurial capital formation. This suggests that the assessment of entrepreneurship pedagogic is fundamental to instruct intelligence and cognitive refinement to meet the challenge of knowledge intensified environment (Lindquist & Lindquist, 2008; Dweck, 2010). As a result, it is postulated that:

P3a: Student with entrepreneurial growth mindset has the capacity to develop positive disposition to entrepreneurship knowledge creation

P3b: Student with entrepreneurial growth mindset has the capacity to develop positive competency to entrepreneurial human capital assets

5.2. *Entrepreneurship knowledge and entrepreneurial human capital assets*

Entrepreneurship education has been posited as a pertinent theoretical foundation to predict the formation of quality human capital development (i.e. knowledge, skills and related competency) (Mincer 1958; Becker, 1964). As noted by Ployhart and Moliterno (2011) they showed high level of positive link between entrepreneurship knowledge and better human capital assets in terms of performance and output.

To buttress the rationale between entrepreneurship human capital assets and entrepreneurship education, Unger, Rauch, Frese, and Rosenbusch (2011) diffused it in three main broad perspectives: intent to initiate new venture or business (Athayde, 2009); entrepreneurial competency, skills and entrepreneurship knowledge (DeTienne & Chandler, 2004; Fayolle, Lassas-Clerc, & Tounes, 2009); and positive disposition and perception to entrepreneurial career (Peterman & Kennedy, 2003; Souitaris, Zerbinati, & Al-Laham, 2007). Based on research assertions, the assessment of investment in knowledge-intense skills and competency has demonstrated their influence on the output of human resources available for efficiency and innovative capital (Honig, 2004; Sarasvathy, 2008).

In a different context, Sonnentag (1998) expounded that the pedagogy of education (i.e. instructional design, forms of education, teacher's mindset) is significant to show how human capital development formation is attained. Martin, McNally, and Kay (2013) in their meta-analysis of academic entrepreneurship education, showed the significant outcome of entrepreneurship knowledge creation, competency, and entrepreneurial capital assets. To this end, it demonstrates that, with a broad and dynamic assessment framework concept premised on theoretical content, it can enhance students' learning process to develop critical analytic frame of ambiguous and dynamic events to sustain success for long-term (Unger, Rauch, Frese, & Rosenbusch, 2011; Martin, McNally, & Kay, 2013).

Thus, positive outcome is predicted on the type of formal education, training, experience, skills and knowledge collectively acquired to the required level of human capital assets. The dynamics of learning process influences individual's capability to utilize knowledge and this competence can be measured on methods through which the knowledge is transmitted and transformed (Nemanich, Keller, Vera, & Chin, 2010). Therefore, based on the above studies and discussions, the following proposition is suggested:

P4: Student with competency in entrepreneurship knowledge creation has the capacity to develop positive correlate capability to influence entrepreneurial human capital assets

6. Institutional connectedness for educational teacher's support and career ambition

As a critical unit in formation process, teachers' capacity to educate and produce competent human capital is pertinent to the development of curricula, employing the right pedagogy as well creating a decent classroom environment for professional development are very essential (Seikkula-Leino, 2008). However, Fayolle, Gailly, and Lassas-Clerc (2006) specified that institutional setting mechanisms can evolve as a factor that influences industrial and external stakeholders to enhance entrepreneurship knowledge and entrepreneurial career intensions.

On educational psychology, Shulman and Shulman (2004) argued that teachers' predisposition to education motivates student's response to induce motivation, integrate vision, reflect understanding and develop pragmatic reality within the classroom environment. Through their engagement in knowledge transmission and assimilation process, students' are connected to authentic, real and task related value to produce the right willingness to attain desired educational objectivity (Brophy, 2013). As such, Fayolle, Gailly, and Lassas-Clerc (2006) found that teachers support and institutional connectedness to industry realism represent to students the push, within realistic boundaries, of significant norms for entrepreneurship education.

According to Moberg et al. (2014), assessment study, purposeful and authentic entrepreneurship pedagogic can align students' acquired knowledge, skills and competence to establish the positive connectedness to entrepreneurship career. It is pertinent to understand the assessment level of student connectedness to knowledge transmitted through formal academic process in real life assignment and as such, evaluate if their skills set will really be effectual to future demands of the work environments (Moberg, 2014). Moreover, the present educational initiative requires high and greater need for increased knowledge creation to produce the right human capital for future skills demand (Matlay, 2008; Fayolle, Lassas-Clerc, & Tounes, 2009; Fayolle & Gailly, 2015). Thus, the following propositions are suggested:

P5: The higher the level of teachers' educational support to student, the more likely that student's growth mindset will lead to entrepreneurship knowledge

P6: The higher the level of connectedness to entrepreneurial career ambition, the more likely that student's growth mindset development will lead to entrepreneurial human capital asset

7. Contribution and implications

This study is expected to make significant contributions to the developmental perspective which Becker (1964) and Schumpeter (1934) opined that human capital development investment is accomplished through robust knowledge creation within the precept of entrepreneurship education assessment. Even though the concept of entrepreneurship education assessment has been studied to explain practice and behavioural intension (Fayolle, Gailly, & Lassas-Clerc, 2006; Mwasalwiba, 2010; Pittaway & Edwards, 2012), extant conceptualization have not fully assessed entrepreneurship pedagogical impacts of entrepreneurship science.

Furthermore, this study intends to develop a framework to assess the acquired knowledge by students during their education and measure progress in entrepreneurship pedagogic. To foster knowledge creation and human capital growth by delimitating the singular linear method of teaching as well as learning mechanism that propagates better combination of the reality of what self-delusion and insightful philosophy can conceive. To this end, four major contributions have been envisioned, as follows:

- Develop a model for entrepreneurship educators that will enhance wide range of innovative pedagogies and teaching approach that propagates the required skills and behaviours.
- Advance the issue of assessing the impact of entrepreneurship education which is a critical aspect to determine the learning outcome as well as reflect on its effectiveness to solve a range of economic and societal problems.

- To provide empirical support for strategies employed to assess existing research on appropriate learning process, modes and pedagogy to attain the needed knowledge that will boost human capital and give support for non-linear, flexible and multiple career path.
- The proposed study is expected to contribute to knowledge management literature within entrepreneurship education context by conducting empirical study to assess the impact of entrepreneurship education on knowledge creation and human capital development from the perspective of developing economy.

8. Conclusions

This paper addresses the need for impact assessment of entrepreneurship education pedagogic. By developing a conceptual model for assessment tool, this study delineates the evolving capacity to the formation process of related competency skills and knowledge through incremental outcome, to develop students' mindset. The idea of entrepreneurship as an on-going process needs assessment of pedagogic that would stimulate and measure the impact on knowledge and thereby, avail institutions the needed investments to bridge the gap in producing competent graduates and the production of the right entrepreneurial human capital assets. This study will raise the attention towards the continuous evaluation of entrepreneurship pedagogic which is useful for policy development, and in so doing, allow institutions to analyse further pedagogies to explore heuristic strategies of entrepreneurship education. As a starting point, the proposed framework will form as the information platform for research and scholarly enquiries to deepen our knowledge on the impact assessment of entrepreneurship pedagogic outcome.

9. Recommendation for future research

This study expresses rationale for impact assessment of entrepreneurship education pedagogic. However, this study did not assess the pedagogies that influence student inclination towards entrepreneurial competency and skill development. Therefore, future research should develop assessment tools to measure forms of pedagogies that impact growth mindset, infuse competency and creative knowledge towards formation of entrepreneurial capital assets. Future studies should also develop empirical analysis to provide evidence for student mastery of skills and competence to demonstrate value to external industry and educational key stakeholders. This can help policy makers to adapt quickly to knowledge demand and help entrepreneurship education programs to initiate and integrate coherent policy to enhance existing learning educational structures.

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