

Entrepreneurship Skills Acquisition through Education: Impact of the Nurturance of Knowledge, Skills, and Attitude on New Venture Creation

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Abstract—Entrepreneurship through higher education has taken a paradigm shift from traditional classroom lecture series method to a modern approach, which lay emphasis on nurturing competencies, enhancing knowledge, skills, attitudes/abilities (KSA), which has positive impact on the development of core capabilities. The present paper was focused on the analysis of entrepreneurship education as a pedagogical intervention for the post-graduate program offered at the Entrepreneurship Development Institute of India, Gujarat, India. The study is focused on a model with special emphasis on developing KSA and its effect on nurturing entrepreneurial spirit within students. The findings represent demographic and thematic assessment of the implemented pedagogical model with an outcome of students choosing a career in new venture creation or growth/diversification of family owned businesses. This research will be helpful for academicians, research scholars, potential entrepreneurs, ecosystem enablers and students to infer the effectiveness of nurturing entrepreneurial skills and bringing more changes in personal attitudes by the way of enhancing the knowledge and skills required for the execution of an entrepreneurial career. This research is original in nature as it provides an in-depth insight into an implemented model of curriculum, focused on the development and nurturance of basic skills and its impact on the career choice of students.

Keywords—Attitude, entrepreneurship education, knowledge, new venture creation, pedagogical intervention, skills.

I. INTRODUCTION

ENTREPRENEURSHIP education has started taking its relevance in the scholarly literature at the countries ecosystem level and the outcomes of these educational initiatives and inputs have started gaining interest considering its relevance in the employment generation of any country. Most of the studies find progressive effects on the entrepreneurial intention and subsequently choosing entrepreneurship as a career option of students due to their exposure towards a (specialized) course in entrepreneurship education. The entrepreneurial-friendly environment stimulates “the institutional profile, namely entrepreneur-friendly regulations, financial capital availability, educational capital availability, control of corruption, and the public image of entrepreneurs” [1]. Entrepreneurship education as an academic delivery is focused on many objectives, of which two are major; creating and increasing awareness related to the positive aspects of entrepreneurship as a career option and conception of understanding the process and procedure of new business creation.

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Today such an initiative has received much greater significance as it includes gaining knowledge with a process through theoretical understanding and fostering creativity, innovation and self-employment [2]. Similarly, one of the studies emphasizes focus upon “pedagogical *good practice*” by way of enhancing entrepreneurial aspiration among students [3]. Researchers have shown concern for the inability of faculties to motivate students for the right implementation and execution of pedagogical learning to real-life practices [4]. To successfully promote entrepreneurship among youth, educators and institutions should emphasize more on nurturing various skills required by entrepreneurs [5] these are “(a) technical skills (written and oral communication, technical management and organizing skills); (b) business management skills (planning, decision-making, marketing and accounting skills); (c) personal entrepreneurial skills (inner control, innovation, risk taking, persistence and being change oriented)”. Another study emphasized that the development of personal skills can help to differentiate between entrepreneurs from a manager [6].

A review of literature in this field has also observed that abilities and socio-economic profiles of entrepreneurs and managers had an effect on the perception towards female entrepreneurship [7]. Whereas, some focused on the importance of educational strategy to overcome real-life problems, these strategies are implemented in many professional schools as a context for curriculum delivery, where outcome of university offered education are positively affected by developing generic skills and attitudes among students [8]. However, “problem-based curricula do appear to provide a friendlier and more inviting educational climate” [9]. Another study states that competency [10], and the ability of an individual to select and use knowledge, skills, and attitudes are necessary for effective behaviour in a specific professional, social or learning situation. This has been reflected in “ASK” model, which emphasize that “professional practice and means to practice it successfully” aims to nurture “attitude, skill, and knowledge” [11, p. 6].

Many studies have observed the positive effect of entrepreneurship education, some of which encourages students to start their own business [12]. Another study observed that MBA students at a Canadian university who have attended more than three entrepreneurship-related courses, showed an increase in the rate of new venture creation [13]. Whereas, others identified that providing an incentive to participants can help them to start their business,

an initiative taken by the graduate enterprise program in UK, enable and accelerate impact on the students' venturing activities [14], [15, para. 3, p. 3]. Another study indicated that the initiative of 'Student Enterprise Award' had an important impact on Irish students' career choice, and observed that young people come up with better ideas [16], here, entrepreneurship courses helped alumni to make better decisions in the start-up process [17].

II. LITERATURE REVIEW

A. Entrepreneurship Education as a Pedagogical Approach: Traditional vs. Experiential

Traditional learning and teaching practices have observed more of a one-way lecture-series method where students listen to the instructor, read from the textbook and prepare notes mostly in the form of recitation and remembering texts. The outcomes of these are observed by marks scored from the academic examinations. This kind of practice was questioned by many educators as it does not create a space for questioning or enhanced learning. These kinds of methods are good for understanding the theoretical concepts but when it comes to application of these principles, somewhere a need arises to create a platform which gives experiential learning, a learning-by-doing method where students not only encounter the problem (as a stimuli) but also learns to come up with a solution to address it (as a reaction/response). Some of the similar approaches which augment this are summarized below.

A review of literature in this area presents one instance, where the "entrepreneurial-directed approach" has been evaluated by "analysis of learning diaries" [18, p.80], a model focusing upon "learning by doing and reflection as a development of holistic individuals" [18]. In one of the studies, the researcher reflects that traditional lecture-based (didactic) methods of teaching and learning are insufficient [19] but experiential approaches were assumed in enabling entrepreneurial competencies among students of a Scottish university [20, p. 76], observing a paradigm shift in the experiential entrepreneurship education. Whereas, some of the methods adopted by institutions in the US include the escalating utilization of "technology", writing a "business plan", and interactive sessions by "entrepreneurs and class participation rather than traditional lecture system" [21] have produced positive results. These approaches have been suggested to be better than passing on mere information to students. Definition of entrepreneurship education appreciates it as a way to identify "general characteristics of entrepreneurs" in a way after the "acquisition of occupational skills" by giving training to "potential entrepreneurs" [22]. Further knowledge and entrepreneurship contribute for the development of SMEs focusing upon need for entrepreneur's specific skills and its impact on the firm's growth and facilitate the implementation of the entrepreneur's vision and strategy [23].

III. OBJECTIVES

Entrepreneurship as an approach towards education and is

focused on understanding whether it is meeting its desired learning outcomes by way of contributing towards achievement of these desired learning outcomes. To measure these, a blend of psychological, behavioral (as internal inputs) and environmental factors (as external inputs) are considered. The present study focuses on the pedagogical intervention in a post-graduate program offered with a dual emphasis on nurturing the competencies and building the business skills among the students, with a subsequent highlight on the outcome of the program in terms of students opting for entrepreneurship as a career option. Further, the study also argues the effect of experiential learning outcomes measured as the effectiveness of students' performance which can also be evaluated by the way this implementation and innovation takes place at the institutional level.

IV. THE PEDAGOGICAL INTERVENTION IMPLEMENTED AT THE INSTITUTE

A. Background of the Programme

The Entrepreneurship Development Institute of India (EDII) located at the Gandhinagar city of Gujarat State-India, has developed a pedagogical model with a focus on offering entrepreneurship education at the post-graduate program level. It was approved by the All India Council of Technical Education (AICTE), recognized by the Association of Indian Universities (AIU) and accredited by the National Board of Accreditation (NBA), which has a specialized concentration on new enterprise creation and family business management [61]. The initiative was introduced for businesses and new ventures ranging from manufacturing, services to the technologically-driven innovative business ideas. Here, the main focus is to augment a better understanding and exploration of the business opportunities with a subsequent attempt by students to prepare a viable and feasible business/growth plan for both the offered specializations (i.e. new enterprise creation and family business management). Teaching by way of a mix of classroom training and field exposure, helps students to emerge with a viable and bankable detailed project report which they prepare under the guidance of faculty mentors and industry experts. This activity is carried out as a field pilot project study over a period of six months spread into two trimesters. This field activity indulges in sensing gaps, and identifying, quantifying and exploring market opportunity, which is followed by conceptualizing, planning, and starting a new enterprise in the foreseeable future by students preparing a detailed business project report. Similarly, students who opt for family business management specialization, learn how to utilize and maximum the strength of the family business in successfully implementing the methodology that leads to drive high performance and stakeholders' participation, managing finances, growing, preserving, and sharing the wealth of the family owned-firms. Family-run firms across the globe are not immune to challenges; in fact, they have to deal with a unique set of challenges. Other challenges emerge, leading with the informal culture and structure of the businesses,

misunderstanding the values of the business, and lack of training and implementation of novel ideas. This specialization was introduced with an aim to develop the wards of existing business as enterprising, knowledgeable owners of their family, to identify and address the issues, problems and concerns of family business management in greater detail and facilitate them to prepare 'Growth, Feasibility and Viability Reports (a Five Year Growth Perspective Plan) of their respective family firms which serves as a roadmap for the growth of their businesses [24].

The main objectives behind adopting this accelerated, rigorous and application-oriented course with an implementation of the following steps are as follows:

- Impart comprehensive knowledge of an entrepreneurial ecosystem;
- Nurturance of intra/entrepreneurial aspirations in the students by enhancing competencies;
- Building skills which are required to grow an enterprise along with the way of developing first generation entrepreneurs;
- Developing successor of family businesses who through his skills, knowledge and competence can become as a change agent in bringing about competitive advantage to the existing business;
- Identifying emerging business opportunities in diverse sectors-
 - by way of a prospect to gain a thorough knowledge of the functioning of these sectors;
 - to gain an exposure to understand dynamic business environment, its expansion and diversification;
 - Preparation of viable and bankable business plan;
- Understand the base level support system offered by regional government and how this can be utilized considering needs of the business idea/growth plan;
- Execution of the market-technical potential and financially viable business plan.

B. The Support Ecosystem Provided at the Institute

The EDII has been spearheading start-up support through various modes of learning such as; education, training, awareness/orientation programs, boot-camps, capacity building, etc. Over the years, EDII has provided a conducive ecosystem, played a role of knowledge partner and took the initiative in compiling the successful start-ups and MSMEs across the state. The activities included in these initiatives were:

- a) A coffee table book showcasing 40 rising start-ups from Gujarat-India [25];
- b) The MSME Accolades showcasing innovative products and methodologies adopted by 55 selected MSME's from Gujarat-India [26];
- c) The vision document for blooming start-ups giving a roadmap for opportunities and support ecosystem [27];
- d) A book of successful start-ups from Gujarat-India showcasing their product/market operation, validation and growth/scale up stage [28];
- e) A roundtable discussion on the Action Seminar for

innovation, start-ups and entrepreneurship conducted as part of the Vibrant Gujarat Global Summit-2017 [62];

- f) The Institute has been awarded for 'supporting start-ups' by the All India Council for Technical Education in 2017' [63];
- g) The Institute has been recognized as a 'Nodal Institute' by the Government of Gujarat-India to support start-ups in availing mentoring, sustenance allowance, prototype development and financial assistance for the startups across the state [64];
- h) The co-working space under the Institute's Technology Business Incubator supports deserving start-ups (focused on manufacturing, healthcare, renewable energy and food/agribusiness) for funding support [65];
- i) The Institute has also initiated 'EDII Gurukul' to provide mentoring and networking support to students with an aim to address start-up-related challenges; this initiative was implemented as 'Guru-Shishya (a Mentor-Mentee)' practice inspired from India's ancient Gurukul education system.

All these initiatives have helped to boost the ecosystem and thereby promote the importance and critical requirement of entrepreneurship education. EDII places emphasis and importance of the existing entrepreneurial ecosystem where a multi-dimensional approach is adopted. Some of the elements of the ecosystem include "understanding the – human capital, research and development institutions, financial capital, industrial base, connective organizations, legal and regulatory environment, physical infrastructure, and quality of life" [61]. EDII as an institute has successfully demolished the myth that entrepreneurs are born and cannot be made. The institute believes in the presence of nature vs. nurture, and this is observed through well-conceived training interventions and capacity building activities undertaken over the last three decades. Supporting the initiative of "delivering entrepreneurship education", the institute has designed the course precisely for potential entrepreneurs and intrapreneurs "to encourage critical and lateral thinking, nurture ambitions of students" by way of enabling "new ventures through academically rigorous, directly relevant and highly practical learning experiences" [29], [66].

C. The Pedagogical Intervention Implemented by the Institute as a Tool for Augmenting Entrepreneurship Education

Pedagogy is the method and practice of teaching or training, especially for academic subjects to provide a better understanding of various theoretical concepts. The learning style varies and is quite diverse in nature, in terms of their styles, configuration, population, and educational institutions. Considering its varied nature, institutions around the world have adopted varieties of pedagogies, including independent study, passive or active learning, kinesthetic or physical learning (to enhance the motor skills), vocational learning, experiential learning (imparted by hands-on experience) etc. some researchers argued that the 21st century era calls for a "global movement, a new model for learning", where formal

education must aim at bringing about a transformation to enable students/participants to “tackle complex global challenges” [30]. Supporting the notion of imparting education and learning through a variety of tools, the pedagogical inputs at EDII include both traditional lecture-room training sessions and a combination of modern classroom teaching aids such as eLearning. The pedagogy includes a blend of teaching and learning-by-doing techniques. The classroom activities and inputs help the students to not only develop the principles of management and businesses, but also help them to develop an ‘entrepreneurial-self’ which augments for enhancing KSAs. This is aimed at corresponding ‘learner-centered’ teaching, which helps to break down the rigid boundaries between the theories and the learning outcome and the implementation of those theories in real-life situations. Some of the implemented techniques here include, lecture series, case study analysis, project works and assignments, group work assignments, field study, observatory study and interactive discussions with mentors and experts. With a belief that in order to develop the experiential learning, a blend and interaction between the ecosystem enablers plays a vital role. We emphasize that an ecosystem “typically involves various interconnected key elements that constantly interact and strengthen with and within each other, all of which when come together facilitate growth in terms of innovation and sustainability” [31]. A few of such implemented pedagogical inputs are:

- a) Support to students to develop a network pool with incubators and accelerators (at regional and national level).
- b) Knowledge sharing further happens when students interact with eminent entrepreneurs, alumni, and industry experts; they act as mentors and help students to convert their thought processes and ideas into business ideas.
- c) The *milestones based learning* enables students for achieving the stated 26 milestones work as stepping stones to pursue entrepreneurial journey of students.
- d) The course on *exploring business opportunities* helps students to understand operation and functions by way of sectoral analysis.
 - Several workshops are being organized for students to enhance their entrepreneurial pursuits, these are:
 - *Family business leadership clinics* are organized for students and the active members of their family business with an emphasis of transitioning one-leader-model to a leadership culture.
 - The workshops on *beyond fear* are organized with a focus that ‘the illusion of fear is the root cause of lack of initiative and enterprising attitude’, aims to encourage students to overcome fears which will free their minds to develop creative thought and strategies to perform tasks at their optimum, embracing risk as an integral part of doing business.
 - The *start-up clinic* workshops are designed to motivate, engage and train students to develop entrepreneurial aspirations.
 - The workshops on *sensing opportunity and ideation* are conducted to make students gain insights on dynamics of

ideation, and analyze it by way of preparation of ideation canvas. Similarly, workshops on *blue ocean strategy* are conducted to provide familiarity to novel and varied ways to excel into niche markets.

- Workshops on *design thinking for entrepreneurs* is organized to empower critical thinking and value reasoning of services/products. This happens as, a learning by doing method, where head, heart and hand all come together to achieve high caliber productivity and critical entrepreneurial decision making [31].

V. THE ANALYSIS OF THE MODEL OF PEDAGOGICAL INTERVENTION BY THE EDII: NURTURANCE OF COMPETENCIES – KSA

The pedagogical model adopted by EDII is spread across four stages, which are included into six trimesters. Every stage is focused with providing theoretical input along with the practical exposure. The approaches adopted here range from a traditional lecture-based approach to an innovative experiential approach. Researchers have examined the way in which “competence-based approaches” have allowed students to become aware and “nurture their knowledge and expertise”, which has its effects on their “learning outcomes” [32]. This way, students pursuing an entrepreneurial career learn to identify opportunities, assess functional feasibility in terms of understanding the market, finance and technical feasibility of the product/services. This initiative was taken with a background to create and nurture the entrepreneurial spirit in the students. The paper represents a detailed analysis and discusses a model which is introduced as a pedagogical intervention with an outcome of students choosing career choices in new venture creation or growth/diversification of present family businesses.

The initiative behind nurturing the competencies laid emphasis on the role and the effects of cognitive processes such as planning, reflections on problem solving, interactive decision making and molding the thought structure such as knowledge, beliefs and attitudes of the students, which can in turn aid for the development of required skills. We believe that entrepreneurship is a state of mind. It is a process, a journey which an individual lives with a passion for chasing down new knowledge, generating innovative ideas, addressing critical needs in the society and solving problems. The main aim of the education is to encourage productive development of entrepreneurial attitudes. The “entrepreneurial attitude is an essential element” of any “individual’s mindset” and behaviour which affects their entrepreneurial intention [33] and can in turn develop a mindset to start a business in a foreseeable future. It is an individual’s readiness to respond consistently to characteristics owned by an entrepreneur [34]. Some highlighted that “entrepreneurial intention is a desire of doing productive activities effectively that directs individuals to utilize and implement relevant concepts of new business” [35] whereas, others concluded that “education has a positive impact on students’ perceived desirability of self-employment” [36]. This was observed in a study which investigated a comparative analysis of students’ intentions and

exposure to a specialized entrepreneurship course which reveals that “education has a significant positive impact on the entrepreneurial outcome and student’s intentions towards self-employment increases”.

To imbibe entrepreneurial intention among students, it is required to bring awareness about the field along with percussions of its merits and demerits. It is important to note that competencies, skills, aptitude and abilities of the individual can be acquired and nurtured through a training process which results in the creation of new knowledge. Researchers recognized “the existence of ‘hard’ and ‘soft skills’ where hard skills are acquired through systematic applied training”, and the accumulation of “soft skills are acquired by tacit knowledge which is gained through the process of socialization with the like-minded people” [37]. A review of study by [38], observed that the “perception of entrepreneurial skills has a positive effect on the final decision to start a business”. All these are affected by the learning process which is gained through a systematic approach. Learning falls into any of the three categories and are referred to as knowledge, skills and attitudes (KSAs). The next section of this paper discusses all four stages as offered in the program.

A. Stage – 1

This stage is spread into the first three trimesters (I, II & III) of the first year of the program and is aimed at enhancing entrepreneurial competencies, the ‘Knowledge, Skills and Attitude’ (KSAs) among students (see Fig. 1) and focuses on the learning framework at both the cognitive and non-cognitive level. The component for knowledge and skills is imparted in terms of theory sessions during the classroom activity, which include (a) the ‘foundation courses’ (basic principles of management) to give an in-depth understanding for opportunity sensing and scouting ideas; (b) the ‘specialization courses’, are offered by way of enhancing an in-depth understanding of functional skills (viz. finance, marketing, human resource, international business, information systems, language and communication). (c) The other inputs are in the form of ‘specialization courses for start-ups’, to address the challenges and gaps related and ranged between opportunity identification to execution in the market (see stage-2). All these help students to learn various tools, critically analyze, address the managerial issues and plan the business performances. Here, students are provided an environment with a focus on sensing opportunities, scouting business ideas, gap analysis, opportunity identification, which augments the understanding of the entrepreneurial framework in widening the knowledge of the business environment. Here, students are made to become aware and practice knowledge (K) and skills (S) attributes such as value creation, personal fit being an entrepreneur, resource leveraging, strategic thinking, understanding human-social-emotional capital, creativity and innovation, self-awareness, risk-taking, decision-making under ambiguous situations, tolerance for ambiguity, overcome fear of failure and leadership enhancement techniques, etc. This stage ends with students gaining field exposure in the form of

summer internships to explore various sectors and gain exposure to the working environment under real-life situations. This enables students to correlate classroom theories and concepts with real-world practices. The summer internship exposure is offered into areas, which are (a) an exposure to start-up ventures by way of a primary study of market and technical feasibility of the business ideas, business opportunity assessment and industry analysis; (b) understanding the existing family owned enterprises by way of studying expansion and diversification, identifying and understanding the competitors strategies and ways to imbibe that for current ventures; (c) corporate entrepreneurship to understand and explore how corporate giants help in the development of ideas under their umbrella supporting with resources and; (d) seminars or external training program to understand various business sectors. These inputs in terms of classroom and field exposure enhance entrepreneurial qualities; develop motivational factors which triggers for entrepreneur, enterprise creation and entrepreneurship process as a whole.

- a) The attribute of knowledge in an individual is a condition of being aware of something. It is a complex process of remembering, relating or judging, which is related to an idea or abstract phenomenon related to the cognitive abilities of the person. Literature has addressed various forms of knowledge, a review of these are, “how new knowledge needs to be exploited and put into commercial use” in a way which can help to achieve “higher competitiveness and economic growth” [39]-[41]. Similarly, Polanyi described “knowledge as an explicit or it can be tacit”, where “explicit knowledge” are processed by way of extracting information from data which are explained in the scientific terms as “patents and database” [42], [43, p. 15]. Whereas, rebutted “tacit knowledge is embedded within individuals and/or collective experiences, skills and know-how” [44]. The knowledge sharing usually happens inside and classroom sessions with faculties, mentors and students themselves.
- b) The attributes of skills, on the other hand, are through verbal or mental manipulation of data, schemas or things that helps the brain in the execution of tasks; these are counted under the psycho-motor abilities of the person. A study emphasized on combining the “general individual and organizational competencies and referred it as organizational, opportunity recognition managerial and technical skills which augment the entrepreneurial intentions” [45], [46]. Skills are usually learned through transfer of knowledge. Student’s perception on the skills, knowledge, entrepreneurial ideas, and perceived opportunity cost influences their intention to join various entrepreneurial activities on campus. Today, training institutions and universities are investing and investigating various entrepreneurial competencies that have produced noticeable effects on human capital, social capital, social skills and creativity. These competencies are also due to the increased likelihood of engaging in entrepreneurial activities. Further, researchers emphasized

on the 21st century KSA model as a way of creating entrepreneurs in various ways, these are: (a) information, media and technology literacy (includes basic, scientific and technological literacy); (b) inventive thinking (includes sound reasoning and higher-order thinking, innovation skills imbibe through creativity, curiosity and risk-taking); (c) communication and collaboration (includes collaborative teamwork, awareness about global trends, social and cross-cultural skills); (d) productivity and results (includes flexibility and adaptability, initiative and self-direction, productivity and accountability, leadership and responsibility).

- c) The attribute of attitudes represents the state of mind of the person; the feelings, desires, values, beliefs an individual has about a particular matter, which is reckoned under the expression of the affective abilities of the person. "Attitude takes a big part of variance of behaviors" and "domain-specific attitudes in understanding the entrepreneurial decision-making process" [47] have started taking scholarly interest. The EDII's pedagogical inputs give emphasis on developing the attitudes among their students. The identification of attitudinal dimension is tested and validated by assessing the entrepreneurial aptitude of students (during the initial days of first trimester) using the General Enterprising Tendency (GET) test [48], to measure five dimensions of entrepreneurial characteristics such as the need for achievement, need for autonomy, creative tendency, calculated risk taking and locus of control. The analysis of the last four batches observed that a large number (63.3%) of students have scored high on the medium category which states that they have some enterprising tendency skills and look forward to support in nourishing their entrepreneurial attributes [49]. The nurturance of attitude among students is usually imparted using laboratory method by the courses 'Entrepreneurial Lab' and 'Entrepreneurial Effectiveness' which are offered. This laboratory experience framework helps to develop an awareness of personal behaviour and discover behaviour alternatives. In order to apply this method, students are made aware of the way he/she behaves and does things.

It gives an idea of the basis for improvement and change and also to develop through a mode of feedback from others on their performance as a source of entrepreneurship development. During and after the course, it has been observed that students learned to execute various attributes and during various co-curricular activities (which include organizing entrepreneurial fest, cultural and sports event). These attitudes are, measured on various parameters as execution of ethics, integrity and positive values, passion to pursue the entrepreneurial journey, developing an inquisitive mindset, flexibility, pursuing excellence, managing a team, innovativeness etc. Over the years, 73% of students were observed to execute and implement these attributes in their real lives. In other ways, attitude toward entrepreneurship has also been observed by the way students attend various entrepreneurial activities inside and outside the educational

campuses. Zhou [50] observed that the main aspect to reach actual growth can be through "firm-level entrepreneurial attitude" comprising "entrepreneurial and growth orientation from entrepreneurial management".

Literature has focused on a model on the psychological and behavioral approaches [51], and its effect on the "entrepreneurial intention of secondary students" and suggested that "need for achievement", "self-confidence" and "personal attitude" has an effect on entrepreneurial intention (observed through p value=0.578), "subjective norms and personal attitude affect perceived behavioral control". Researchers have also investigated typology of knowledge, skills and competences [52], a report series launched by European Commission, and experiences by European countries. The study emphasized the need for training regulations and importance of cognitive (knowledge, skills and abilities), social (interact and dealing with others, willingness to co-operate) and personal competencies (dealing with oneself, willingness to develop personally and develop skills, motivation and attitudes to work in the wider world). Many countries have started placing emphasis on these, as is observed in Germany with emphasis on the importance of transversal functional and professional qualifications; Netherlands with the shift to core competencies; Finland which adopted a competence-based approach in upper secondary vocational education; while Portugal emphasized curricula designed to achieve learning outcomes in cognitive, functional and social competences; Spain focused on general and professional competences, and Norway put emphasis on the assessment of recreational activities [53, para. 6, p. 298].

B. Stage – 2

This stage is spread into the last three trimesters (IV, V & VI) of the second year of the program with a prime motive and focus on the product/service development and market validation of the business ideas of students. Two major specializations are offered at this stage, The first specialization is new enterprise creation (NEC), offered with an aim to prepare students in identifying, initiating, managing and growing new business enterprise and to enable students in developing a detailed project feasibility and viability reports (DPRs) on business ideas identified by them. The activities which help in this stage are workshops for the ideation process, design thinking and new enterprise clinics. The second specialization offered is family business management (FBM), which aims in developing wards as enterprising, knowledgeable owners of their family businesses by covering issues, problems and concerns of family business management in greater detail, and facilitate them to prepare growth, feasibility and viability reports, a five-year growth perspective plan (FYPP) of their own family enterprises which serves as a roadmap for the growth of their businesses. Family business clinics are organized at this stage to give understanding of the dynamics of family structure in family-run-owned business (see the theoretical background as described earlier).

The functional specializations ranging from finance, marketing, human resource, information systems, international

business, and language and communication, are offered at this stage with an aim to understand acceptable methodologies to prepare and appraise project feasibility. This initiative was executed by introducing various electives in the program which gives an enhanced experience and understanding of the course. These electives are: (a) Scaling excellence through innovation and incubation, which was introduced to bring about understanding the growth required for the new business to perform in a better way; (b) Digital marketing for start-ups and SMEs, this elective was introduced with a background that the evolution of the internet and modern technologies, small and medium-businesses (SMBs) are doing everything they can to get that wider slice of market share; (c) Sales framework and tactics for start-ups was introduced with an aim to make student understand the importance to move in a strategic way to compete with their competitors and also to attract the potential target audience for their products; (d) Designing value proposition using marketing and consumer insights, this elective gives a better understanding that markets have been evolving at an unprecedented rate while consumers and consumer behaviour have also seen many changes in the last decade; (e) HR for start-ups focuses on the human side of the businesses. The ways and methodologies that start-ups and small businesses use to nurture and develop their workforce; apart from these electives, the other initiative introduced at this stage includes, (f) Milestone Based Learning to enable students in achieving the identified 26 stated milestones (see the section on pedagogical implementation) [54], [67]. Other support systems at this stage includes interaction and collaboration with accelerators, availability of co-working spaces (EDII's Technology Business Incubator), mentoring from eminent experts (under the 'EDII Gurukul' umbrella), support for preparation and sourcing investors for pitching and receiving funds to start/launch their ventures, support in making students understand the process of the filing of patents and necessary compliances related to that. This framed initiative is also supported by literature, the National Research Council report also recommends that

“institutions/universities must craft policies and allocate resources to enable more institutional start-ups because some technologies will never be commercialized unless licensed to a start-up” [55].

C. Stage – 3

This stage evaluates the 'Outcome' of the initiative, and the results achieved by this initiative are summarized in this section. The demographic analysis of all 19 graduated batches observed the career choice of the students after completion of EDII's post-graduate program (see Fig. 2 (a)). It is observed that 46% are serving in their own family firms; 22% have ventured into new enterprises, whereas 17% have joined corporate organizations; 4% are in the process of setting up their own venture; and 3% are pursuing further studies; 8% have opted for career choices other than those listed above (see Fig. 2 (b)). Further an analysis of the career profile showed that students are serving into varied areas/sectors, such as: agri-business/ food processing/ dairy products/

FMCG, electrical/ electronics, renewable energy, IT/ ITES/ e-Commerce, textile garments/ manufacturing, service sectors, gems and jewelry business and some of the students are serving in the logistics/supply chain industries etc.

D. Stage – 4

This stage emphasizes on sustenance and growth by way of interactive sessions organized for Institute's alumni. Through these sessions alumnus share their journey post completion of the program, creating an opportunity for students to understand trends and technological up-gradation. Other activities include alumni attending various events/workshops, receiving mentoring from eminent experts and also providing guidance to current students developing their business project plans. The Organization for Economic Co-operation and Development (OECD) in a project titled "The Future of Education and Skills 2030", focused on the importance of enhancing a learning framework to help countries find answers to two questions, which are: "What knowledge, skills, attitudes and values will today's students need to thrive?" and "How instructional systems develop these knowledge, skills, attitudes and values effectively?" [56, p. 2]. The OECD model describes the components of knowledge (as disciplinary, interdisciplinary, epistemic and procedural); this helps in the generation of domain knowledge; skills (cognitive & meta-cognitive, social and emotional, physical and practical), to help in the creating new value, taking responsibility and reconciling tensions and dilemmas; whereas the components for attitudes and values (personal, local, societal and global) reflect on the development of action, reflection and anticipation [56, p. 4].

VI. CONCLUSION

Rethinking and redesigning pedagogy essentials for the 21st century has become crucial for educators and policy makers in identifying new elements; the competencies that learners need to develop aligned with the demands of today's market. The traditional approaches put emphasis on rote learning, memorization of the theories and application of concepts. This kind of learning environment does not create a holistic learning, develop critical thinking skills or enhance the smooth free-flow of a creative environment. In order to develop higher-order skills for students to engage in meaningful learning (based on enquiry thought processes) and to justify its value creation in terms of growth self and communities, "real-world experiences merged with sustained engagement and collaboration offer opportunities for learners to construct and organize knowledge; engage in detailed research, enquiry, writing and analysis; and communicate effectively to audiences" [57]. Entrepreneurship education was developed with an aim in preparing young adults to "succeed in the entrepreneurial economy" [58]. The 21st century economy upsurges the importance of entrepreneurial education which has proven to be essential for the new age "curriculum offered in both private and state sponsored business schools" [59]. Today, entrepreneurship education is also promoted as an effective way to bring about transition among the growing

graduate population across economies. Some studies have focused on individuals' knowledge based attributes which help them develop their aspiration, these are understanding budgeting (0.35%), business operations (0.37%), strategic planning (0.59%), analytical thinking (0.54%), idea generation (0.77%); desire to succeed (0.52%), looking beyond the

present (0.41%), management style (0.43%), leadership (0.38%) and skills (also referred as entrepreneurial competencies) and its effect on the growth of the ventures, which includes innovation (0.76%), risk taking (0.55%), creativity (0.66%), visioning, and idea generation (0.71%) [60].

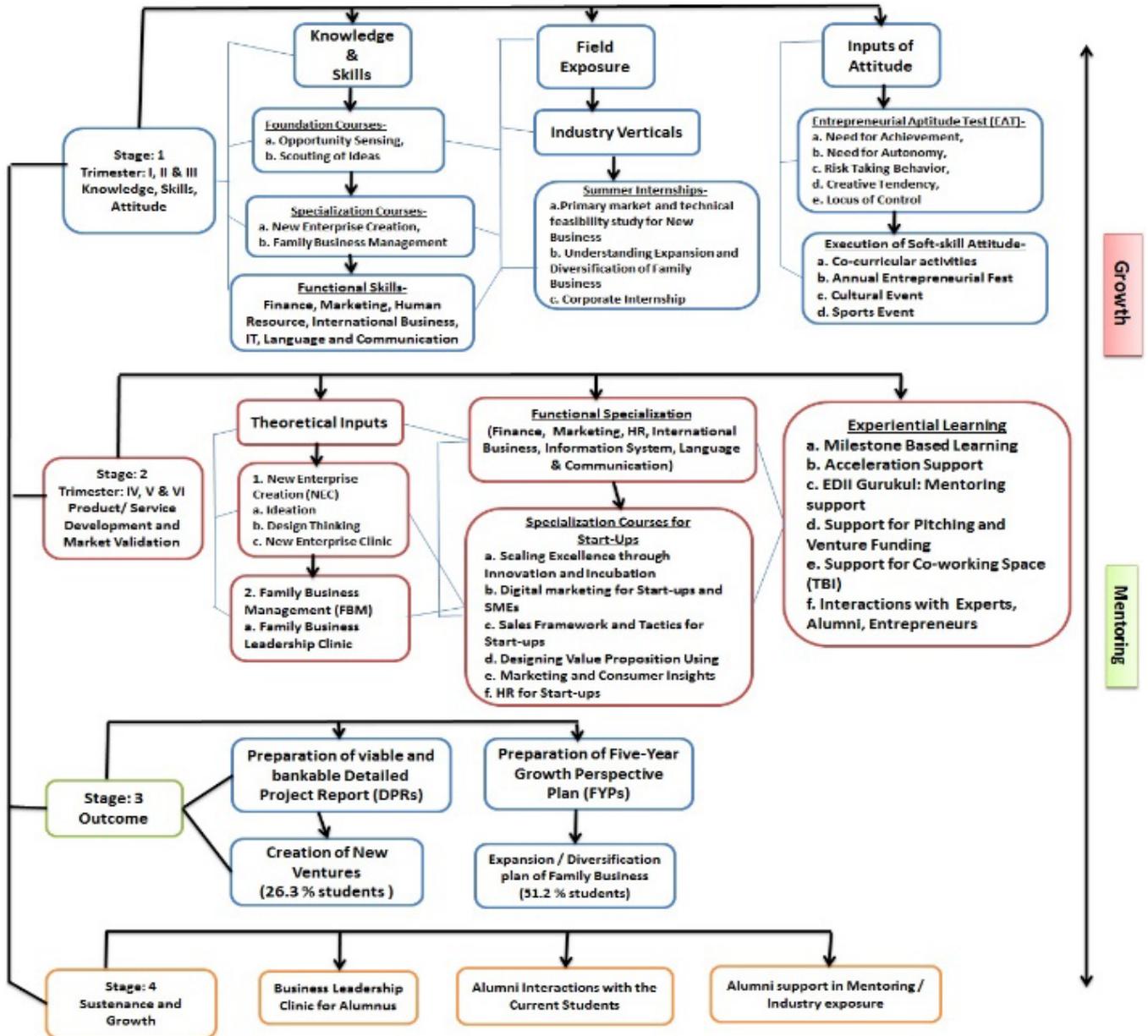


Fig. 1 Pictorial representation of the model of pedagogical intervention for the two-year post-graduate program offered at the EDII [31]

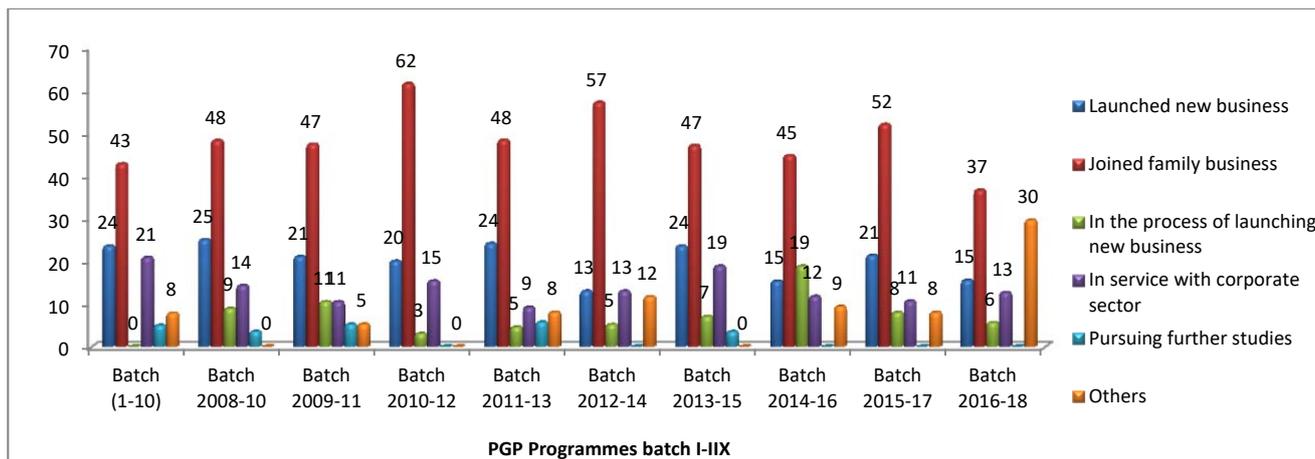


Fig. 2 (a) Graphical representation of the occupational profile of EDII Alumni from batch PGP I – IIX (data are showing batch-wise) [31]



Fig. 2 (b) Graphical representation of an overall occupation profile of EDII Alumni from batch PGP I – IIX [31]

The post-graduate program offered at the EDII has observed students over the years representing different states/regions of India and has also welcomed students from foreign shores like Cambodia, Lao PDR, and Zambia. These students represent varied demographic aspects such as age, gender, socio-cultural, business experience, linguistic, economic and business backgrounds, reflecting diversity and benefiting from interacting with each other. This kind of environment gives students an opportunity, in terms of a rich interaction with scholars and entrepreneurs from varied sectors and businesses as an activity planned in and out of classroom settings. With a background to create and maintain the entrepreneurial edge among the youth, EDII has developed a model for the curriculum focused on nurturing the competencies of the individual which has its impact on the creation of new businesses and the expansion/diversification growth plan of existing family firms. This paper represents a thematic assessment of this pedagogical initiative, given as part of a two-year management program, which is focused on both classroom teaching and field exploration. At the end, the paper throws a light on the outcome of the initiative in terms of its students' career choices which were observed from 19 nineteen graduated batches. Students were not only given an opportunity to interact with fellow classmates, but also with experts and mentors, which over time has helped in them in deducing the complexities of the market and marked a constructive subsequent approach towards the initiative.

VII. SIGNIFICANCE AND IMPLICATION

The pedagogical approach as described in this paper focuses on the development and nurturance of basic skills as (KSAs) and its impact on the entrepreneurial career option of the students. The findings of this study will be helpful to educators, academicians, policy makers, and research scholars in understanding the dynamism of pedagogical intervention and the execution of such initiatives in the current 21st century education system. This will also be helpful for potential entrepreneurs, ecosystem enablers and students, to infer the effectiveness of varied electives which help to nurture entrepreneurial skills and bring more changes in personal attitudes with the help of enhancing knowledge and nurturing the skills required for their execution. Educational institutions play a critical role in creating and promoting enterprise culture. Future researches should focus on the effectiveness of classroom training and the development of the market-ready-go-to-model, with a focus on analyzing the pre-post effect of the pedagogical training.

REFERENCES

- [1] Walter, S. G., & Block, J. H. (2016). Outcomes of entrepreneurship education: An institutional perspective. *Journal of Business Venturing*, 31(2), 216-233.
- [2] European Commission. (2012). *Entrepreneurship Education at School in Europe National Strategies, Curricula and Learning Outcomes*. Retrieved September 24, 2013. http://eacea.ec.europa.eu/education/eurydice/documents/thematic_report_s/135EN.pdf.
- [3] Jonathan, S., Andy, P. and John, L. T. (2016). A critical perspective on learning outcomes and the effectiveness of experiential approaches in entrepreneurship education. Do we innovate or implement? *Education + Training*, 58 (1), 82-93.
- [4] Blenker, P., Dreisler, P., Meibom Faergemann, H. and Kjeldsen, J. (2008). A framework for developing entrepreneurship education in a university context. *International Journal of Entrepreneurship and Small Business*, 05 (1), 45-63.
- [5] Hisrich, R. D. & Peters, M. P. (1998). *Entrepreneurship*. 4th edition, Irwin McGraw-Hill, Boston, MA.
- [6] Henry, C. Hill, F. and Leitch, C. (2005). Entrepreneurship Education and Training: Can Entrepreneurship be Taught? Part I. *Education & Training*, 47(2/3), 98-111.
- [7] Manzanera-Román, S. & Brändle, G. (2016). Abilities and skills as factors explaining the differences in women entrepreneurship. *Suma De Negocios*, 7, 38-46.

- [8] Hande, S., Mohammed, C. A., and Komattil, R. (2015). Acquisition of knowledge, generic skills and attitudes through problem-based learning: Student perspectives in a hybrid curriculum. *Journal of Taibah University Medical Sciences*, 10(01), 21-25.
- [9] Schmidt, H. G., Boshuizen, H. P. A., & Vries, M. D. (1992). Comparing problem based with conventional education: a review of the University of Limburg Medical School experiment. *Age Ageing*, 05, 193-198.
- [10] Vinke, D. (2003). *Industrial design at TU/e: the student as a junior employee*, Interim report, retrieved September 15, 2017 from the world wide: www.industrialdesign.tue.nl/education/downloadableFiles/theStudentAsAJuniorEmployee.doc.
- [11] Bakarman, A.A. (2011). *Attitude, skill, and knowledge :(ASK) a new model for design education*. Proceedings of the Canadian Engineering Education Association.
- [12] Clark, B.W., Davis, C.H., and Harnish, V.C. (1984). Do courses in entrepreneurship aid new venture creation? *Journal of Small Business Management*, 22 (2). 26-31.
- [13] McMullan, W.E., & Long, W.A. (1987). Entrepreneurship education in the nineties. *Journal of Business Venturing*, 2 (3), 261-275.
- [14] Brown, R. (1990). Encouraging enterprise: Britain's graduate enterprise program. *Journal of Small Business Management*, 28 (10). 71-77.
- [15] Lüthje, C., and Franke, N. (2002, May). *Fostering entrepreneurship through university education and training: Lessons from Massachusetts Institute of Technology*. In European Academy of Management 2nd Annual Conference on Innovative Research in Management, Stockholm (pp. 9-11).
- [16] Fleming, P. (1994). The role of structured interventions in shaping graduate entrepreneurship. *Irish Business and Administrative Research*, 15, 146-157.
- [17] Vesper, K. H. and McMullan, W. E. (1988). Entrepreneurship: Today courses, tomorrow degrees? *Entrepreneurship Theory and Practice*, 13(1), 7-13.
- [18] Heinonen, J. and Poikkijoki, S. A. (2006). An entrepreneurial-directed approach to entrepreneurship education: mission impossible? *Journal of Management Development*, 25(1), 80-94.
- [19] Taatila, V. P. (2010). Learning entrepreneurship in higher education. *Education+Training*, 52 (1), 48-61.
- [20] Guerreiro, M. D., Caetano, A., Rodrigues, E., Barroso, A., and Couto, A.I. (2016). Becoming an entrepreneur: a diversity of factors, types and pathways. *Periodica Polytechnica Social and Management Sciences*, (2), 74-82.
- [21] Solomon, G. (2007). An examination of entrepreneurship education in the United States. *Journal of Small Business and Enterprise Development*, 14(2), 168-182.
- [22] Nwabuama, E. C (2004). *Information Technology (IT) and Enhancement of Entrepreneurship education in secretarial studies programme in polytechnics in Nigeria*, A Paper presented at the Association of Business Education UNICAL Calabar 2nd – 6th November.
- [23] Baum, J. R., Locke, A. E., and Smith, K. G. (2001). A multidimensional model of venture growth. *Academy of Management Journal*, 44, 02, ABI/INFORM Globalpp. 292.
- [24] Acharya, S. R. and Chandra, Y. (2018a). 'Impact of Entrepreneurship Education on New Venture Creation: A study of pedagogical intervention introduced at the post-graduate programme of Entrepreneurship Development Institute of India', Conference proceedings, 30th AIMS Annual Management Education Convention On "Management Education: Connecting the Dots" during 30th, 31st August and 01st September 2018, Association of Indian Management Schools, conducted at Welingkar Institute of Management Development & Research, Bangalore. <http://www.aims.org.in/awards.in>.
- [25] Rising Startups of Gujarat. (2016). *Vibrant Gujarat Startup Summit*. www.vgstartup.com.
- [26] MSME Accolades. (2017). *Innovation, inclusion and competitiveness*. Vibrant Gujarat Global Summit. www.vibrantgujarat.com.
- [27] Startup Vision Document 2020. (2016). *Vibrant Gujarat Startup Summit*, 03. www.vgstartup.com.
- [28] Unleashing the Starts of Gujarat (2018). *Tales of Technology, innovation and perseverance*. Inauguration of i-Create: A bilateral interactive meet and exhibition, Jan 17, 2018. Industries & Mines Dept. of Government of Gujarat, www.startupgujarat.in.
- [29] Acharya, S.R., and Chandra, Y. (2017). *EDII Case study - Championing emerging or untapped disciplines for developing differentiated curriculum strategy*. 8th Indian Management Conclave (IMC), August 4th & 5th, 2017, <http://www.mbauniverse.com/>.
- [30] Scott, C. L. (2015). *The Futures of Learning: What Kind of Pedagogies for the 21st Century?* Education Research and Foresight, UNESCO. Retrieved through <http://unesdoc.unesco.org/images/0024/002431/243126e.pdf>.
- [31] Acharya, S. R. & Chandra, Y. (unpublished). Retrieved as on 30/07/2018 from the course architecture of programme through www.ediindia.org. Author.
- [32] Cooper, S., Bottomley, C. and Gordon, J. (2004). Stepping out of the classroom and up the ladder of learning: an experiential learning approach to entrepreneurship education. *Industry and Higher Education*, 18 (1), 11-22.
- [33] Mahendra, A. M., Djabatika, E. T., and Hermawan, A. (2017). The Effect of Entrepreneurship Education on Entrepreneurial Intention Mediated by Motivation and Attitude among Management Students, State University of Malang, Indonesia. *International Education Studies*, 10 (09), 61-69. Retrieved through ics.ccsenet.org.
- [34] Meredith, G. G. (2005). *Kewirausahaan: Teori dan Praktek (terjemahan)*. Jakarta: PT Pustaka Binaman Passindo.
- [35] Krueger, N. F. Jr., Reilly, M. D., and Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15, 411- 432.
- [36] Chandra, Y. and Mathur, K. (2016). *Perception of entrepreneurial orientation, aspiration and its impact on emotional wellbeing: challenges for the future entrepreneurs*. Research Trends in Economics, Finance and Human Resource Management, Nirma University, 227-237.
- [37] Cobo, C. (2012). *Competencias para empresariosemprendedores: Contexto europeo*. Montevideo: OIT/Cinterfor.
- [38] Álvarez, J., Rebollo, A., and Rodriguez, R. (2013). *Factors facilitators and blockers of female entrepreneurship: orienting for entrepreneurship from a gender perspective*, M.C. Cardona Moltó , E. Chiner Sanz , A. Giner Gomis (Eds.) , *Research and Educational Innovation at the Service of Global, Plural and Diverse Institutions and Communities*. Proceedings of the XVI National Congress / II International Educational Research Models of the Interuniversity Association of Pedagogical Research (AIDIPE), pp. 427 – 435.
- [39] Audretsch, D. B., & Keilbach, M. C. (2007). The theory of knowledge spillover entrepreneurship. *Journal of Management Studies*, 44(7), 1242-1254.
- [40] Mueller, P. (2006). Exploring the knowledge filter: how entrepreneurship and university industry relationships drive economic growth. *Research Policy*, 35(10), 1499-1508.
- [41] Acs, Z. J., Braunerhjelm, P., Audretsch, D. B., & Carlsson, B. (2005). *The knowledge filter and entrepreneurship in endogenous growth*. Papers on Entrepreneurship, Growth and Public Policy. Jena, Germany.
- [42] Polanyi, M. (1966). *The tacit dimension*. London: Routledge.
- [43] Nonaka, I. (1994). A dynamic theory of organizational knowledge creation. *Organization Science*, 5, 14-37.
- [44] Lyles, M. A., & Schwenk, C. R. (1992). Top management, strategy and organizational knowledge structures. *Journal of Management Studies*, 29(2), 155-174.
- [45] Boyles, T. and College, M. (2012). 21st Century knowledge, skills, and abilities and entrepreneurial competencies: a model for undergraduate entrepreneurship education. *Journal of Entrepreneurship Education*, 15, 41-55.
- [46] Chandler, G. N., and Jansen, E. (1992). Then founder's self-assessed competence and venture performance. *Journal of Business Venturing*, 7(3), 223-236.
- [47] Ajzen, I. & M. Fishbein (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- [48] Caird, S. and Johnson, C. (1989). *Report on the development and validation of a measure of general enterprising tendency*. University of Durham, Business School. Retrieved on December, 14 2012 through http://oro.open.ac.uk/5393/2/Get2test_guide.pdf.
- [49] Acharya, S. R. and Chandra, Y. (working paper). *Fostering Entrepreneurship: An Analysis of Pedagogical Intervention in Building Entrepreneurship Education*. EDII analysis of the offered programme.
- [50] Zhou, H. (2010). Knowledge, Entrepreneurship and Performance - Evidence from country-level and firm-level studies. *Erasmus Research Institute of Management – ERIM*, retrieved through ERIM Electronic Series Portal: <http://hdl.handle.net/1765/1>.
- [51] Ferreira, J. J. M., Raposo, M., Rodrigues, R. G., Dinis, A., and Finisterra do Paço, A. M. (2012). A Model of Entrepreneurial Intention: An Application of the Psychological and Behavioral Approaches. *Journal of Small Business and Enterprise Development*, 19(3), 424-440. DOI: 10.1108/14626001211250144.

- [52] Winterton, J., Delamare-Le-Deist, F. & Stringfellow, E. (2005). Typology of knowledge, skills and competences: clarification of the concept and prototype. *Centre for European Research on Employment and Human Resources Groupe ESC Toulouse* (CEDEFOP Project No RP/B/BS/Credit Transfer/005/04), 28-40.
- [53] Straka, G. A. (2005). 'Measurement and evaluation of competence.' In 3rd European Research Report. *Vocational Education and Training*, Thessaloniki: CEDEFOP.
- [54] Acharya, S. R., and Chandra, Y. (2018b). *EDII Case study - Most Innovative Management Program adopted at The Post Graduate Diploma in Entrepreneurship – Business Entrepreneurship (PGDM-BE)*, AIMS - Weschool Innovation Award, on the occasion of the 30th AIMS Annual Management Education Convention On "Management Education: Connecting the Dots" during 30th, 31st August and 01st September 2018, <http://www.aims.org.in/awards.in>.
- [55] National Research Council, (2011). *Report to Congress*. Retrieved through http://www.nationalacademies.org/annualreport/Report_to_Congress_2011.pdf.
- [56] OECD, (2018). *The future of education and skills Education 2030*. Retrieved through <http://www.oecd.org/education/2030/>.
- [57] Barron, B., and Darling-Hammond, L. (2008). *Teaching for meaningful learning: A review of research on inquiry-based and cooperative learning (PDF)*. Powerful Learning: What We Know About Teaching for Understanding. San Francisco, CA: Jossey-Bass.
- [58] CEE (2005). *National Content Standard for Entrepreneurship Education*. http://www.entreed.org/Standards_Toolkit/standards_overview.htm.
- [59] Li, J., Zhang, Y., and Matlay, H. (2003). Entrepreneurship Education in China. *Education+Training*. 45(8/9), 495-505.
- [60] Mitchelmore, S. and Rowley, J. (2013). Entrepreneurial competencies of women entrepreneurs pursuing business growth. *Journal of Small Business and Enterprise Development*, 20 (01), 125-142. retrieved through <https://doi.org/10.1108/14626001311298448>.
- [61] Accessed on 30/07/2018 from <http://www.ediindia.org>.
- [62] Accessed on 07/03/2018 from <http://vibrantgujarat.com/>.
- [63] Accessed on 08/01/2018 from <https://www.thehindubusinessline.com/news/edii-bags-aicte-award-for-supporting-startups/article9927403.ece>.
- [64] Accessed on 20/03/2018 from <http://startupgujarat.in/institutes.htm>.
- [65] Accessed on 30/07/2018 from <https://cradle-edii.in/>.
- [66] Accessed on 28/06/2018 from <http://www.mbauniverse.com/>.
- [67] Accessed 01/09/2018 from <http://www.aims.org.in>.

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