The Impact of Higher Education Entrepreneurship Practical Courses: Developing an Entrepreneurial Mindset

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This study examines the long-term influences of entrepreneurship education on six MBA students' careers at the IE business school from 2017 to 2019. Results revealed that students strived for self-improvement, recognized the importance of collaborative learning and co-creation with diverse members, and developed an entrepreneurial mindset and self-growth. Students learnt self-efficacy and confidence with hands-on programs and incubators. Therefore, entrepreneurship education, conducted in diversified classes and including practical projects with companies and NPOs, seems to be effective in making students develop interpersonal skills along with an entrepreneurial mindset. Also, it fosters entrepreneurs, supporters, and the constituency.

Keywords: entrepreneurship, entrepreneurial mindset, collaborative learning, co-creation, higher education

INTRODUCTION

Entrepreneurship Education

Entrepreneurship is vital to economic growth and job creation (Wong, Ho, & Autio, 2005). It includes the process of becoming an entrepreneur (Fayolle & Gailly, 2008; Mahieu, 2006; QAA, 2012). Entrepreneurship education is about motivating potential entrepreneurs, creating ideas, developing entrepreneurs for the social community, and supporting society as a whole (Otto, 1999, p.54). It includes developing entrepreneurs and human resources through entrepreneurial thinking (European Commission, 2008). An important role in entrepreneurship education is to value creation (Lackéus, 2015), think differently (Kutsuna, 2013), and interact with people (Gibb, 2008; Lackéus, 2013), which has become widespread in higher education institutions (Kuratko, 2005). Students are encouraged to become entrepreneurs or use entrepreneurship skills (Konig, 2016). Collaborative learning with universities, governments, and businesses (Etzkowitz & Leydesdorff, 2000) can help to grow the economy, foster entrepreneurial mindsets, and encourage the practical use of university knowledge (Philpott, Dooley, O'Reilley, & Lupton, 2011).

Kourilsky (1995) suggests that entrepreneurship education requires the application of the entrepreneurship implementation and support pyramid (Figure 1). Entrepreneurs who are initiators have the skills and passion to find and pursue business opportunities. Entrepreneurs hire a development team, with entrepreneurial thinking and attitudes during the start-up process, whose aim is to expand their business. The development team comprises people who are indispensable for the expansion of a start-up company. The constituency is widespread, pays tribute to the achievement of entrepreneurs and

development teams' thoughts and actions, and elicits positive effects that result in continued entrepreneurial growth activities, economic development, and self-growth. Entrepreneurship education needs to develop entrepreneurs, the development team, and the constituency.

FIGURE 1
**ENTREPRENEURSHIP IMPLEMENTATION AND SUPPORT PYRAMID**
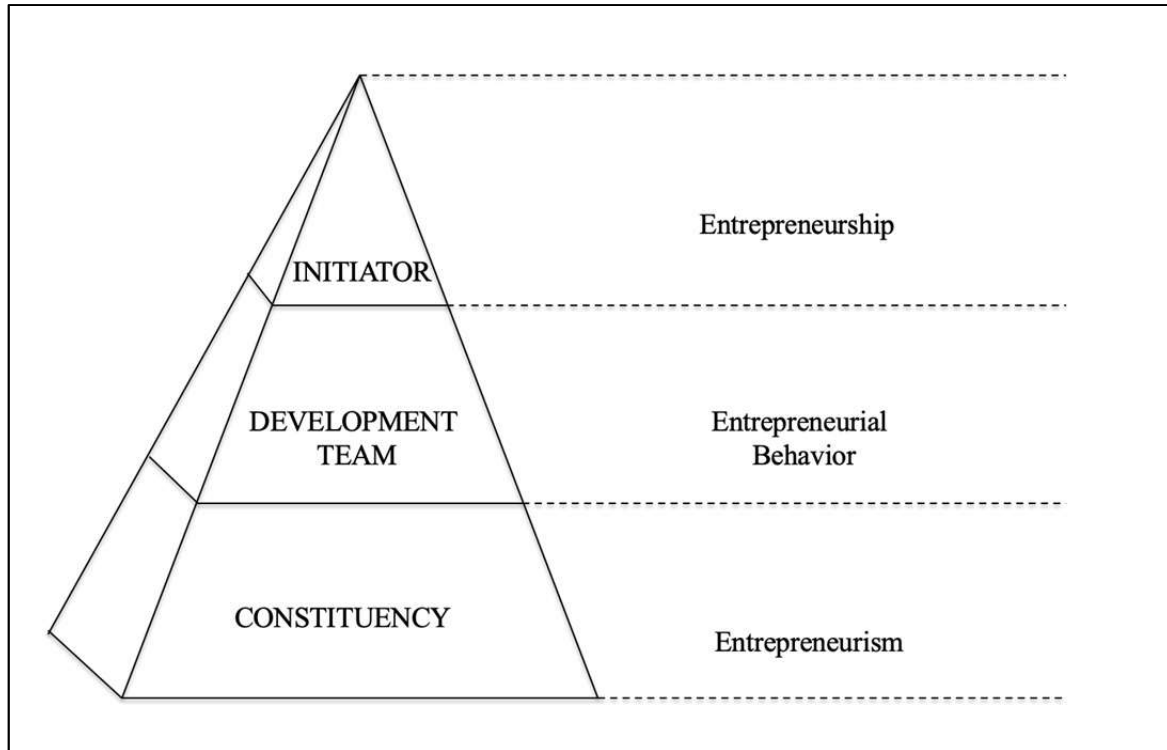
Source: Kourilsky (1995: 12)

Learning Effects of Entrepreneurship Education

Figure 2 shows the curricular, co-curricular, and extracurricular learning pipeline of QAA (2018). In terms of curriculum-based learning, the formal education about enterprise and employability or awareness raises assignments. Using opportunities for problem solving, groups and individuals plan and practice business plans and learn self-reflection, which leads to self-directed learning and reflection, with external insights on influences. Beyond the curriculum, a student engages actively with careers, start-up support centers, entrepreneurial clubs and students' unions, and the media or public relations (PR) companies. Through the creation of business models, events such as contests and interaction with external parties, a person may build active communities, cooperate with companies, and improve his/her leadership capabilities. Then, he or she develops pre-incubation and business plans and receives active coaching and support. In the process of learning—in and beyond the curriculum—awareness of entrepreneurship, the entrepreneurial mindset, capability, and effectiveness may occur. Entrepreneurship awareness provides the opportunity to reflect on what enterprise means to a person. The entrepreneurial mindset includes the student's personality, self-awareness of social identity, ambition, motivation to achieve dreams and goals, self-management, personal confidence, resilience, and curiosity for value creation through participative learning. The entrepreneurial capability includes creativity and innovation, opportunity recognition, creation and evaluation, decision-making through guided experience, and practice. Entrepreneurial effectiveness refers to independent self-direction, goal setting, goal evaluation and review, value enhancement, and leadership.

FIGURE 2
THE CURRICULAR, CO-CURRICULAR, AND EXTRACURRICULAR LEARNING PIPELINE
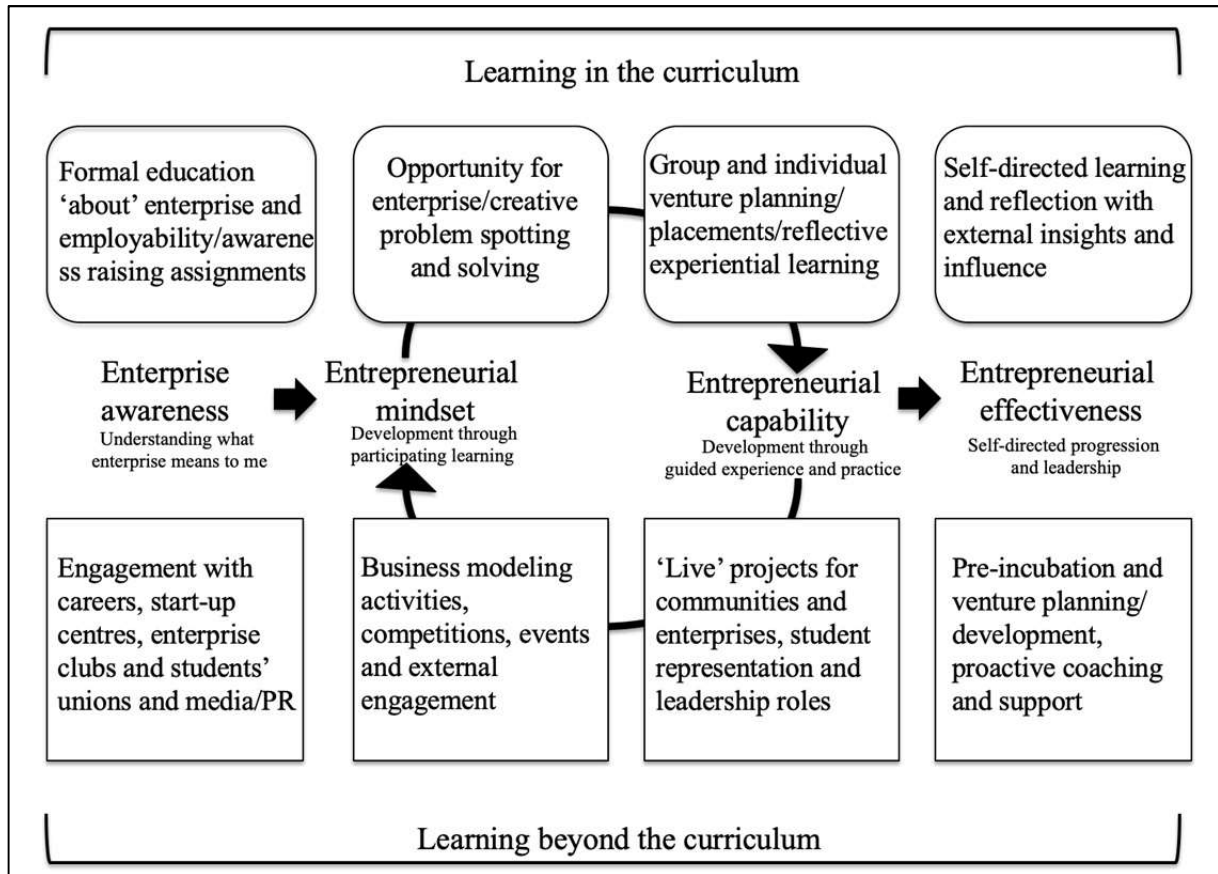
Source: QAA (2018: 22)

Purpose of This Research

Entrepreneurship education aims to improve students' creativity, flexibility, and the process of innovation, thus positively affecting behavioral change and active citizenship. It involves a wide range of participants with the aim of assisting new businesses, increasing employment, and improving career education (QAA, 2018). While the importance of assessing the effects of entrepreneurship education is recognized (Curran & Stanworth, 1989; Gibb, 1987; Konig, 2016; Martiz & Brown, 2012; Storey, 2000; Young, 1997), especially through longitudinal studies (Barrow & Brown, 1996; Fleming, 1996; Wyckham, 1989), few studies show these effects (Pittaway & Cope, 2007). However, some authors have indicated that entrepreneurship education has influenced the improvement of entrepreneurial aptitude (ability and attitude) (Inada, 2018a) and the career after graduation (European Commission, 2012; Inada, 2019; Nabi & Linan, 2011; Taatila, 2010). With this background, the purpose of this study is to clarify what MBA students learn, and how learning is used to influence their careers in entrepreneurship education.

RESEARCH METHODS

Data Collection

IE business school was founded in Spain in 1973 and was one of the top 10 Business Schools in 2017, according to Financial Times Global MBA Ranking (Financial Times, 2018). The emphasis is on entrepreneurship education with an entrepreneurship program that is followed over the duration of the MBA program (Inada, 2018b). Three semi-structured interviews, lasting 709 minutes in total, were

conducted from December 2017 to August 2019 with six randomly selected IE business school MBA students (P, C, F, H, C, and K) at three different points in time. The first interview was conducted during early admission, between December 2017 and April 2018; the second interview was conducted during the school term in September 2018; and the third interview was conducted after graduation between January and August 2019. The interviews comprised five questions (see Table 1). The basic information explored the respondent's age, sex, nationality, and MBA expense. The second question investigated the student's experience of creating a business plan, experience of presenting in a business contest, and launching a new company before starting IE business school. In addition, the reasons for selecting IE business school, core classes, lab/internship, and the contents of elective classes were investigated. Finally, work experience before enrollment, desired occupation at the time of enrollment, and career after graduation were inquired.

TABLE 1
QUESTIONS

1	Basic information（age, sex, nationality, MBA expense）
2	Experience before joining IE business school 　・Creating business plan 　・Presenting a business plan at a business contest 　・Launching a new company
3	Reasons for selecting IE business school
4	Core classes, lab/internship, elective classes
5	Work experience before enrollment, desired occupation at the time of enrollment, and career after graduation

Source: Author

Method
　The modified grounded theory (M-GTA), developed by Kinoshita (1999, 2003, 2007), was used for analysis. M-GTA emphasizes the viewpoint of respondents (Kinoshita 2003, p.44) and uses analysis worksheets (concept, definitions, examples of variations, and theoretical memos) to generate concepts. In consideration of the relationship among concepts, categories are created. An overall picture of analysis is derived from the relationship between the generated concepts and categories, and a model diagram is created. The analysis procedure was used to transcribe the data from interviews, to group similar concepts in an analysis worksheet, and to summarize the concerns, questions, and ideas from theoretical notes. An example of the analysis sheet is shown in Table 2. The concepts were generated from the definition and validation of the data that were collected. Categories were derived from the mutual relationship between concepts, after which model diagrams were compiled.

TABLE 2
ANALYSIS SHEET

Concept	Changes in thinking about starting a business
Definition	Different ways of thinking about entrepreneurship at the time of enrollment, during courses, and after graduation.
Validation	P: Even if you succeed in a company, you can only be the leader of a large organization. On the other hand, start-ups are more satisfied with the MBA-educated organization, finance, operations, strategy, and marketing. C: How to find a problem and create an idea is important to start a business, but I think, the most important thing is to talk to people in order to use your knowledge and the knowledge of others. My knowledge is limited. Therefore, it is important to go out, exchange ideas, and communicate with the team. F: After taking an entrepreneurship class, I came up with a business idea. I have only one consulting career, but I thought the start-up experience was a good thing. I am most afraid of starting up and not making money. If you get a job, you will be paid a certain amount of money and I think it is safe. However, with a start-up, you only need to make money. After starting up for a year, I began to think that the experience would be beneficial and useful for employment. Start-ups are potentially very attractive. I want to turn my own career into a start-up. Even if I failed it for a year or two, I began to think that it was not a waste of time. H: I study entrepreneurship, but I do not want to launch a start-up by myself. Nevertheless, I think it will be a good skill because there are many opportunities in entrepreneurship. Actually, I was talking to a person who started business this morning in Japan. It is easier to imagine his situation. I can understand him better than I can someone who has been working for a company for a long time. T: I realized that I am not an entrepreneur in my final career. I want to be in a position to support entrepreneurs. However, to do that, I need to know entrepreneurs. I want to build a career in two or three years that leads to the job of supporting entrepreneurs in Japan. K: I want to create a programing business. I am happy to do my job selling my products as a manufacturer. It is more interesting to sell what I make.
Theoretical memo	Understand students' own strengths and weaknesses. ▪ Compare large companies with start-ups. ▪ Determine whether being an entrepreneur is suitable for myself. ▪ Know about the importance of entrepreneurship and entrepreneurial support.

Source: Author

RESULTS

Responses to Research Questions

Table 3A and Table 3B show the responses from the six subjects (P, C, F, H, T, and K) to the research questions. The basic information collected with Question 1 (age, sex, nationality, and MBA expense) indicates that P was in the age group 20–29 years, 5 other people were in the age group 30–40, and all members were male. The respondents' nationalities were Indian, Russian, and Brazilian, and three members were from Japan. Except for T, all members paid their own MBA expenses. T had financial support from his company.

P and C had created business plans before enrolling in the MBA program (Question 2). Other respondents had not created any business plans or have entrepreneurial experience. None of them had participated in business contests before enrolling in the MBA program. The number of students who indicated the various reasons for enrollment (Question 3) were as follows: diversity–all 6 students; entrepreneurship–3 students (C, T, and K); MBA ranking–3 students (F, H, and K); and program duration–3 students (H, T, and K). Other reasons were that P liked many practical programs and elective courses, and K realized the attractiveness of obtaining a dual degree in MBA and Business analytics & Business data.

Regarding Question 4, an international MBA program in 2017 consisted of 13 months. In the case of the dual degree program, after completing the required basic subjects of the International MBA program, students proceeded to specialized subjects. Terms 1 and 2 required core subjects to be done, including entrepreneurship, economics, government and society, business strategy, marketing, accounting, finance, statistics, operations, technology, human resources management, critical thinking, business presentations, and career strategies. In the Term 1 and Term 2 courses, students worked with diverse groups from more than 10 different countries and careers. For their choice of lab/internship, students could choose a start-up, consulting, technology, social impact lab, or internship to solve actual problems by learning. Regarding the choice of either lab or internship, P chose an internship, C was in a start-up lab, F was in a social impact lab, and H and T were in a tech lab, while K was not in any labs or internship as he enrolled in a dual degree program. Over 120 elective courses were available to meet the needs of diverse members. P decided to go to Hong Kong business school to accelerate his finance skills and network in Asia. C, F, H, and T took elective courses at IE business school. K moved to a dual degree instead of elective courses.

Question 5 explored participants' career history before enrollment. P worked for a major accounting firm and did freelance work in finance. C was a banker; F was a chemical, oil, and gas engineer. H was a supply chain manager in the automotive industry and had been in Mexico for three years. T worked at a trading company involved in factory construction in Saudi Arabia and Iran and had been in the United States for two years. K was in a sales division at a software company in Singapore. At the time of admission, P, F, H, and T preferred to work at major companies while C and K were interested in entrepreneurship. After graduation, P, C, F, and K chose their ideal job as entrepreneurs. H and T continued their employment with the same company as before enrollment. However, they supported start-ups.

TABLE 3A
SURVEY RESULTS

Respondents	P	C	F	H	T	K
Nationality	India	Russia	Brazil	Japan	Japan	Japan
Age	20	30	30	30	20	30
MBA expense	Private	Private	Private	Private	Company support	Private
Reasons to select IE business school	Diversity, practical program, elective courses	Entrepreneurship	MBA ranking	Diversity, MBA ranking, program duration	Program duration	Diversity, MBA ranking, program duration, dual degree
Business plan	☐	-	-	-	-	-
Business plan contest	-	-	-	-	-	-
Entrepreneur experience	-	☐	-	-	-	-
Occupation before joining IE business school	Accountant, freelance in Finance	Banker	Engineer	Operation in a car manufacture	A developer in a trading company	Sales at a software company
Ideal job at joining IE business school	Consultant at a major company	Entrepreneur	Consultant at a major company	Operation in a car manufacture	New business creator in a trading company	Entrepreneur, Africa business
Ideal job after graduation	Entrepreneur	Entrepreneur	Entrepreneur	Operation in a car manufacture	New business creator in a trading company	Entrepreneur

☐ Yes　-　No

TABLE 3B
SURVEY RESULTS

Respondents	Term 1 Group Partners	Term 2 Group Partners	Lab	Elective courses
P	India, Colombia, Philippine, USA, Russia, Peru, Japan	India (Finance), Venezuela (Lawyer), Portugal (Entrepreneur), South Africa (Manufacturer, Operations), Lebanon (Politics), Italy (Consulting), Colombia (Marketing)	Internship	Exchange program at Hong Kong business school
C	Colombia (bank), Guatemala (marketing), US (IT), Israel, UK (economic), Japan (entrepreneur support), Russia (bank)	United States (Consulting), Argentina (Finance), India (Engineer), Lebanon (Logistics), Peru (Brand Manager), Russia (Bank)	Start-up	IE elective courses (mainly entrepreneurship, finance)
F	Kuwait (finance), Japan (manufacturer), Switzerland/France (retail), Peru (consumables), United States (finance), Brazil (energy)	Peru (Sales and Marketing), India (Consultant), UK, Mexico (Supply Chain), Israel (Accountant), Italy (Lawyer), Brazil (Energy)	Start-up	IE elective courses (mainly entrepreneurship)
H	Kuwait (finance), Japan (manufacturer), Switzerland/France (retail), Peru (consumables), United States (finance), Brazil (energy)	Spain (financial), Thailand (manufacturer), Venezuela (oil), Nigeria (financial), Japan (manufacturer), United States (IT), India (consumables)	Tech	IE elective courses (mainly operations)
T	Colombia (entrepreneur), Bulgaria (insurance), Spain (financial), Brazil (engineer), India (accounting), United States (HR), Japan (trading)	United States (finance), Colombia (aviation), Dubai (consultant), Greece (finance), Brazil (accounting), Lebanon (medical), Japan (trading company)	Tech	IE elective courses (mainly entrepreneurship and technology)
K	Germany (Consultant), Italy (Consultant), United States (Healthcare), India (Engineer, Entrepreneur), Switzerland (BP Operation), Japan (Software)	India (Consulting), Ireland (Finance, Investment Bank), Venezuela (Consumer Products, Cosmetic Brand Manager), Brazil (Finance), Spain (Manufacturer), Japan (Software)	Dual degree	Dual degree

Source: Author

Categories and Concepts by M-GTA

Table 4 shows the categories, concepts, and definitions of the M-GTA analysis results. Eleven concepts were identified from which five categories were defined. The concepts were: reasons for studying MBA, choice of IE business school, collaborative learning with members from diversified and different backgrounds, knowledge accumulation, practical program, learning in the world, career choice, large corporate preference over entrepreneurship, changes in thinking about starting a business, value of MBA recognition, and program satisfaction. The following categories were identified: strive for self-improvement, importance of collaborative learning and co-creation with diverse members, career development from practical programs, entrepreneurial mindset from large corporates, and recognition of self-growth.

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TABLE 4
CATEGORIES, CONCEPTS, AND DEFINITIONS

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【Category】	[Concept]	Definition
Strive for self-improvement	Reasons for studying MBA	The reason for studying the MBA was the conflicts in the work experience of the students and the desire to improve them.
	Choice of IE business school	Reasons for choosing IE business school include entrepreneurship education, MBA ranking, program duration, technology, and dual degree, which have the potential to improve a student.
Importance of collaborative learning and co-creation with diverse members	Collaborative learning and co-creation with members in a diverse setting	Students created value together, benefiting from their different backgrounds, nationalities, and experiences.
	Knowledge accumulation	Students learned in various MBA subjects.
Career development from practical programs	Practical program	Students increased their potential for entrepreneurship and employment by gaining experience in practical programs.
	Learning in the world	Students learned in the world according to students' needs.
	Career choice	Students chose a career based on their ideal career and financial situation.
Entrepreneurship mindset from large corporates	Large corporate preference over entrepreneurship	Many students at the time of enrollment hoped to work at a large company as a career after graduation.
	Changes in thinking about starting a business	Students had different attitudes toward entrepreneurship at the time of enrollment, during enrollment, and after graduation.
Recognition of self-growth	Value of MBA recognition	Students were able to learn and grow through the MBA program and their experience.
	Program satisfaction	Students showed satisfaction with the MBA program and their experience.

Source: Author

Figure 3 shows the category formation. The horizontal axis reflects time (before MBA, Term 1 and 2, Lab/Internship, career choice, and after MBA), and the vertical axis shows the change in the student's thinking. Students reflected on themselves before enrolling in the MBA program, and recognized the importance of collaborative learning and co-creation with diverse members in Terms 1 and 2. A career is formed from practical programs according to students' wishes through labs, internships, and elective classes. An entrepreneurship mindset originated from large corporates to practical entrepreneurship experience when a career was selected. After graduation from the MBA, they recognized their self-growth with respect to confidence and self-efficacy.

FIGURE 3
CATEGORY INFORMATION
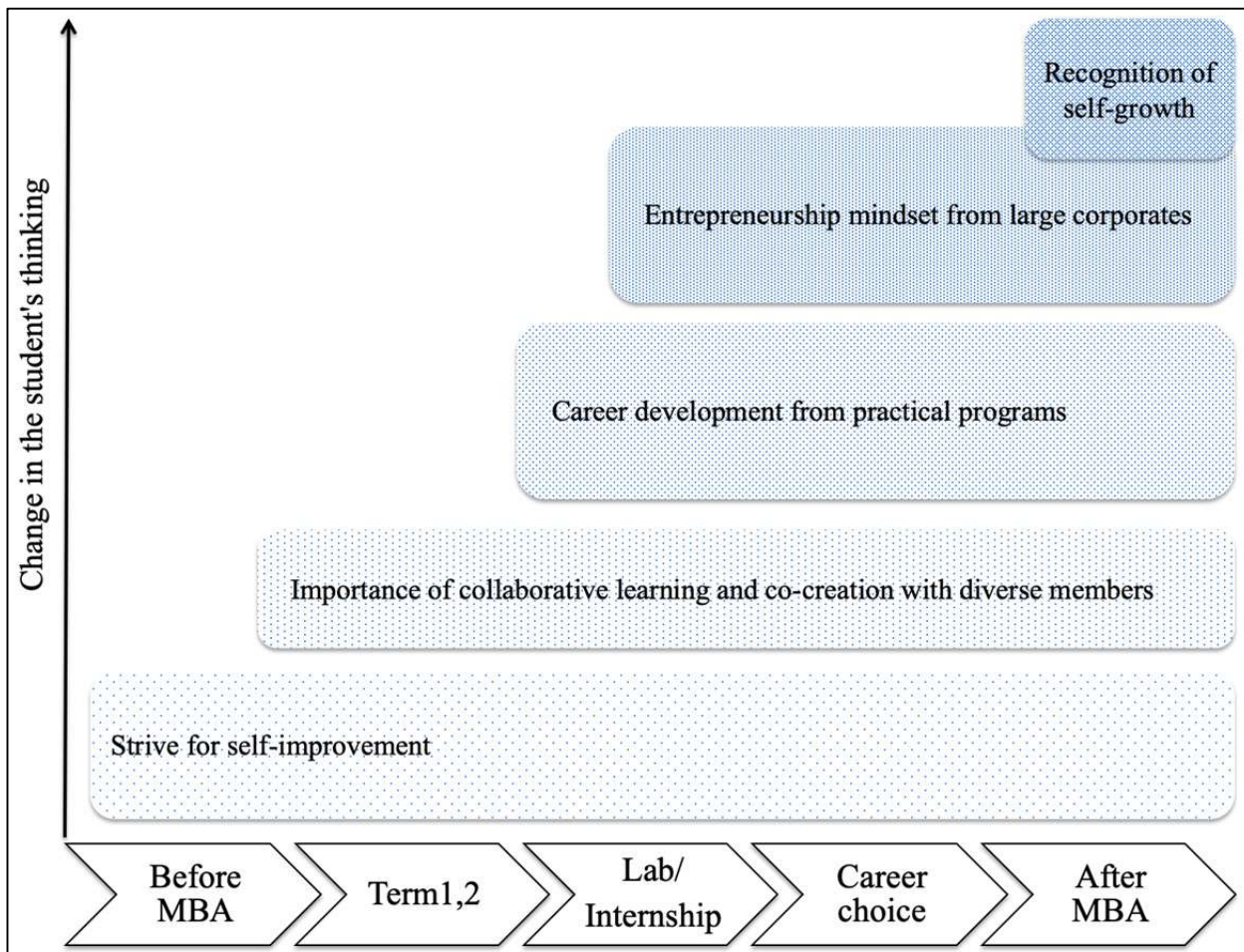
Source: Author

Career Trends Regarding Entrepreneurship and Employment

Figure 4 shows career trends in entrepreneurship and employment. The vertical axis shows the student's entrepreneurship and employment status. If the desire to start a business is high, the score is 3, and if the desire to find a job as an employment is high, the score is -3. The horizontal axis is the point in time, namely, before MBA, or during Term 1, Term 2, lab, elective courses, career choice, and after MBA.

In the case of P, the score is -3 because he wanted to work for a major consulting company before enrolling in the MBA program. During Term 2, he perceived working at start-ups as highly satisfying because he could practice what he learned in the MBA program; the score increased to -2. During career

selection, the score was -1 because he chose to find a job to repay his MBA student loan; the score of 3 afterwards, indicates his intention to work at a start-up.

C worked as a bank clerk for 10 years before enrolling in the MBA program, starting with a score of -3. He took core courses in Terms 1 and 2, gradually gained knowledge of entrepreneurship, and experienced simulated entrepreneurship in lab and elective courses; his score increased to 3. However, when choosing a career, he was unable to start a business immediately due to the repayment of MBA student loans; thus, a score of -1 reflecting his search for a job. His subsequent employment was aimed toward entrepreneurship, and he showed a strong will to be an entrepreneur in the future.

In the case of F, the score was -3 at the outset because he was an engineer before enrollment and wanted to work for a major consulting company. He was interested in entrepreneurship courses in Terms 1 and 2, and his score became -2. After that, by planning business ideas at the lab and elective courses and participating in business contests, he discovered the value of entrepreneurship rather than the fear of entrepreneurial failure. The willingness to start a business increased the score to 3, and he showed a willingness to start his entrepreneurial career.

H commenced at -3 because he worked for a major manufacturer and was not interested in starting a business when he first enrolled in the MBA program. He did not change his position, even though he took core courses. However, he realized that having knowledge of entrepreneurship would be valuable. Eventually, he expressed willingness to return to the company and pursue procurement, and his score remained -2 after graduation. T originally resisted, but was interested in, entrepreneurship when he enrolled in the MBA program. In the initial class, he did not understand the importance of entrepreneurship and the score was continuously at -3. However, as he worked with various members and in labs and elective courses, a clear vision emerged of supporting entrepreneurs at a company rather than being an entrepreneur. Therefore, the score became -1 after career choice and increased to 0 after graduation. K worked for a company when he enrolled in an MBA program with a view to entrepreneurship. However, there was no change to the entrepreneurship score of -3 during the first core courses. Subsequently, by meeting entrepreneurs, new businesses, and serial entrepreneurs in Africa, he considered the possibility of starting his own business, and the score increased to 1. At the point of selecting a career and starting a business, the score increased to 3.

FIGURE 4
CAREER TRENDS IN ENTREPRENEURSHIP AND EMPLOYMENT
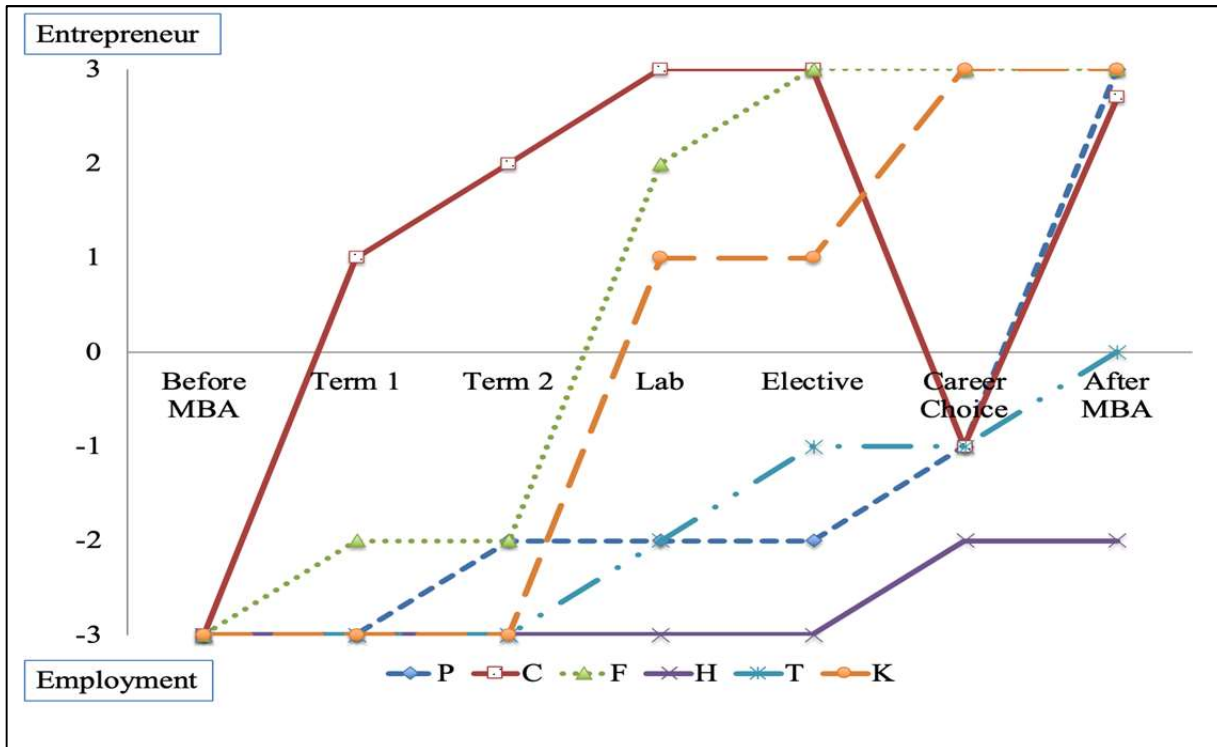
Source: Author

DISCUSSION

Considering the details of the six MBA students, P challenged multifaceted issues, such as [*strive for self-improvement*], as he pursued entrepreneurship education with various members. "Learning leadership has improved my hard and soft skills," "teams of seven, looking at seven problems, seven solutions, all are not wrong." He learned the [*importance of collaborative learning and co-creation with diverse members*]. In the category [*career development from practical programs*], he experienced an overseas internship for the first time and engaged in business development to maximize managerial and organizational strategies and corporate value. He also studied at Hong Kong business school as an exchange student during the elective period, where he met inspired financial expertise and professors. He showed his willingness to start his own business. For the category [*entrepreneurship mindset from large corporates*], at the beginning of enrollment, he recognized that the business risk for entrepreneurs was high, and indicated that he could not start a business. However, he said, "even if I am successful in a company, I can only be a leader in a large organization. On the contrary, start-ups can learn and intervene in everything I have learned in the MBA and have a high degree of satisfaction." As a career choice after graduation, "I would like to support a start-up from a financing perspective as a consultant." After the MBA, he accepted multifaceted communication and said that his self-growth had improved with respect to confidence, positivity, and interpersonal skill in the category [*recognition of self-growth*].

C worked for 10 years as a bank clerk in Russia, and showed enthusiasm "I want to control my life as an entrepreneur" in the category [*strive for self-improvement*]. In Terms 1 and 2, he learned about the [*importance of collaborative learning and co-creation with diverse members*]. He said, "For my diversified life gave me different perspectives with geographical and cultural differences. Many opportunities to talk in front of people gave me lots of feedback as technology is evolving." Further, he said, "pitching four times in front of investors, I failed and was frustrated. However, I was able to work

with the team from a social perspective and got rid of what I was afraid of." He had a simulated experience of entrepreneurship from the module *career development from practical programs* and a very strong hope for entrepreneurs. Based on the module [*entrepreneurship mindset from large corporates*], he sought to become an entrepreneur, stating, "I am dreaming of starting a business," "I want to do business with creativity and responsibility." However, he was concerned with repaying MBA student loans, which required a balance between entrepreneurship and employment. He insisted, "I am happy to recognize self-growth. I have changed my mind and myself. My self-esteem has increased" in the category [*recognition of self-growth*].

F intended to change jobs from engineering to consulting as [*strive for self-improvement*] before MBA enrollment. He said, "Diversity and collaborative learning were useful. I had never experienced such diversity" in the theme [*importance of collaborative learning and co-creation with diverse members*]. In the category [*career development from a practical program*], he chose an NPO project in an elective course and proposed solutions to local issues in South Africa. With the experience of announcing business plans at business contests, he set his sights on entrepreneurship as a career. At enrollment, he wanted to be a consultant to a large company, but with respect to the category [*entrepreneurship mindset from large corporates*], he had come to believe that the entrepreneurship experience would be beneficial and would help him find a job. He said, "I'm looking to turn my own career into a start-up, and even if I fail for a year or two, I don't think it's a waste of time." In addition, he said, "Regarding recognition of self-growth, IE was entrepreneurship, process learning, friendship, and challenge. I think the value of an MBA is the experience of life" in the theme [*recognition of self-growth*].

H realized the difficulties of local human resource management in Mexico and decided to join a business school based on this [*strive for self-improvement*] to acquire the ability to work well with people in diversity. At the beginning of his enrollment, he acknowledged the [*importance of collaborative learning and co-creation with diverse members*], saying, "Everyone in the diverse team was searching for the best way and working in trial and error." He recognized that "I can understand what I can do and what I am good at." In [*career development from a practical program*] "it was a good case to show leadership in the group that I aimed at before the MBA." For the category [*entrepreneurship mindset from large corporates*], he indicated that knowledge of entrepreneurship is useful and can facilitate an understanding of the entrepreneur's situation and way of thinking. He also elaborated his clear future career plan in the category [*recognition of self-growth*].

T enrolled in an MBA program for [*strive for self-improvement*]. He was concerned about his relatively narrow perspective at a company and required entrepreneurial thinking in his job. Regarding the [*importance of collaborative learning and co-creation with diverse members*], he said, "It's better to have some diversity, gaps, some splinters, and roundness for character." He used to have the experience, "when I was in America, it was a 0 or 1 or black and white world. I am very positive that IE business school was flexible and had a mature discussion." For the category [*career development from practical program*], he indicated that his meeting with a respected professor J led to a sense of unease regarding the lack of entrepreneurship in Japan; this led to an interest in entrepreneurial support. With respect to the category [*entrepreneurship mindset from large corporates*], he said, "I personally think supporting some entrepreneurs creates an impact. It's better to multiply them as they grow." Regarding [*recognition of self-growth]* he said, "I can give feedback when any industry field and any conflict comes, due to IE diversified experience," "I stepped out of my comfort zone and understood how to deal with something scary." It is clear that he could work actively and with self-efficacy.

K enrolled in the MBA program because of a desire to develop himself in the category [*strive for self-improvement*]. Regarding [*importance of collaborative learning and co-creation with diverse members*] he says, "I talked to various people and made various networks." Specifically, he used his IE graduates' network for [*career development from practical programs*] and went to Africa to explore the possibilities of market research and entrepreneurship. He met an IE graduate entrepreneur and was inspired by the use of the application that he developed for 200 million markets. He also learned the joy of entrepreneurship by simulating the entrepreneurship of selling Japanese food in Spain. As a dual degree, he learned programming such as AI with Big data. With respect to the theme [*entrepreneurship mindset*

from large corporates], he launched food business that could demonstrate Japan's strength even in a declining population. In the theme [*recognition of self-growth*], he learned about business branding and networking through hands-on learning.

This research analyzed and clarified the process of learning and choosing a career for IE business school graduates. The results reveal that all six students accelerated their entrepreneurial awareness, and that most students developed entrepreneurial mindsets or entrepreneurial thinking and considered becoming entrepreneurs. They recognized the importance of intercultural communication, global perspectives, collaborative learning and co-creation in working with diverse members and developed self-efficacy and confidence through hands-on programs and incubators. Therefore, entrepreneurship education, comprising diversified class profiles and practical projects with companies and NPOs, seems to be effective.

CONCLUSIONS

Through three periods of interviews, it became obvious that students strived for self-improvement and recognized the importance of collaborative learning and co-creation with multinational members from various backgrounds. They had core and elective courses with practical programs, and realized which skills they lacked and what they needed to learn and achieve. While conflicted and attempting various projects, they engaged in self-analysis to see whether the learning was effective and accelerated their progress toward career goals. They also developed entrepreneurial mindsets with confidence and self-efficacy. Finally, they recognized their self-growth.

In the entrepreneurship implementation and support pyramid proposed by Kourilsky (1995) for promoting and supporting entrepreneurship (see Fig. 1), F and K are entrepreneurs; T is a supporter of the entrepreneurs as a development team; and H is a supporter or constituency. P and C were supporters at the time of the survey, but will move toward entrepreneurship in future. To expand the circle of entrepreneurship and entrepreneurial thinking in the society proposed by Otto (1999), entrepreneurship education needs to foster entrepreneurs, supporters, and the constituency. Similar to QAA's (2018) curricular, co-curricular, and extracurricular learning pipeline, students were exposed to entrepreneurship through the courses in Terms 1 and 2, and an entrepreneurship mindset occurred during the lab, internship, and elective courses. After that, students enhanced their entrepreneurship skills or entrepreneurial thinking. At the same time, learning from outside the entrepreneurship education program fostered entrepreneurship to leadership skills by working with the start-up support center, business plan contest, and incubation coaching. In the case of IE business school, practical courses in cooperation with companies are provided within the entrepreneurship education program, while learning outside the entrepreneurship education program includes overseas and local corporations, NPOs, exchange study abroad, internships, incubation centers, and others.

Since this study is limited to a case study of IE business school, a long-term survey of entrepreneurship education programs in other universities is needed for future studies.

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