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CRAFTING VALUE CO-CREATION: IS LEARNING ENTREPRENEURSHIP IN NORMAL COURSES UNUSEFUL DILEMMA?

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Abstract: Crafting value co-creation is an important key for entrepreneurship education, especially students should learn in normal course. The value of learning focuses on how to continuously fill the market gap, so the mechanism for coordination and cooperation in jointly creating value. Nearly ten years, learning entrepreneurship in normal courses are in a predicament. The students' participating in entrepreneurship education are influence their entrepreneurial intention. This study focuses on the students of technical college that learned by the entrepreneur courses of three different semesters. Those courses are designed by crafting students' value co-creation. The result shows that learning in the entrepreneurship course has well relationship between the entrepreneurial perception and intention. In the entrepreneurial intention, the entrepreneurial feasibility of students mediated between entrepreneurial desirability and entrepreneurial intention at before, after and changed learning. That enhanced the students' entrepreneurial cognitive. The longitudinal research got the theories existence in the entrepreneurship practice of entrepreneurship education and benefit to build the Taiwan's entrepreneurship education development.

Keywords: entrepreneurship education; entrepreneurial intention; value co-creation; curriculum and teaching.

1. INTRODUCTION

The university should effectively develop students' entrepreneurship education. The United States' formal course of entrepreneurship education has been confused its teaching effectiveness in the past (Clark, Davis, & Harnish, 1984). The main teaching objectives and resources lead to differences in learning outcomes. For example, entrepreneurship education emphasizes the students' reinforcement and support of the student learning process. Management education, on the other hand, is a learning of knowledge. Both have very different teaching objectives and result in different teaching outcomes (Löbler, 2006). For example, filling the market gap is one of the pioneering roles. Marketing trends, companies should establish a mechanism of coordination and cooperation that together create value (Vargo & Lusch, 2016). The basis of interaction as a co-creation is the key to the reality that we are shaping (Prahalad & Ramaswamy, 2004). For formal education, students can improve the impact of entrepreneurial perception on their entrepreneurial intentions as soon as they start a college education such as 10 Chinese-Universities students (Zhang, Duysters, & Cloodt, 2014). Even entrepreneurial self-efficacy can impact entrepreneurial intentions even as MBA students in the United States (Wilson, Kickul, & Marlino, 2007). The intensity of the impact of an entrepreneurial education perception (EEP) depends on the initial level of entrepreneurial intention and prior related experiences. The greater prior exposure and initial intention are, the lower impact of the EEP is (Fayolle

and Gailly, 2015). Krueger & Brazeal (1994) pointed out that past studies emphasizing education and prior entrepreneurial experience may influence attitudes toward starting a business. However, entrepreneurial education is different from general education, and related entrepreneurial attitudes or perceptions have not yet been validated. But students' widely total entrepreneurial attitudes are measured, entrepreneurial intentions do not increase due to exposure to entrepreneurship education (Vukovic, Kedmenec & Korent, 2015). The entrepreneurs' characteristics and skills are tightly correlated with the idiosyncrasies of Romanian business environment (Sîrbu, Bob & Saseanu, 2015). During school age, all students in the West German control group received formal and informal education in a free-market economy, while East German students did or did not receive free-market education. Difference-in-differences estimations show that school-age education in a free-market economy increases entrepreneurial intentions (Falck, Gold & Heblich, 2016). Entrepreneurial intention is as a proxy for entrepreneurial behavior variables, if you can increase from the entrepreneurial curriculum to increase, it will be more conducive to entrepreneurship as a career choice among college students. In other words, the transient cognitive coherence effects from the time point before and after learning can enhance the ability of the learners themselves or the increase of entrepreneurial intention caused by the course learning. This also shows that the university pushes formal entrepreneurship course to serve and verify the entrepreneurial intention model, which can deepen the effectiveness of entrepreneurship education. The lack of strong theoretical validity of the above theory led to theoretical rationale (theoretical rationale) is limited, and single point in time after learning the common method of variation may produce bias, which is less consistent research results. It also leaves researchers confused at the individual level of entrepreneurship (Gartner, 1989). The pre-2010 study discussed both entrepreneurial and business curricula, and post-2010 argued that starting an entrepreneurial program was not necessary (Martin, McNally & Kay, 2013). Therefore, the study of social cognition in the past (Shapero & Sokol, 1982) that entrepreneurship perception can predict the theoretical validity of entrepreneurial intentions to explore the University of Technology students in entrepreneurial courses before and after the study, the entrepreneurial intention of the increase is still Support.

2. LITERATURE REVIEW

This section discusses the literature on the theoretical basis of learners' entrepreneurship learning, entrepreneurial perception and entrepreneurial intentions, and puts forward the relationship between variables and research hypotheses.

2.1. Entrepreneurial value co-creation learning (EVCCL)

Entrepreneurship education is important in higher education to let students develop the potential or skills to start a business (Richardson & Hynes, 2008) and change their career choices (Sherman, Sebora & Digman, 2008). Entrepreneurship forms of education, including entrepreneurship competitions, official credit courses, non-credits of workshops and entrepreneurial activities. In terms of teaching methods, the formal credit course is very important for university to promote entrepreneurship education, students can know what is business, how to start a business and the timing, and when is the learning process to allow students to re-examine and choose the right career (Watkins, Russo & Ochs, 2008). Co-creation is also a significant impact on the future in choosing whether to work, self-employment or start-up, by launching operational resources (Vargo and Lusch 2006). Learning from both entrepreneurial and non-entrepreneurial courses is very different from what it takes in teaching objectives (Löbler, 2006), which shows the importance and uniqueness of learning for an entrepreneurial course. In the past two decades, entrepreneurship education began with the management of academic principles in many American business schools, such as Sloan School of Management, MIT (Raichaudhuri, 2005). However, the general business management education has no obvious influence on individual entrepreneurship (Hostager & Decker, 1999). The same is true for entrepreneurs in India, where existing management education is not a driver of entrepreneurial attitudes (Gupta, 1992). Entrepreneurial education planning needs are different from traditional management

programs in content and pedagogical design (McMullan & Gillin, 1998). The continuous development of formal entrepreneurship education in American universities and the establishment of entrepreneurial curricula and institutions are the new principles that allow the creation of an academic environment for the development of entrepreneurs (Lüthje & Prügl, 2006). This activity affects student entrepreneurship decision making processes (Hostager & Drucker, 1999). Kolb's (1984) experiential learning theory (ELT) states that "knowledge creation processes are empirically transformed," in other words, students engage in substantive learning of activities that can be understood and changed knowledge through activities, analytical insights, and integration. The learning process is gained co-creation by business partners (Grönroos and Helle 2010) and measures the learning of value creation. Therefore, the entrepreneurial value to create perception refers to the entrepreneurial learning process. This perception can be assessed in advance or afterwards. Learners can only know how to develop and gain value by creating value through continuous creation.

2.2. Entrepreneurial value co-creation intention (EVCCI)

Human capital is a very important human cognitive foundation (Becker, 1964). The model of entrepreneurial intention from social cognitive theory has an important relevance to entrepreneurial learning. Entrepreneurial intentions mean a specific goal of creating a new business, which is planned (Krueger, 1993). Entrepreneurial intention models are hypothetical behaviors that have a specific value for planning, such as creating new businesses (Krueger, 2000). One of the important models is the entrepreneurial event of Shapero & Sokol (1982), which came from the development of social learning by Bandura (1986). For an important involvement of a person to start a business, personal involvement in a business event generates more perceived desirability and perceived feasibility than other events. The former is a measure of the extent to which attracting individual perceptions into entrepreneurial behavior, which is similar to Ajzen's (1991) entrepreneurial attitude and subjective norms (Krueger, 2000). The latter are individuals who perceive self-possession as entrepreneurial behavior, which is also very similar to Ajzen's (1991) perceived behavioral control (Krueger, 2000). The third is propensity to act, which will affect entrepreneurial intentions and further impact on entrepreneurial events. This model may be interfered with by alternative events and may even have a positive or negative impact on the situation. For example, students gained positive business opportunities from self-applied patents, but fear of being fired in the workplace is negative. Shapero & Sokol (1982) and Krueger & Carsrud (1993) explain that this approach refers to an individual's intention to understand a particular behavior. Such as a personal motivation are obtained the influence behavior of motivational factors, and individuals are trying to plan what they can do in practice. The exploration of entrepreneurial perception, which focuses on the change of current situation or attitude towards learning, refers to the entrepreneurial perception of an individual at a certain time of starting a business. Shapero & Sokol (1982) also think that the attitude of individual entrepreneurship is an important factor in entrepreneurship and this behavior can be used as a proxy for entrepreneurial intentions. It can be seen that entrepreneurial perception and entrepreneurial intention play an important role in the entrepreneurial intention model. Frazier & Niehm (2004) surveyed undergraduates participating in home and consumer science programs. Students believed successful small businesses, family members, self-employment and participation in entrepreneurial programs would make their startups a success. That gives students to have self-confidence to implement entrepreneurial activities. Kolvereid & Moen (1997) pointed out that MS students majoring in entrepreneurship are easier to start a business than majoring in other curricula. And the entrepreneurial intent is the same effect. Men tend to have higher entrepreneurial intentions than women. Li (2007) points out that both Chinese and Indian international students in the United States have an influence on their entrepreneurial intentions in the planning behavior theory (TPB), personal attractiveness and perceived feasibility. Stanforth & Muske (1999) point out that students in family and consumer sciences are highly interested in starting a business. However, entrepreneurship education does not have the same effect for all students (Lüthje & Franke, 2003). Levenburg, Lane & Schwarz (2006) shown that Entrepreneurship programs affect the

entrepreneurial intentions of their students. Entrepreneurship courses, non-business students have a higher entrepreneurial intention than business school students.

Watkins, Russo & Ochs (2008) pointed out that under the guidance of entrepreneurship courses, Polytechnic students can create students' network technology entrepreneurship to develop, and many researches mainly focus on business students. However, such students ignore the importance factor that entrepreneurship and management are touch similarities in academic study. Therefore, the entrepreneurial value of a total innovation is the entrepreneurial learning process. The intent is not to be assessed in advance or afterwards. Learners can only proactively and consciously promote entrepreneurship through sustained value co-creation.

2.3. Entrepreneurial value co-creation learning and intention

Kuehn (2008) pointed out that when the entrepreneurial intention can predict the entrepreneurial behavior, entrepreneurial educators should benefit the basic research on the intention of entrepreneurship, especially in entrepreneurship education can increase students 'entrepreneurial learning experience, and more conducive to enhance students' entrepreneurial intentions. Auken, Fry & Stephens (2006) pointed out that the role played by entrepreneurial activities can enable college students to take part in entrepreneurship courses, encourage entrepreneurs to become entrepreneurs and provide assistance as entrepreneurs in order to enhance their entrepreneurial intentions. Hamidi, Wennberg & Berglund (2008) pointed out from the cross-sectional study of the results of the course that creativity has a positive relationship with previous entrepreneurial experiences and entrepreneurial intentions, while financial risks have a negative relationship with entrepreneurial intentions. It also states that entrepreneurship students higher than other course students have more significant entrepreneurial intentions. Students learn through entrepreneurship, perceived themself becoming an entrepreneur will be more helpful. That result in perception of entrepreneurial learning benefits, self-possessed ability to become entrepreneurs, learning viability of entrepreneurship. The business intention of entrepreneurship has been enhanced Effect, but also shorten the time to achieve entrepreneurial behavior. Krueger (2000) pointed out that there is a similar definition of entrepreneurial viability perception and entrepreneurial self-efficacy, and that the perception of entrepreneurial profitability is also similar to that of an individual. If this assumption is likely to be established, then it is in agreement with Zhao, Seibert & Hills (2004). The verification results are similar, that is, entrepreneurial learning perception will affect entrepreneurial intentions through entrepreneurial self-efficacy. The students in the "experimental" group increased their competencies and intention toward self-employment, but students in the "control" group did not (Sánchez, 2013). Therefore, when students perceived entrepreneurial value co-creation (EVCCP) to their career development, they will promote themselves to EVCCI. As students perceive themselves as beneficial to career planning, VCC will enhance self-fulfillment of value co-creation feasibility (VCCF) perceptions. Students' perception of entrepreneurial value co-creation desirability (EVCCD) will make aware with entrepreneurial value co-creation feasibility (EVCCF), and further influence its evaluation of EVCCI. The single point in time of this research construct is shown in Figure 1.

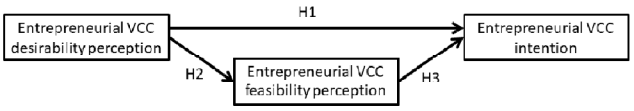

Figure 1: The variables' relationship at single point

This study three hypothesizes are shown as follows.

H1: At the single point, students' EVCCD perception and EVCCI is positively related.

H2: At the single point, students' EVCCD perception and EVCCF perception is positively related.

H3: At the single point, through EVCCF perception, students' EVCCD perception positively influences EVCCI.

Furthermore, the entrepreneurial intention model lacks longitudinal methodology in the study of entrepreneurship education, such as observing the effect before and after learning (Fayolle, Gailly & Lassas-Clerc, 2006). Students' attitudes or intentions changed to have

time laggs for entrepreneurial learning. Time differences in attitude toward entrepreneurship before and after entrepreneurial course significantly affect entrepreneurial perception. entrepreneurship courses is a very important learning and entrepreneurial perception and entrepreneurial intention have a significant impact (Peterman & Kennedy, 2003). Some studies have been conducted in this direction. For example, no difference before and after their participation in the entrepreneurial course, but the mean of entrepreneurial intention increased and reached significant proportions (Fayolle, Gailly & Lassas-Clerc, 2006). Visible to measure the increase in entrepreneurial intentions should be observed before and after the time difference to observe, which can provide a good way to study. However, Souitaris, Zerbinati & Al-Laham (2007) took science and engineering undergraduates as an example. Those students learned from the correlation analysis that the mean increase in entrepreneurial intention was significant in attitudes. Even Jones et al. (2008) point out that the average value of entrepreneurial intentions of business school students after participating in entrepreneurship courses is higher than the average value before participating in entrepreneurial courses. All in all, students can observe the improvement effect of their entrepreneurial perception and entrepreneurial intention after starting a business study, and further obtain the effect of entrepreneurship learning before and after learning. According to the above conclusions of the previous studies, this study argues that when students take part in entrepreneurship courses, their perceived self is a favorable change to entrepreneurship, which will affect the change of entrepreneurial intention. On the other hand, it will also have the effect of changing one's perception of starting an undertaking as an option for career planning. When students perceive themselves as profitable changes, they will change their perceptions of entrepreneurship through perceived changes that are feasible to themselves. The research concept of this study changes the relationship, as shown in Figure 2.

This study three hypothesizes are shown as follows.

H4: Students' changed EVCCD perception and changed EVCCI is positively related.

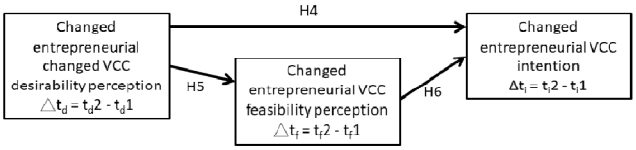

Figure 2: The learning changed relationship with variables

H5: students' changed EVCCD perception and changed EVCCF perception is positively related.

H6: through changed EVCCF perception, students' changed EVCCD perception positively influences changed EVCCI.

3. RESEARCH METHOD

3.1. Sampling and procedure

Sherman, Sebora & Digman (2008) point out that the entrepreneurial curricula should include practical new start-ups such as online entrepreneurship, writing a business plan, and conversations with entrepreneurs and venture capitalists. The sample of this study was from entrepreneurial curricula students at a national university in Taiwan. There are a total of 3150 students in the university. The college of engineering and science has 2180 students from. The course emphasizes value creation in each of these processes, including entrepreneurial spirit, humanistic innovation mode and business opportunity, sources of industrial innovation opportunities, sources of social innovation opportunities, writing innovative projects (including opportunities, markets, teams), entrepreneurial resources And networking, entrepreneurship education and development. The course is named "Entrepreneurship" with a total of 2 credits from 15:10 to 17:00. A single school can avoid the uncontrollable environmental variation such as extracurricular resources, school learning environment and students' academic abilities. At the same time, in order to effectively obtain research data, we had sampling from those students who choose this course. The course is taught by a teacher 4 who has a Lecturer's certificate from the Ministry of Education and has experience in management practice and entrepreneurship. In addition to lectures, the course also includes writing and writing of business plans, examples of existing entrepreneurs within three years, and modeling of online businesses.

In order to avoid common method variance or the same source bias, Podskoff, MacKenzie, Lee & Podskoff (2003) indicates that program control and statistical analysis tests can be performed. First of all, this study uses two-stage control method, and the respondent forgot the previous answer. In order to avoid the first time answer to affect the second time answer, the program control at different time points and reduce possible errors. Before the study, students fill in the basic information, EVCCP and EVCCI scale for the first time test; after eighteen weeks are the second time test, students fill EVCCP and EVCCI scale. Therefore, the first stage is to conduct a survey before the students study, each course has 50 electives (including 8 students), a total of three courses 158 questionnaires, the recovery rate of 100%.

In the second stage, students were surveyed after 18 weeks of study, deducted from the 7 students and 146 questionnaires were filled. The recovery rate was 97%, of which there were 137 valid questionnaires before and after the study. This study adopts non-anonymous replies. The respondents need to fill in their student numbers in the questionnaire so that they can be reused in the first and second time questionnaires to gain confirmation of their EVCCP and EVCCI. Three courses are collected, study the designed process considerations, in addition to the number of samples, for the teaching, teaching materials, learning time, teaching objectives. Teaching methods must be the same to be learned with situational conditions in order to rule out the study environment to study the system offset. The collection of three focuses on the teaching of the same teaching stability. If the level of variability is too high, then the measured transient cognitive coherence is shown to be likely to be due to the learner's own factors and to the effect of participating in an informal entrepreneurship course. Another factor is to prevent the instructor from leading the reliability of the test. Furthermore, the study does not state the research concepts to be obtained from the questionnaire items and mixes all the items so as to avoid the tendency of the respondents to turn in or cause misunderstandings. As for the after-the-fact research detection, according to the questionnaire data obtained, all the items were put into the exploratory factor analysis function of SPSS software, and the maximum explanatory factor of 21% was obtained, showing that no constructions can explain most of the measures . As a result, the design of this study resulted in lower common-method variability and also demonstrated that this study achieves effective results from researching procedures that control factors that may affect the research process.

3.2. Measurement

The study shows individual background factors, EVCCP, EVCCI and other content of the scale as follows.

3.2.1. Individual background factors

For possible antecedents of this study, this study explored its relationship to EVCCP and ECVVI, including descriptions of classes, gender, grade, and department.

3.2.2. Entrepreneurial perception: Desirability (value) and feasibility

This study uses Shapero & Sokol's (1982) entrepreneurial perception scale, which divides into perceptions of entrepreneurial desirability (values) and entrepreneurial feasibility. The first is perception of starting an undertaking and the main heading is "How do you feel if you really start a business?" And this study added the value co-creation words in those questions (1) How difficult it is to start a business after learning value co-creation in an entrepreneurial course (very difficult to very easy) (2) After you start value co-creation in an entrepreneurial course, you determine how successful you are in starting a business (making sure you start a business failing to a very good start); (3) how often do you think you will work overtime after you start value co-creation in an entrepreneurial course? (Do not overtime to work overtime work); (4) Know what you know about entrepreneurship after you start value co-creation in an entrepreneurial course (Know little to know all); (5) After you start value co-creation in an entrepreneurial course, how trust yourself more (very distrustful to very trustful). The reliability of Krueger (1993) is $\alpha = .79$, in this study $\alpha = .86$. Therefore, Δt_d (changed perceptions of EVCCD) = t_d2 (after learning) - t_d1 (before learning). The other is possibility of EVCCF, the main title is "What do you feel if you really start a business," and adds value co-creation in those questions (1) You will like to start a business after you start value co-creation in an

entrepreneurial course (I hate starting a business until I like to start a business); (2) You become nervous (very nervous and nervous) after you start value co-creation in an entrepreneurial course; and (3) you become passionate about starting a business (very passionate and passionate) after you start value co-creation in your entrepreneurial course. In the other is feasibility. The reliability of Krueger (1993) is $\alpha = .59$, and the reliability of this study is $\alpha = .79$. Therefore, Δt_f (perceptions of changed EVCCF) = t_f2 (after learning) - t_f1 (before learning).

3.2.3. Entrepreneurial VCC intention

For the study of the dependent variable, four items were measured. The study need to know those students' self-interest in the future venture. Such as the next five to ten years, I think I will set up a Business, I will have a business, I will start building high-growth businesses, I will need to establish a high-growth business. The Likert five-point scale, measured from very small (= 1) to very expectant (= 5), had good confidence entrepreneurial learning before learning ($\alpha = .74$) to after learning ($\alpha = .82$). The correlation between the items is also very high. The four items were developed by Chen, Greene & Crick (1998) and Gupta, Turban & Bhawe (2008) used. Therefore, Δt_i (changed entrepreneurial VCC intention; EVCCI) = t_i2 (after learning) - t_i1 (before learning)

4. RESULT

After the questionnaire was collected, this study first checks and organizes the data, excludes the invalid questionnaire, and then encodes the data and builds the file. The data are analyzed by using SPSS 12.1 statistical software, and the results of the research are obtained by statistical tools. There are 137 valid samples in three classes in this study. The junior and senior are as high as 71.5% and opposed to past studies (Zhao, Seibert & Hills, 2004). But the result is unconsistent with students from business schools because this study is based on the differences among sophomore, junior and senior students from the college of engineering and science. Males (94%) are higher than girls (6%), it is also true that most entrepreneurs in the past were male (Moore & Buttner, 1997). Traditional entrepreneurs are considered masculine (Baron, Markman, & Hirsa, 2001) and are consistent with the results of this study. Dyer (1994) compiled the literature and found that some scholars think that women are less entrepreneurial than men in their early life experiences, social support. Especially, man MBA students were higher female in the relationship between entrepreneurial self-efficacy and intention (Wilson, Kickul, & Marlino, 2007)0This study explored the relationship between EVCCP and EVCCI. The results of the relevant courses in entrepreneurship courses show the mean, standard deviation and correlation coefficient of all the variables shown in Table 1. In EVCCD, before ($r = 31$, $p < .001$), after ($r = 32$, $p < .001$) and changed learning ($r = 24$, $p < .001$) are shown a positive relationship. And in EVCCF, before ($r = 42$, $P < .001$), after ($r = 42$, $p < .001$) and changed learning ($r = 36$, $p < .001$) are the same result. EVCCI positively correlated with before and after learning ($r = 22$, $p < .01$), showing entrepreneurial knowledge and skills acquired by students. They participated in the VCC learning process and making them

Table 1
Mean, standard deviation and correlation coefficient

Variables (Time)	*Mean*	*SD*	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*
1. EVCCD (t1)	1.96	.47								
2. EVCCF (t1)	1.90	.50	.55**							
3. EVCCI (t1)	1.91	.47	.31**	.42**						
4. EVCCD (t2)	3.78	.47	-.03	.04	.13					
5. EVCCF (t2)	3.86	.58	.02	.03	.20*	.36**				
6. EVCCI (t2)	3.88	.62	.04	.05	.22*	.32**	.42**			
7. Changed EVCCD (Δt)	1.82	.66	-.73**	-.35**	-.11	.72**	.22**	.18*		
8. Changed EVCCF (Δt)	1.96	.73	-.34**	-.64**	-.13	.25**	.74**	.28**	.42**	
9. Changed EVCCI (Δt)	1.97	.78	-.17*	-.24**	-.50**	.18**	.24**	.74**	.24**	.36**

more likely to engage in entrepreneurial activities. Therefore, there is a correlation between the constructs of this study, which needs to be further explored. Finally, the increase in EVCCI was negatively related with the before learning (r = -. 50, p <.001) and positively correlated with the after learning (r = .74, p <.001).

In the past research on entrepreneurial intentions (Peterman & Kennedy, 2003), personal variables were mostly controlled variables, thus avoiding the influence of individual background factors on the variables discussed. This study examines the impact of entrepreneurship on their two perceptions and entrepreneurial intention. This study examines the statistical treatment of intermediary variables with reference to the recommendations of Baron & Kenny (1986). The individual background factors exam to affect the EVDDI. In table 3, 4 and 5, the model 1 inputs the control variables of classes, genders, grades and departments are shown. The result shown that none of the individual background factors have a significant impact on students. The result was shown well controlling in the VCC learning process but inconsistent with the results of previous studies (Jones *et al.*, 2008). The above correlation analysis indicates that students' perceptions of EVCCD have a significant positive correlation with EVCCI. To find out that, the models 2 included control variables such as classes, genders, grades and departments. Before (β = .32, p <.001), after (β = .36, p <.001) and altered learning (β = .28, p <.001) all had significant effects on EVCCI (F = 3.29 ; F = 3.92; F = 3.32, p <.01) and explained the amount of variation 12%, 12% and 11%. The higher EVCCD result the higher their EVCCI, so Hypothesis 1 and Hypothesis 4 are supported. Students' perception of EVCCF had a significantly positive correlation with their EVCCI. In order to find out result, the models enters control variables such as classes, genders, grades and departments, and independent variables of EVCCF. The result shown that the EVCCF perception (β = .45; β = .44; β = .37, p <.001) had a significant effect with EVCCI (F = 5.86; F = 6.25; F = 5.13, p <.001) and explained the amount of variation 19%, 19%, and 18%. Students were higher perceived EVCCF and the higher their EVCCI with influence. Students' perceptions of EVCCD have a significantly positive correlation with their EVCCF perceptions. In order to find out the result, the model 5 inputs control variables such as classes, genders, grades and departments, and the independent variables of perceived EVCCD. EVCCD perception (β = .55; β = .36; β = .35, p <.001) had a significant effect on EVCCF

Table 2
The t1 relationship among EVCCD, EVCCF and EVCCI

Variables (β)	*EVCCI (t1)*				*EVCCF (t1)*
	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*
Control					
Class	–.16	–.12	–.10	–.08	–.13
Gender	–.01	–.01	.05	.05	–.10
Grade	.00	–.01	–.03	–.03	.06
Department	–.06	–.09	–.08	–.09	.02
Independent					
EVCCD (t1)		.32***		.15	.55***
Mediated					
EVCCF (t1)			.45***	.37***	
R2	.02	.12	.19	.19	.33
Adj R2	.01	.09	.16	.17	.30
F value	1.01	3.29***	5.86***	5.24***	12.27***
D-W value	2.06	2.10	2.09	2.08	1.93

*** p < .001

Table 3
The t2 Relationship among EVCCD, EVCCF and EVCCI

Variables (β)	*EVCCI (t2)*				*EVCCF (t2)*
	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*
Control					
Class	–.06	–.14	–.10	–.14	.00
Gender	.15	–.05	.06	.06	.02
Grade	.06	.12	.06	.11	.03
Department	.03	.12	.09	.10	.13
Independent					
EVCCD (t2)		.36***		.20**	.36***
Mediated					
EVCCF (t2)			.44***	.37***	
R^2	.02	.12	.19	.25	.16
Adj R^2	.01	.09	.16	.22	.12
F value	.69	3.92***	6.25***	6.63***	4.27***
D-W value	1.99	2.10	1.98	2.04	1.81

** $p < .01$ *** $p < .001$

Table 4
The Δt relationship among EVCCD, EVCCF and EVCCI

Variables (β)	*EVCCI (Δt)*				*EVCCF (Δt)*
	Model 1	*Model 2*	*Model 3*	*Model 4*	*Model 5*
Control					
Class	.20*	.23*	.20*	.21*	.09
Gender	–.05	–.06	–.09	–.08	.02
Grade	.07	.09	.08	.09	.03
Department	.12	.16	.10	.13	.13
Independent					
EVCCD (Δt)		.28***		.12	.35***
Mediated					
EVCCF (Δt)			.37***	.31***	
R^2	.06	.11	.18	.19	.16
Adj R^2	.03	.09	.15	.16	.12
F value	1.70	3.32***	5.13***	4.79***	6.24***
D-W value	1.91	1.99	1.92	1.95	1.92

** $p < .05$ *** $p < .001$

perception (F = 12.27; F = 4.27; F = 6.24, $p < .001$), explaining the amount of variation 33%, 16%, 16%. The higher perceived EVCCD has the higher the perceived EVCCF, so Hypothesis 2 and Hypothesis 5 hold. Further, in order to understand whether students' perceptions of EVCCD affect their EVCCI through perceived EVCCF, the model 4 controls classes, genders, grades, and departments as control variables. The results shown that the relationship between the EVCCD perception and the EVCCI was weakened or become insignificant (mode 4).

The EVCCF perception (β = .37; β = .37; β = .31, p <.001) had a significant effect on the EVCCIs (F = 5.24; F = 6.63; F = 4.79, p <.001) and explained 19%, 25%, 19%. Students' perceptions of EVCCD will affect their career EVCCI through perception of EVCCF. Therefore, hypothesis 3 and hypothesis 6 are supported.

In the formal entrepreneurship courses, entrepreneurial education makes the entrepreneurial intention of the existence of the effect. Jones *et al.* (2008), a student at Karol Adamiecki University in Poland, participated in the 2005 semester Entrepreneurship Program and pointed out that students' entrepreneurial intentions are on the rise. Entrepreneurship education programs (EEPs) have a positive impact on entrepreneurial intention and its antecedents after six months (Fayolle and Gailly, 2015). From before learning average of 3.61 to after learning average of 3.93, there are also self-motivated individuals who have high entrepreneurial intentions that may produce higher learning outcomes. Social skills seek opportunities in building social network, and that such network, in turn, facilitates the acquisition of tacit knowledge needed by a firm to enhance innovation capability (Huang, 2017). The entrepreneurial role of university for socio-economic development, underlying the concept of entrepreneurial university in which the collaboration between university and external stakeholders is emphasized (Sam & Sijde, 2014). The prototypical work values of a career domain is important regarding increasing the career intent for the gender that is underrepresented in that domain (Hirschi & Fischer, 2013). This study aimed at students at a polytechnic university in Taiwan who participated in three formal business start-up courses in the spring semester. Their entrepreneurial intention was to increase from a before-learning average of 1.93 to a after-learning average of 3.89, consistent with the findings of the previous study. In the formal curriculum, this study found that general education elective more able to meet the needs of students and behavior. The effect of learning in normal courses is not a sporadic result of learner's transient cognitive coherence. This shows that the entrepreneurial curriculum goal is to achieve the entrepreneurial intention to increase. Social skills seek opportunities in building social network, and that such network, in turn, facilitates the acquisition of tacit knowledge needed by a firm to enhance innovation capability (Huang, 2017). The entrepreneurial role of university for socio-economic development, underlying the concept of entrepreneurial university in which the collaboration between university and external stakeholders is emphasized (Sam & Sijde, 2014). The main students learn the entrepreneurial goal of the course content, as an entrepreneur role, enhance entrepreneurial ability, allowing students to learn entrepreneurship is beneficial, let its intention to enhance, and make entrepreneurship education enhance entrepreneurial intentions. Therefore, education goals reached students to have some positive career development function.

5. CONCLUSION

5.1. The entrepreneurial intention should be at the university's formal start-up curriculum

Krueger (1993) gained legitimacy in formal university start-ups. Students' entrepreneurial intentions are proxy variables of their possible entrepreneurial behavior during their career. In this study, the entrepreneurial curriculums before, after and changed learning are accessed to the results of the previous theory of consistency. As students learn more entrepreneurial knowledge and skills from time to time, students develop a better perception of entrepreneurship and entrepreneurial intentions. In other words, students have an attitude toward their entrepreneurial intentions before starting an entrepreneurial course. However, because of the entrepreneurial intentions created by the entrepreneurial curriculum or the entrepreneurial intentions of all relevant knowledge and experience, you should learn more about the magnitude of the change. This can confirm that the course of study is to increase their entrepreneurial intentions. Therefore, according to this view, in this study, to explore entrepreneurship courses, students should gain an increasing amount of entrepreneurial intention, which should increase the effect of representing the intention of the course to actually improve the entrepreneurial intention. After starting an entrepreneurial course, the perceived benefit of students' entrepreneurship can influence their entrepreneurial intentions through perceived feasibility of starting a business.

5.2. Managerial recommendation

Entrepreneurship education in the formal school teaching is of great significance. In this study, under the existing social cognitive theory framework of Bandura (1977), perceived viability of learning significantly apparently plays an important intermediary role between EVCCP and EVCCI. However, from the point of view of the increase in entrepreneurial intention before and after learning, the normal courses are more in line with the existence of the students' intention to enhance. The participation of a single course only shows that the course may be valid. On the other hand, results at a fixed time point, both before and after learning, and changing learning outcomes, show that students have entrepreneurial perception and entrepreneurial intentions. This is of great significance for entrepreneurship education. Observing results solely from learning and the effect of a single course is less effective. The hypothesis of this study is established, which proves that the teaching of courses achieves the existence of entrepreneurial model and enhances the learning effect. Furthermore, there are not many entrepreneurial education programs for Polytechnic students. Most scholars think that students in business or management institutes should develop their business knowledge sufficiently and should be easy to become entrepreneurs. For example, Souitaris, Zerbnat & Al-Laham (2008) pointed out that there is no significant learning effect for science and engineering students in entrepreneurship courses. The explanation is that elite students have relatively high self-confidence and hence have less contribution to the curriculum. For example, Soutaris *et al.* (2007) Whether the change of attitudes affects learning outcomes, only one of the predictors, inspiration, has an impact on subjective forms and self-employment intentions, and others are not affected, explain the differences in attitude to explain, compare difficult to get good results. Entrepreneurial courses can represent entrepreneurial education (Watkins, Russo & Ochs, 2008). On the other hand, it is very important to increase the amount of entrepreneurial intention, that is, the amount of discrepancy between entrepreneurial intention and entrepreneurial intention. He is not only a proxy for entrepreneurial behavior, but also a topic that is very concerned by entrepreneurs. Time provides an increase in students' entrepreneurial intentions, indicating whether or not an education objective has reached an important performance indicator after teaching. Any entrepreneurial knowledge courses are not presented the real entrepreneurial learning. Students should be learned by more expert and real-time entrepreneurial experience in the curricula. That would increase learner's intention (Watkins, Russo & Ochs, 2008). Looking further, Richardson & Hynes (2008) also mentions the related factors that establish entrepreneurship education and industrial and economic growth. Teachers should focus on raising the real world issues. This has also become a very important teaching factor and we must respond to the economic situation to adjust the course content. It also provided students with the same basic teaching quality as the curriculum knowledge and entrepreneurial skills they learned, and improved the education for entrepreneurship program in response to deficiencies in current economic conditions. Teachers should step up their curricula to raise and encourage students' self-employment perception.

Sherman, Sebora & Digman (2008) point out that there is no practical way to teach entrepreneurship just as it is to teach students how to swim in an environment without a swimming pool. In addition to the self-employed students can not improve their intentions, but also can lead to entrepreneurial intentions can effectively improve. This study shows that the entrepreneurial intentions emphasized by entrepreneurship courses are important indicators of teaching effectiveness in entrepreneurship education. This also echoes the argument that students will not be interested in starting a business if they have not felt like becoming an entrepreneur. When universities consider entrepreneurship as one of their major teaching curricula, formal courses should be provided in a normal way for college students to learn. The research provides the effect of entrepreneurial intentions as a reference. This is mainly because the objectives of an entrepreneurial course are not the same as those of a basic course, and the basic course emphasizes academic achievement.

5.3. Research limitations and recommendations

Value co-creation has different values, the study is only observed by the curriculum and activities, the future still

need more theory to explore, such as the use of reward or punishment competition theory. In this study, students from the before and after learning, so that students fully understand the significance of the study, and from their own learning experience to put forward their views, including academic learning, entrepreneurship learning, learning input. The past study only discusses entrepreneurship and entrepreneurial learning, but also ignores the entrepreneurial experience may be a little learning experience. In particular, Polytechnic student learning topics are more academic learning. The conversion perception of relatives or friends or working experience is still pending further study. Students learn to start a business as well as the competition and the actual participation in entrepreneurship, as well as the degree of learning investment, including the number of course participation, learning attitude, extra-curricular investment hours, curriculum performance. These are further insight into entrepreneurial perception and its effects. Finally, entrepreneurship should be one of the careers to be encouraged to choose.

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