Entrepreneurship education program as value creation
Empirical findings of universities in Bandung, Indonesia

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Abstract
Purpose – The purpose of this paper is to analyze the role of inputs and processes to the output of entrepreneurship education programs (EEPs) in universities in Bandung, Indonesia. The input here is related to the audience, institutional setting and type. The process includes the objective, content and teaching method. The output is represented by entrepreneurial knowledge, entrepreneurial spirit and entrepreneurial behavior. Meanwhile, this study tries to reflect that inputs, processes and outputs in EEPs to create value for students.

Design/methodology/approach – This study provides empirical evidence of how the influence of inputs and processes on output of EEPs. The results are based on survey data collected at universities in Bandung, Indonesia. A total of 222 respondents participated in filling questionnaires. Structural equation modeling is used to test the proposed hypothesis.

Findings – The study found that inputs are positively and significantly related to the process of EEP. The study also point out that processes have positive and significant effect on the output of EEP. Meanwhile, the inputs have negative and insignificant effect on the output of EEP. The study concludes that EEPs should be integrated in providing learning to students in encouraging business creation through the identification of inputs, processes and outputs so as to provide insight into how to manage value creation.

Practical implications – The study is valuable from a university and government perspective, as it highlights the most effective EEP for creating value that is an increase in the number of young entrepreneurs and business creation.

Originality/value – This study adds knowledge based on students’ perspectives at universities by demonstrating the importance of inputs and processes for EEP output as value creation in giving impact for students to be entrepreneurs.

Keywords Universities, SEM, Value creation, Business creation, Entrepreneurship education programme

Paper type Research paper

1. Introduction
The idea of inculcating entrepreneurship into education has encouraged enthusiasm in the last few decades (Lackeus and Williams Middleton, 2015). Entrepreneurship in the educational context not only focuses on encouraging students to start a business but also makes students more creative, opportunity-oriented, proactive and innovative. Entrepreneurship education
seeks to train students’ ability and willingness to create value for others. This is the core of entrepreneurship and is also a competency that all students must have, regardless of their career choice. Creating a new organization is seen as one of the different ways to create value. According to Fayolle (2007), there are three main research flows in entrepreneurial research; learning entrepreneurship as creation of new organizations, discovery or creation of opportunities or the creation of new values. The value creation perspective for entrepreneurship was further developed by Bruyat (1993), which proposed a definition based on two dimensions: novelty values created for others and the impact of processes on the individual. Creating new value is highly relevant to entrepreneurship education applications. Letting students learn and grow by creating value for others can be a powerful method for developing entrepreneurial behavior, entrepreneurial competence and even entrepreneurial identity (Williams Middleton, 2013).

Entrepreneurship education often focuses on developing the competencies needed to establish the business, and the broader term of enterprise education is often self-oriented in terms of developing self-reliance, self-efficacy, creativity, initiative, action-taking and orientation (QAA, 2012; Mahieu, 2006). Entrepreneurship education program (EEP) is an effort to create value for students in entrepreneurship activities. Fayolle (2013) encourages researchers to move forward and start paying attention to questions such as how, for whom, why and for what outcome is a designed EEP. As also being addressed by Jones and Matlay (2011), there are a growing number of demands into the entrepreneurship education.

Previous research provides design of EEP which could contribute to the challenge of organizing entrepreneurial skills and transform it into a teachable syllabus (Aronsson, 2004). Another research concerns the effectiveness of entrepreneurship which at the end recommended by entrepreneurial learning from practice (Jones, 2010). Fayolle et al. (2006) interestingly created a model to assess EEP based on theory of planned behavior and several variables of EEP such as institutional setting, audiences, category, purposes, substances and teaching methodologies. Furthermore, Fayolle and Gailly (2008) mentioned factors of EEP which can be differentiated into inputs of a system, educational processes and outputs, where the educational process includes the program’s objectives, audiences, assessments, contents and methods of teaching.

Responding to the recognition of the importance entrepreneurship education, higher institution across the world formulated EEP and supplemented the student with entrepreneurship course. In Indonesia, the concept of entrepreneurship education has been adopted and integrated into the educational curriculum. Bandung is one of the cities in Indonesia as a center of education; there are about 80 universities in Bandung, so Bandung can be a region that represents universities in Indonesia.

Currently, the contribution of EEP remains a debate, especially related to the sustainability of student entrepreneurship activities. According to Lackeus (2016), often educators work with co-creation in their teaching but have no context to reflect, analyze and conceptualize creative practices with them. Thus, in an effort to fill the gap, this study aims to analyze the role of inputs and processes to the output of EEPs as a value creation in universities in Bandung, Indonesia. The input here is related to the institutional setting, audience and type. The process includes the objective, content and teaching method. Meanwhile, output is represented by entrepreneurial knowledge, entrepreneurial spirit and entrepreneurial behavior. This study will focus on addressing how the entrepreneurship education itself administered as several researchers mentioned is relatively scarce (Bennett, 2006; Fayolle and Gailly, 2008; Pittaway and Cope, 2007; Samwel Mwasalwiba, 2010; Solomon, 2007). This research uses quantitative method with survey approach to students in several universities in Bandung, Indonesia. This study contributes empirically to display
the implementation of entrepreneurship education in universities in Indonesia and recommend a more adaptable structural entrepreneurship education for promoting entrepreneurship.

2. Literature review
Entrepreneurship has social significance as “the most potential economic power that the world has ever experienced” (Kuratko, 2005). This is in line with Mayhew et al. (2012) which explained that economic welfare is what matter the most for a nation if it is compared with the effective application of innovations, even though innovation also has crucial for the economic growth. Shepherd and Douglas (1997) define entrepreneurship education as in:

The core of entrepreneurship is the ability to imagine and map courses for new business ventures by combining information from the functional disciplines and the external environment in the context of the uncertainty and ambiguity that new businesses are facing. It manifests itself in creative strategies, innovative tactics, trend perceptions, and tremendous market demand changes, courageous leadership when the way forward is not obvious and so on. What we teach in our entrepreneurship classes should serve to instill and enhance these abilities.

Matlay (2008) argued that there is variability in term of entrepreneurship courses. It mentioned the advancement of entrepreneurship education which initially integrated into primarily conventional business modules. He also contends that entrepreneurship program is provided at numerous phases and length. The purpose of entrepreneurship education vary to the degree where entrepreneurship education has an impact in terms of generating entrepreneurial skills; however, it is heavily relied on whether entrepreneurship can be cultivated and learned. Entrepreneurship education at universities aims to integrate entrepreneurial traits with entrepreneurship processes and entrepreneurship behavior (Heinonen and Poikkijoki, 2006) through the learning process by providing an effective EEP. Entrepreneurship education not only focuses on the transfer of knowledge about business and management but also tries to change the mindset of students in developing new ways of thinking, attitude, competence and behavior (Gibb and Hannon, 2006; Henry et al., 2005; Sánchez, 2011). It shows that some aspects of entrepreneurship can be taught and studied so as to challenge the myth that entrepreneurs are born and not made (Kuratko, 2003; Sarasvathy and Venkataraman, 2011).

Many scholars agree that higher entrepreneurship education should have an experimental learning perspective along with some kind of interactive pedagogy to enhance learning and innovative capacity (Barrett and Peterson, 2000; Collins et al., 2006; Honig, 2004; Johannisson et al., 1998; Stevenson and Lundström, 2007; Vinten and Alcock, 2004; Yballe and O’Connor, 2000). Gibb (1996) proposes a teaching approach to connect conceptual knowledge with entrepreneurial behaviors with several key elements: focus on the delivery process, ownership of learning by participants, learning from mistakes, negotiable learning goals and session’s adjustment and flexibility. Previous research has much discussed about the growing number of entrepreneurship education emerging in universities. There is also a trend of looking at the learning process of entrepreneurial education curricula (Vesper and Gartner, 1997) and rigorously at the content of the program (DeTienne and Chandler, 2004; Fiet, 2001; Honig, 2004; Shepherd, 2004). Recently, the trend is shifting to try to combine concepts, practices and the real world of what entrepreneurs actually do and how they learn (Harmeling and Sarasvathy, 2013).

The new value creation strand has a long history in entrepreneurship research (Cantillon, 1755; Say, 1803; Ronstadt, 1984). According to Spohrer and Maglio (2008), value co-creation defined as a collection of value that people mostly prefer as the consequence of exchanging
information, deliberate communication or any other purposeful and knowledge-intensive interaction. Gartner (1990) identifies the new values creation as the main focus of entrepreneurship in the subjective view of entrepreneurial researchers, business leaders and politicians. Meanwhile, Bruyat (1993) proposed a definition of value creation for entrepreneurship based on two dimensions, namely, novelty value created and the impact of processes on the individual. Value co-creation facilitates entrepreneurship education to have a comprehensive understanding of expected processes and results. Fayolle (2007) has hinted that values “relate to exchanges between market players and market-determined prices”. Hindle (2010) has outlined a more pluralistic but equally brief view by stating that “new value may take many forms: economic, social, monetary, ecological, mental, physical, etc.”. EEP contains numerous constituents, encompassing learning material (Neck and Greene, 2011), and planned to reach its purposes (Jones and English, 2004). Fayolle and Gailly (2008) claimed that EEP which based on the teaching design or framework which are “rarely used in the entrepreneurship field [since] there is no common framework or agreed on good practices regarding how to teach or educate”. Although the view of value creation may be sufficient when studying entrepreneurship separately, it does not provide enough guidance to educational institutions and other stakeholders when the goal is to instill entrepreneurship education as a new value creation. In this study, we use the framework developed by Fayolle et al. (2006) for being considered appropriate and noteworthy, wherein EEP consists of institutional setting, audience, type of EEP, objectives, contents, teaching and training methods and teaching and training approaches. We divide the framework into inputs, processes and outputs (Figure 1).

However, research related to entrepreneur education in Indonesia is relatively scarce. The entrepreneurship context is also hardly used for the expansion of economic activity. According to Hadi et al. (2015), the solution of the shortage entrepreneurs is nurturing the students as soon as possible to exploit their potency, and importantly to introduce and instill the spirit of entrepreneurs. Another study carried out by Goldstein et al. (2016) pointed out that the difference of gender, culture and socio-capital condition affected the entrepreneurial mindset which eventually would also influence their entrepreneurial spirit and business performance. In addition, Christina et al. (2015) mentioned that the need of exploring other variables which affect the entrepreneur business outcomes in a different institution, as each institution has their own characteristics. According to Wiratno (2012), the implementation of entrepreneurship programs in various universities in Indonesia has not been optimal and has not had the same minimum standards in the operationalization of its implementation. Despite completing entrepreneurship courses, most graduates are still job-oriented and have long waiting periods (Handriani, 2011).

Value creation in entrepreneurship education not only is the success of students in creating business but also expands the entrepreneurial knowledge of students so as to have

![Figure 1. Research conceptual model](image-url)
entrepreneurial mindset, entrepreneurial spirit and entrepreneurial behavior. We recognize that EEPs are very important because they attract attention in learning the entrepreneurial process. Thus, EEPs must be comprehensively integrated to create value for their students, including inputs, processes and outputs. This study aims to analyze the role of inputs and processes to the output of EEPs as a value creation in universities in Bandung, Indonesia. Based on the synthesis of literature, we propose this research hypothesis as follows:

3. Methodology

3.1 Sample
The population of this study includes all students in the universities in Bandung, Indonesia. Based on data of the 2016 annual report of the Ministry of Research, Technology and Higher Education of Indonesia, the number of active students in West Java counted 643,229 students. Bandung is one of the areas in West Java as the center of education city. In addition, Bandung is also awarded “Natamukti Nindya” as a city with the development of the best small and medium enterprises (SMEs) in Indonesia according to the assessment of the Indonesian Small Business Council (ICSB) and the Ministry of Cooperatives and SMEs, so the environment in Bandung is very supportive to start a new business (Pikiran Rakyat, 2016; Aldianto et al., 2017). This research uses probability sampling method with random sampling technique. The number of samples in the study was determined based on the Slovin formula, with a percentage error of 10 per cent. Based on the calculation, the minimum sample that can be used in this study as many as 100 respondents. However, overall, 222 respondents participated in the survey.

3.2 Data collection and measurement
This study aims to analyze the influence of inputs and processes on the output of EEPs in universities in Bandung. This research uses quantitative method. Creswell (2009) defines quantitative research as an attempt to explain a phenomenon by collecting data and analyzed using mathematical or statistical methods/tests. In this study, data were collected through explanatory survey method by including some variables studied: input, process and output of EEP. Input consists of factors including institutional setting, audience and type. Meanwhile, the process consists of factors including objectives, content and teaching method. Then, the output of EEP consists of factors including entrepreneurial knowledge, entrepreneurial spirit and entrepreneurial behavior. The data source is divided into primary and secondary data. Primary data obtained through a set of questionnaires as a measuring tool, while secondary data based on information from the literature and other supporting documents.

Questionnaires are distributed by visiting and explaining directly to the targeted respondents. Approximately 400 sets of questionnaires have been distributed, of which only 222 are returned, so the response rate is 55.5 per cent. The questionnaire consists of two parts, the first part to identify the profile of the respondent, while the second part identifies the responses of respondents to all research variables. This study promotes three variables, namely, the output of EEPs as the dependent variable, the process as intervening variable.
and input as independent variable. Measurements use the five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

Then, the validity and reliability test is performed by using confirmatory factor analysis (CFA) to assess the construct validity of the proposed measurement theory. Data were processed by using structural equation modeling (SEM) to test the proposed hypothesis. SEM analysis is used because the proposed model consists of several interrelated relationships. In addition, SEM analysis also has the ability to demonstrate unobserved concepts and the relationships therein and calculation of measurement errors in the estimation process (Hair et al., 1998).

4. Results and analysis

4.1 Respondent profile

Table I shows the profile of respondents based on a survey of 222 active students at several universities in Bandung, Indonesia. The profile description is discussed in the next section.

Based on gender, it can be seen that the respondents who participated in this study were almost equal between women and men, of which women were 50.9 per cent and men 49.1 per cent. It shows that gender does not affect the enthusiasm of respondents to the implementation of an effective EEP in university. Based on the age profile, it can be seen that the majority of respondents are 20-25 years old. The age range is the normal age of a person to pursue university in Indonesia. Meanwhile, based on educational background, respondents who participated in this study were students with an engineering background of 86 per cent. Meanwhile, respondents with non-engineering backgrounds were 14 per cent. This suggests that assumptions on a scientific background do not affect student intention in supporting university to provide effective EEPs.

Based on survey results, respondents who have a family background as an entrepreneur of 59.4 per cent. Meanwhile, respondents from non-entrepreneur families accounted for 40.6 per cent. Based on business ownership, as many as 45 per cent of respondents have a business, where the types of business they have are start-ups, joint venture, online shop, etc. Meanwhile, 55 per cent have no business yet. In addition, the questions of planning become an entrepreneur after graduation is also given to the respondents, of which 20.3 per cent of respondents expressed interest in becoming an entrepreneur after graduation. Meanwhile,

<table>
<thead>
<tr>
<th>No.</th>
<th>Characteristics of respondents</th>
<th>Category</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Gender</td>
<td>Male</td>
<td>113</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Female</td>
<td>109</td>
</tr>
<tr>
<td>2</td>
<td>Respondent’s age</td>
<td>&lt;15 years</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15-20 years</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20-25 years</td>
<td>169</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt; 25 years</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>Education background</td>
<td>Engineering</td>
<td>191</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non Engineering</td>
<td>31</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Social, Management, etc.)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Family background</td>
<td>Entrepreneur</td>
<td>132</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Non Entrepreneur</td>
<td>90</td>
</tr>
<tr>
<td>5</td>
<td>Business ownership (start-up, joint venture, online shop, etc.)</td>
<td>Yes</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>122</td>
</tr>
<tr>
<td>6</td>
<td>Planning become an entrepreneur after graduation</td>
<td>Yes</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>202</td>
</tr>
</tbody>
</table>

Table I. Profile of respondents
79.7 per cent said they did not plan to become entrepreneurs. It shows an interesting phenomenon to be examined further, where the majority of respondents have entrepreneurial family backgrounds and business ownership, but most of them do not have planning to become entrepreneur after graduation. Thus, further analysis conducted in this research is to analyze the influence of inputs and processes on the output of EEPs.

4.2 Measurement model

Table II is the result of the overall model fit measurement. Table II shows that NFI and CFI ≥ 0.90 indicate a good fit. The result of RMSEA is 0.107 ≥ 0.08, which indicates not a good fit. The AGFI score is 0.85 ≤ 0.90, indicating a marginal fit (Joreskog and Sorbom, 1984). Meanwhile, the SRMSR score of 0.028 ≤ 0.05 indicates a good fit. Although the RMSEA indicates not a good fit, most of the measurements indicate a good fit, so we can conclude the overall model fit.

After analyzing the overall model fit, the measurement model is analyzed. Table III shows three indicators of input variables that are significantly related and can represent the underlying concept of the construct. Validity test on these three indicators resulted in loading factor (≥0.50) and t-values (≥1.96). In other words, inputs on EEPs provided by universities in Bandung include audience, institutional setting and type. Reliability test is performed to measure the consistency of each latent variable. The reliability test on the input variables resulted score of construct reliability (CR; 0.90 ≥ 0.70) and variance extracted (VE; 0.71 ≥ 0.50). In short, the variable has a good consistency (Table III).

In addition, three indicators passed the validity test on the process variable because it meets the requirements of loading factor (≥0.50) and t-values (≥1.96). The result, hence, identifies the process of EEPs in universities in Bandung that include objectives, content and teaching methods. Then, the reliability test resulted CR (≥0.70) and VE (≥0.50). Furthermore, output variable of the EEP show three indicators to pass the validity test by meeting the requirements of loading factor (≥0.50) and t-values (≥1.96). The indicators

Table II.
Goodness of fit index of model

<table>
<thead>
<tr>
<th>X²</th>
<th>dF</th>
<th>RMSEA</th>
<th>SRMSR</th>
<th>NFI</th>
<th>CFI</th>
<th>AGFI</th>
</tr>
</thead>
<tbody>
<tr>
<td>78.88</td>
<td>24</td>
<td>0.102</td>
<td>0.028</td>
<td>0.98</td>
<td>0.98</td>
<td>0.85</td>
</tr>
</tbody>
</table>

Table III.

<table>
<thead>
<tr>
<th>Latent variables</th>
<th>Manifest variables</th>
<th>SLF</th>
<th>t-value</th>
<th>CR</th>
<th>VE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output</td>
<td>Entrepreneurial knowledge</td>
<td>0.87</td>
<td>**</td>
<td>0.940</td>
<td>0.840</td>
</tr>
<tr>
<td></td>
<td>Entrepreneural spirit</td>
<td>0.89</td>
<td></td>
<td>19.18</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Entrepreneural behavior</td>
<td>0.91</td>
<td></td>
<td>19.97</td>
<td></td>
</tr>
<tr>
<td>Process</td>
<td>Objective</td>
<td>0.82</td>
<td>**</td>
<td>0.906</td>
<td>0.763</td>
</tr>
<tr>
<td></td>
<td>Content</td>
<td>0.90</td>
<td></td>
<td>17.44</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Teaching method</td>
<td>0.90</td>
<td></td>
<td>17.51</td>
<td></td>
</tr>
<tr>
<td>Input</td>
<td>Audience</td>
<td>0.75</td>
<td></td>
<td>12.93</td>
<td>0.919</td>
</tr>
<tr>
<td></td>
<td>Institutional setting</td>
<td>0.83</td>
<td></td>
<td>15.03</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Type</td>
<td>0.89</td>
<td></td>
<td>16.66</td>
<td></td>
</tr>
</tbody>
</table>

Notes: **LISREL default, the t-values is not estimated. Target of t-values ≥ 1.96 and the correlation of manifest variable are significant at the 0.01 level
include entrepreneurial knowledge, entrepreneurial spirit and entrepreneurial behavior. Then, reliability test resulted CR (≥0.70) and VE (≥0.50).

The next step is to measure the correlation between independent variables (input) and dependent variable (process and output of EEP) by conducting path analysis. The results showed that the input has a coefficient value of 0.98 with t-values of 14.46 ≥ 1.96, so H1 supported that the input is proven positively and significantly effect on the process of EEPs at universities in Bandung. H2 indicates that input has negative coefficient value of −1.86 with t-values of −1.25 ≤ −1.96, so H2 is not supported that input proved have positive and significant effect on the output of EEP at universities in Bandung. Meanwhile, H3 indicates that process has a coefficient score of 2.84 with a t-values of 1.98 ≥ 1.96, so H3 supported that the process is proven positively and significantly effect on the output of EEPs at universities in Bandung. Based on the score of determination, indicates that 96 per cent of process variables are explained by input variables, while 86 per cent of output variables are explained by input variables (Figures 2 and 3).

5. Discussion and conclusion
Higher education plays an important role in stimulating economic growth through research relevant to industry needs, technological commercialization, high-tech development and instilling the entrepreneurial mindset to students (Wong et al., 2007). The current phenomenon shows that entrepreneurship is a discipline that can be learned and taught. Thus, universities play a role in motivating students and providing EEPs in the learning process in an effort to increase the number of young entrepreneurs. Based on the results of this study, several factors are identified in influencing the output of EEPs, namely, inputs and processes. This study aims to test the output of EEPs implementation at universities in Bandung based on the previous conceptual model of research conducted by Aldianto et al. (2017), where the framework refers to the results of the Fayolle et al. (2006) study.

Factors influencing inputs on EEPs include institutional setting, audience and type. The results show that the factors which form the input of EEPs are relevant. Based on the results of study, universities in Bandung have provided EEPs as compulsory courses that must be taken by all students. The university prepares an entrepreneurship education curriculum

![Figure 2. Measurement model/outer model](image)

**Notes:** Chi square = 78.88; df = 24; p-value = 0.00000; RMSEA = 0.102
which generally contains materials and activities related to building an entrepreneurial mental attitude, training in communicating skills, building networks and designing a profit-oriented business plan. According to Ramadani et al. (2017), the role of knowledge spillovers is strongly related with the improvement of the firm performance. So it supports the students’ knowledge in developing their business. The results of entrepreneurship education research showed that creative-oriented curriculum and entrepreneurial spirit formation need to be developed in education (Direktorat Jenderal Pendidikan Tinggi, 2010a). In addition, universities play a role in the process of internalizing entrepreneurial values, improvement of skills (transfer knowledge) in aspects of marketing, finance and technology; and entrepreneurial support (business setup) (Vallini and Simoni, 2009). Universities are also expected to facilitate students in developing entrepreneurship such as providing business incubators and funding access assistance.

Furthermore, the factors that affect the process of EEPs include the object, content and teaching method. The learning process of entrepreneurship education can be seen based on the curriculum and the content of the program (DeTienne and Chandler, 2004; Fiet, 2001; Honig, 2004; Shepherd, 2004). The objectives of entrepreneurship education are to provide comprehensive knowledge to students how to build and run a business through the course. Thus, students are expected to have the ability/competence in entrepreneurship, and ultimately able to establish independent business. Based on research conducted by Ranie and Anggadwita (2016), that persistence, skills and competencies, and GPA have a significant effect on the success of entrepreneurship. Entrepreneurship education in universities aims to build entrepreneurial character, entrepreneurial mindset and entrepreneurial behavior, create added value, take advantage of opportunities and dare to take risks (Susilaningsih, 2015). Meanwhile, according to Ratten (2016) that risk taking is an important characteristic of entrepreneurs as an integral part of the entrepreneurial process because of its ability to balance business with potential-related costs. Such behavior indicates that the entrepreneur must have the courage and readiness to face potential risks. In teaching method, entrepreneurship learning process is conducted by conventional teaching in class with slides and presentation, beside that lecturers also convey learning that
can assist students in forming business prototype like business model and how to prepare business proposal. Traditional teaching methods are still prevalent for entrepreneurship education (Solomon, 2007). Teaching method on entrepreneurship education also facilitates students to get an entrepreneurial network, such as sharing with practitioners or industrial workers. It shows that entrepreneurship education should be more action-oriented (Higgins and Elliott, 2011).

Then, the factors that influence the output of EEPs include entrepreneurship knowledge, entrepreneurship spirit and entrepreneurship behavior. Entrepreneurship education should pay attention to the output, where the process of transfer of knowledge runs effectively so that students have the ability related to entrepreneurship and succeeded in growing the spirit and intention to become entrepreneur (Jensen, 2014; Hadi et al., 2015; Goldstein et al., 2016). It shows that entrepreneurship education creates new values and impacts on individual processes (Bruyat, 1993). Value creation can be seen based on the output of EEPs, where students have the knowledge, spirit and behavior that ultimately leads to student intentions to build the business.

There are several hypotheses proposed in this study. The test results indicate that the variables and indicators used in this study have good validity and reliability. Hypothesis test shows that inputs proved to have positive and significant effect on the process of EEP. The processes also proved to have positive and significant effect on the output of EEP. The EEP process in this study includes objective, content and teaching method. It shows that the EEP process has been applied by universities in Bandung to produce the expected output of forming entrepreneurial knowledge, entrepreneurial spirit and entrepreneurial behavior in the students. Meanwhile, the results show that the inputs have negative and insignificant effect on the output of EEP. This is probably because the synergy between the university and related stakeholders has not been integrated, thus creating a lack of entrepreneurial enthusiasm and motivation of students. The input of EEP in this study includes institutional setting, audience and type. Institutional settings are related to university readiness in providing EEP, including entrepreneurship as compulsory courses, preparing appropriate curricula and adequate facilities such as entrepreneurial practice, business incubation, access to finance and the legality process in support of entrepreneurship. It does not seem to be maximally done by the university, and such conditions resulted in university graduates only understand the business at the theory level (Dikpora DIY, 2013). Audience is related to the enthusiasm and interest of students toward EEP provided by educational institutions. Based on the results of this study, it can be seen that the majority of students do not plan to become entrepreneurs after graduation, the mindset issue can also be an obstacle to the success of EEP output where many students still think to be job seekers, compared to work creators (Dikpora DIY, 2013). Meanwhile, the type related with the type of learning provided by institutions such as courses, seminars, training and competition. It is an effort to provide more insight to students by inviting successful entrepreneurs to share knowledge and experience. However, it also seems to have not been fully done by all educational institutions, so that entrepreneurship education is still viewed as a theory course that is taught to students in the classroom. It shows that there is still no common agreement in the framework of EEPs on how to teach or educate (Fayolle and Gailly, 2008).

Looking at the whole research, there is a need to further explore the potential of EEPs at universities in Indonesia. EEP is implemented to cultivate entrepreneurship spirit to the students, which is expected to integrate synergy between the mastery of science and technology with entrepreneurial spirit (Dikpora DIY, 2013). Thus, overall, there should be integration between input, process and output of EEPs in Indonesian universities. Based on Hue Kyung et al. (2016), R&D funding provided by the government can improve
performance in university-industry cooperation; in addition, the university should be able to expand its research and cooperation capacity with the Licensing Technical Office (TLO). It shows that synergy between stakeholders is needed to increase the output of EEP at university level. Further studies can identify the possible support of various stakeholders, including governments and universities, to explore EEPs with reference to the results of this study.

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Further reading

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