



## Entrepreneurship Education Model for Higher Education Students

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### ABSTRACT

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#### Keywords

Entrepreneurship education; entrepreneurial skills; entrepreneurial culture; entrepreneurial thinking

**Purpose** The goal of this research survey was to propose an entrepreneurship education model for students in higher education institutions.

**Methodology** A questionnaire was distributed to 246 randomly sampled students at the Universitas Negeri Jakarta. The data was analyzed through Structural Equation Modeling to study the variables of entrepreneurship education for higher education students and examine whether it can be predicted by the university leadership as a facilitator of entrepreneurial culture, university departments as promoters of entrepreneurial skills, and university research as an incubator of local business development.

**Findings** The results show that university leadership as a facilitator of entrepreneurial culture is supported by the university leadership's fostering a culture of entrepreneurial thinking. It was also evident that the university placed sufficient emphasis on entrepreneurial education, and it successfully motivated lecturers to embrace entrepreneurship education, and *students* to embrace entrepreneurship education. The results also indicated that university departments acted as promoters of entrepreneurial skills and stimulated students to attain sufficient entrepreneurial skills during their university education. Lastly, the university research also proved as an incubator of local business development and was found influenced by the university conducting research projects with local private sector businesses and supporting graduates planning to launch start-ups. **Implications to Research and Practice** The survey results will provide valuable policy insights to improve entrepreneurship education. The university faculty and students would have opportunities to gain practical experience in local private sector businesses. The model of entrepreneurship education proposed herein can be applied for higher education students.

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## **Introduction**

Entrepreneurship is all about business development, self-employment, and venture creation (Fayolle & Gailly, 2015). To become an entrepreneur, prerequisites are self-motivation, creativity, risk management, self-reliance, and initiative taking. All these characteristics are developed through entrepreneurship education. Nabi et al. (2017) emphasize the need for entrepreneurship education to develop a country's economic growth, as it is most important to increase students' knowledge, skills, and attitudes. Ozaralli and Rivenburgh (2016), assert that entrepreneurship education develops the entrepreneurial intention, which is required for a "planned behavior" of the students to create new ventures and businesses, or become an entrepreneur.

Entrepreneurship can be promoted through entrepreneurship education (Aparicio et al., 2019; Appelbaum et al., 2018; Brüne & Lutz, 2020; Cera et al., 2020; Costa et al., 2018; Dickel et al., 2019; Fernández-Pérez et al., 2019; Fretschner & Lampe, 2019; González-López et al., 2019; Hahn et al., 2020; Harima et al., 2021; Martínez-Gregorio et al., 2021; Tomy & Pardede, 2020).

The current study focuses on providing entrepreneurship education to students of Higher Education Institutions (HEIs), by facilitating them and improving their ability to recognize commercially viable opportunities and the required motivation, knowledge, and risk-taking skills to avail them. The main premise of this study was that entrepreneurial education teaches students to look for opportunities and ideas and transform them into value. Most HEIs consider entrepreneurship education as a structured learning intervention along with regular and formal teaching.

The Danish Foundation for Entrepreneurship (Moberg et al., 2012) defines entrepreneurial education as "content, methods and activities supporting the creation of knowledge, competencies and experiences that make it possible for students to initiate and participate in entrepreneurial value creating processes". Entrepreneurial education has transformed much during its journey from "traditional" to "modern" way of teaching (Gibb, 1993; Kirby, 2004; Kyro, 2008; Kyrö, 2005; Ollila & Williams-Middleton, 2011). This modern way is more entrepreneurial. Unlike the traditional form, it is less standardized and less content focused, but more individualized, process-based, project centric, collaborative, and experiential (Labaree, 2005).

Such a parallel educational venture cannot be possible without the institutional support. The HEIs take the full support of their management and structure entrepreneurial education in such a way that students view entrepreneurship as a linear process, a step-by-step process to learn the necessary analytical tools, acquire skills until they start their own ventures. An evidence is that most MBA programs focus on analytical decision making, and problems solving capabilities. Mintzberg and Gosling (2002) strongly advocated the need to introduce such pedagogical devices that are situational, collaborative, and develop students' global problem-solving capabilities. A well-equipped pedagogy to teach entrepreneurship education also develops entrepreneurial behaviour, which later proves to be an asset in establishing successful entrepreneurial ventures (Fayolle & Gailly, 2015; Fayolle et al., 2006).

Bager (2011) goes a step further and assesses that only people with entrepreneurial instincts are attracted to entrepreneurial education. This is consistent with other studies (Charney & Libecap, 2000; Kolvereid & Moen, 1997; Menzies & Paradi, 2002), that also assessed that entrepreneurship education graduates have a higher frequency of involvement in entrepreneurial activities. Such students derive the benefit of entrepreneurship education, which improves their level of preparedness for entrepreneurial ventures.

There exists a lot of research on the effects of entrepreneurial education and its role as an educational intervention, particularly the economic benefits of entrepreneurial education. However, almost no research has been conducted to examine such an entrepreneurship education model for students wherein the university leadership acts as a facilitator of building an entrepreneurial culture; or the university departments help students promote entrepreneurial skills, and university research units act as incubators for business development. This is consistent with a few researchers (Aloulou, 2017; Rokhman & Ahamed, 2015) who have suggested institutional support for fostering an entrepreneurship culture.

## Literature Review

### *i. Entrepreneurship in education*

In the educational domain, entrepreneurship is viewed as a “generic” method for human action, encompassing all learning principles and mentoring techniques of basic education (Sarasvathy & Venkataraman, 2011). In Northern and Eastern Europe, the term entrepreneurial learning is used as an equivalent to enterprise education (Heder et al., 2011; Leffler & Falk-Lundqvist, 2014). This domain of learning is about teaching entrepreneurs how to learn outside of the educational domain. There exists a parallel system of education outside any university or higher education periphery that provides training and teaching to the budding entrepreneurs. There can be optional institutions or technical training institutions. The need for having an external system of entrepreneurial education is the need to differentiate between different objectives. For instance, teaching “for” entrepreneurship has an occupationally oriented approach with the objective to give the budding entrepreneurs the requisite knowledge and skills; teaching “through” entrepreneurship refers to an experiential approach where students undergo a “real-life” entrepreneurial learning process (Kyrö, 2005; Zych, 2020). However, the most common approach used in most HEIs is teaching “about” entrepreneurship. This approach is mostly a theoretical and content-driven approach, with the sole objective to give a general understanding of the phenomenon (Erdil-Moody & Thompson, 2020; Mwasalwiba, 2010).

Neck and Corbett (2018) consider entrepreneurship education as a method to develop students’ mind set and skillset required to start new ventures. Naia et al. (2015) strongly advocated the use of entrepreneurship education as a study discipline, where it should contribute to developing concepts and building theories. Ustyuzhina et al. (2019) consider entrepreneurship education as necessary to develop students’ entrepreneurial competencies and skills, which will be beneficial in developing potential entrepreneurs.

Taye (2019) links it with the nation's growth and consider entrepreneurship education to create more entrepreneurs and reduce the unemployment rate. Several authors (Liñán & Santos, 2007; Nabi et al., 2017; O'Connor, 2013) recommend diverse methods to deliver entrepreneurship education through several educational ways such as courses and workshops during the semester in schools and HEIs, which may encourage the creation of innovative ideas by developing the mindset, knowledge, and skills of the students.

#### *ii. Entrepreneurial education and other pedagogical approaches*

Entrepreneurial education is often compared to other pedagogical approaches like problem-based learning (Tan & Ng, 2006), project-based learning (Jones & English, 2004) and service-learning (Desplaces et al., 2009; Metcalfe et al., 2020). Project-based learning (PjBL) is defined as a type of education that allows students to work on a potentially authentic problem and build an "artifact" in order to resolve the problem, which could be a product or a report, a model or a video (Blumenfeld et al., 1991). Problem-based learning ((PbL), on the other hand, is an ongoing process, which does not build any artifact or a solution to the problem. Rather, it addresses the problem by discussing possible solutions and showing students for further action (Helle et al., 2006). Service-learning (SL) requires more enterprise than the previous two types. It is defined as a classroom integrated community service requiring students' engagement in activities like cleaning parks, taking care of old aged people and the elderly and procuring food and shelter for the needy (Spring et al., 2008). All three types require entrepreneurial education, however, a unique feature of entrepreneurial education, not found in any other pedagogical approach, is the emphasis not on problems but on opportunities (Rae, 2007), on experimentation in collaboration with external stakeholders (Sarasvathy & Venkataraman, 2011) and on creativity and innovation (Shapero & Sokol, 1982). For these reasons, entrepreneurial education triggers a higher level of motivation, engagement and committed learning among the students (Lackéus, 2013).

#### *iii. Entrepreneurship culture*

Badri and Hachicha (2019) strongly emphasize to build entrepreneurship culture, with institutional assistance, either the government or an educational institution, where students learn to develop entrepreneurial skills. Fritsch and Wyrwich (2017) define entrepreneurship culture as a culture of norms, values, and codes of conduct that promote social acceptance and approval of entrepreneurial activities resulting in high self-employment rates. A few writers (Bassey, 2020; Jabeen et al., 2019; Jabeen et al., 2017; WU, 2018) felt the need of giving more attention to entrepreneurship culture in HEIs, as it impacts both society and the nation holistically in terms of employment, business, and economic growth. Capelleras et al. (2019) consider entrepreneurship culture is built by experienced individuals from business sectors who can act as role models. Bakheet (2018) suggest designing a set of policies for developing students' skills and a better attitude towards entrepreneurship, which will further develop the entrepreneurship culture. A few studies (Ahmad, 2015; Ahmed et al., 2020; Kim & Kwon, 2015; Oo et al., 2018) link entrepreneurship education with entrepreneurship culture and opine that HEIs and public research organizations play a vital role in promoting effective entrepreneurship activities.

### **Problem statement**

A universal problem faced by most HEIs is how to reconstruct the higher education system in a manner that is oriented towards an entrepreneurial culture. It has been an accepted fact that unless HEIs promote entrepreneurship education, it is not possible to build a strong national economy. It is very imperative to design and develop an implementation strategy either with the help of the university leadership who could act as facilitators to build an entrepreneurial culture or the constituent university departments which could help students promote entrepreneurial skills, or the university research units that can simulate business ventures and act as incubators for business development. Several studies have advocated the need for institutional support (Ahmad, 2015; Aloulou, 2017; Kim & Kwon, 2015; Oo et al., 2018; Rokhman & Ahamed, 2015) by combining the learning activities with practical experiments to produce optimal results. These studies insist on measuring the effectiveness of the learning process and the results of student learning experiences. A lack of support from the university leadership of the teachers could result in a decline in the interest and motivation level of students. A need is therefore felt to study the impact that university leadership or the constituent department and incubators can make in becoming a conclusive source of building an entrepreneurship culture. This study addresses this gap and plans a correlational study to measure the extent to which any institutional support can contribute to building an entrepreneurial culture.

### **Study objectives and questions**

The objectives of this study were:

1. to investigate whether the university leadership can act as a facilitator of building an entrepreneurial culture.
2. to highlight how the university departments can help students promote entrepreneurial skills,
3. to draw attention that university research units can also act as incubators for business development

Therefore, the research questions (RQ) to be answered in this paper are as follows:

1. RQ1: How does the university leadership can act as a facilitator of building an entrepreneurial culture?
2. RQ2: How can the university departments help students promote entrepreneurial skills?
3. RQ3: How can university research units act as incubators for business development?

### **Theoretical Framework: Entrepreneurship model**

The hypothesis of this study is that entrepreneurship education for higher education students is supported by the university leadership as a facilitator of entrepreneurial culture, university departments as promoters of entrepreneurial skills, and university research as an incubator of local business development (Ogbari et al., 2018). Figure 1 shows the theoretical framework of this study.

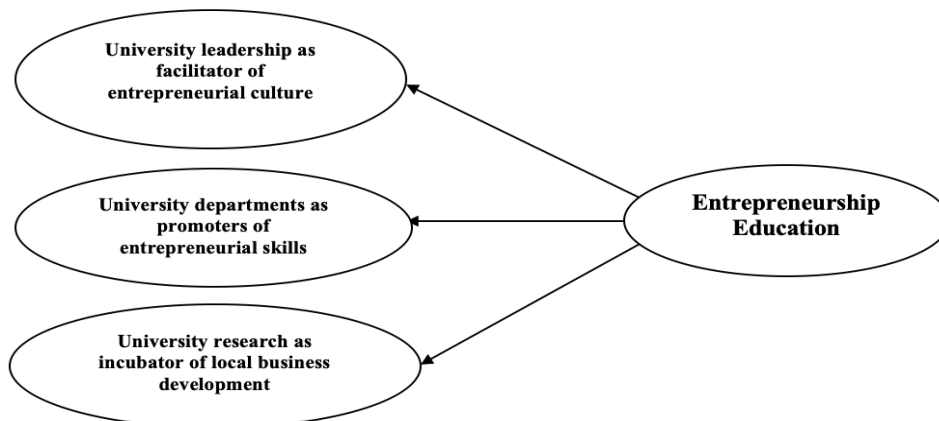


Fig. 1 Theoretical framework of the study

## Methodology

### Research Design

This study used a quantitative research design, in which the endogenous variable of entrepreneurship education for higher education students contained three exogenous variables: university leadership facilitating entrepreneurial culture, university departments promoting entrepreneurial skills, and university research as an incubator of local business development. The first exogenous variable of university leadership facilitating entrepreneurial culture comprised three indicators of university leadership fostering a culture of entrepreneurial thinking, the university placing sufficient emphasis on entrepreneurship education, successfully motivating lecturers to embrace entrepreneurship education, and successfully motivating *students* to embrace entrepreneurial education.

The exogenous variable of university departments as promoters of entrepreneurial skills contained the indicators of students attaining sufficient entrepreneurial skills during their university education, university study programs providing adequate knowledge about entrepreneurship, the university offering additional training programs that promote entrepreneurship, having sufficient human resources to promote entrepreneurship, and sufficient financial resources to promote entrepreneurship. The third exogenous variable of university research as an incubator of local business development contained indicators like university conducting research projects with local private sector businesses, supporting graduates who intend to launch start-ups, university research providing valuable policy insights to improve entrepreneurship education, and university students having opportunities to gain practical experiences in the local private sector.

### Research Sample

The research sample comprised 246 students from the Universitas Negeri Jakarta (Indonesia), who were identified with the help of convenient sampling method.

### Research Instrument and Procedure

A survey instrument was designed to collect data for this study. Participants were given survey questionnaires targeting both the endogenous and the exogenous variables. These variables were derived from Ogbari et al. (2018), a study which showed how the university leadership facilitated entrepreneurial culture, university departments promoted entrepreneurial skills, and university research acted as an incubator of local business development. The questionnaire distributed was customized based on these ideals changed into statements. The participants responded to the statements by selecting either “strongly agree,” “agree,” “neutral,” “disagree,” or “strongly disagree”. Each of these responses was coded in the following manner: 5, 4, 3, 2, and 1, respectively for positive questions, and 1, 2, 3, 4, and 5 for negative questions.

### Data Analysis

The data analysis was carried out with the Structural Equation Model (SEM) on IBM SPSS Statistics 24 and SPSS AMOS 24 (2017 Edition) to examine the set of relationships between entrepreneurship education for higher education students and the three indicators of university leadership facilitating entrepreneurial culture, university departments promoting entrepreneurial skills, and university research as incubator of local business development.

## Results

Table 1 displays the statistical analysis of the data. It shows the model fit summary as an indicator of the informative model fit consisting of Goodness of Fit Index (GFI), Adjusted Goodness of Fit Index (AGFI), Normed Fit Index (NFI), Incremental Fit Index (IFI), and Comparative Fit Index (CFI).

**Table 1**

#### Model Fit Summary

Model	GFI	AGFI	NFI	IFI	CFI
Default model	0.931	0.899	0.833	0.910	0.908
Saturated model	1.000		1.000	1.000	1.000
Independence model	0.538	0.461	0.000	0.000	0.000

Table 2 displays the measurement model test for the data. This test shows the direct effect of university leadership as a facilitator of entrepreneurial culture, university departments as promoters of entrepreneurial skills, and university research as an incubator of local business development on entrepreneurship education for higher education students. Table 2 also displays the direct effect of the sub-indicators - university leadership fostering a culture of entrepreneurial thinking, the university placing sufficient emphasis on entrepreneurship education, successfully motivating lecturers to embrace entrepreneurship education, and successfully motivating *students* to embrace entrepreneurship education - on university leadership as a facilitator of entrepreneurial culture.

Table 2 also indicates the direct effect of the sub-indicators of students attaining sufficient entrepreneurial skills during their university education, university study programs providing adequate knowledge on entrepreneurship, offering additional training programs that promote entrepreneurship, having sufficient human resources to promote entrepreneurship, and sufficient financial resources to promote entrepreneurship on university departments as promoters of entrepreneurial skills. The direct effect of the sub-indicators - university conducting research projects with local private sector businesses, university research providing valuable policy insights to improve entrepreneurship education, university students having opportunities to gain practical experiences in the local private sector, and the university supporting graduates who intend to launch start-up on university research as incubator of local business development can also be seen in the table.

**Table 2**

*Measurement model test*

**Regression Weights: (Group number 1 - Default model)**

			Estimate	S.E.	C.R.	P	Label
FEC	<---	ETED	3.875	2.033	1.906	0.047	
PES	<---	ETED	3.676	1.925	1.910	0.046	
LBD	<---	ETED	1.000				
EE4	<---	FEC	1.000				
EE3	<---	FEC	0.621	0.149	4.171	***	
EE2	<---	FEC	1.296	0.202	6.428	***	
EE1	<---	FEC	1.350	0.217	6.212	***	
EE8	<---	PES	1.000				
EE7	<---	PES	1.455	0.198	7.349	***	
EE6	<---	PES	1.358	0.184	7.365	***	
EE5	<---	PES	1.239	0.180	6.891	***	
EE13	<---	LBD	1.000				
EE12	<---	LBD	2.235	1.191	1.877	0.061	
EE11	<---	LBD	2.278	1.216	1.873	0.061	
EE10	<---	LBD	4.044	2.065	1.958	0.040	
EE9	<---	PES	0.906	0.159	5.705	***	

**Standardized Regression Weights: (Group number 1 - Default model)**

			Estimate
FEC	<---	ETED	0.940
PES	<---	ETED	0.968
LBD	<---	ETED	0.727
EE4	<---	FEC	0.477
EE3	<---	FEC	0.339
EE2	<---	FEC	0.695
EE1	<---	FEC	0.641
EE8	<---	PES	0.520
EE7	<---	PES	0.723
EE6	<---	PES	0.726
EE5	<---	PES	0.638
EE13	<---	LBD	0.160
EE12	<---	LBD	0.380
EE11	<---	LBD	0.375
EE10	<---	LBD	0.642
EE9	<---	PES	0.474



Notes:

- ETED=Entrepreneurship Education
- FEC=University leadership as facilitator of entrepreneurial culture
- PES=University departments as promoters of entrepreneurial skills
- LBD=University research as incubator of local business development
- EE1=entrepreneurial thinking
- EE2=The university places sufficient emphasis on entrepreneurship education
- EE3=The university succeeds in motivating lecturers to embrace entrepreneurship education
- EE4=The university succeeds in motivating *students* to embrace entrepreneurship education
- EE5=Students attain sufficient entrepreneurial skills during their university education
- EE6=University study programs provide adequate knowledge on entrepreneurship
- EE7=The university offers additional training programs that promote entrepreneurship
- EE8=The university has sufficient human resources (lecturers/staff) to promote entrepreneurship
- EE9=The university has sufficient financial resources (budgets) to promote entrepreneurship
- EE10=The university conducts research projects in cooperation with local private sector actors
- EE11=University research provides valuable policy insights for improving entrepreneurship education
- EE12=University students have opportunities gain practical experiences (internships, project work) in the local private sector
- EE13=The university supports graduates who intend to launch a start-up

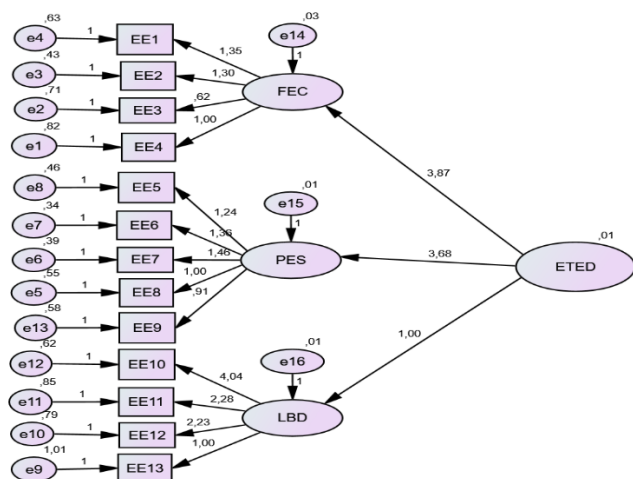


Fig. 2 The structural model

Figure 2 displays the structural model formed based on the regression measurement.

## Discussion

The Goodness of Fit Index (GFI) in Table 1 reached 0.931, which shows that the model of character building in physical education and sport class is a good fit. The adjusted Goodness of Fit Index (AGFI) achieved 0.899, pointing out that the model proposed in this research is a good fit. The Normed Fit Index (NFI) at 0.833 also indicates that the model presented is a good fit. And finally, the Incremental Fit Index (IFI) of 0.910 and the Comparative Fit Index (CFI) at 0.908, both provide more proof that the model is a good fit. Based on the SEM measurement result of this research, the model of entrepreneurship education for higher education students presented in this study is a fit model.

Table 2, as discussed above, presents the Measurement Model Test of the observed variables. This displays significant positive associations (0.940, 0.968, and 0.727, respectively) between university leadership as a facilitator of entrepreneurial culture, university departments as promoters of entrepreneurial skills, and university research as an incubator of local business development on entrepreneurship education for higher education students. The observed variables of university leadership fostering a culture of entrepreneurial thinking, the university placing sufficient emphasis on entrepreneurship education, succeeding in motivating lecturers to embrace entrepreneurship education, and in motivating *students* to embrace entrepreneurship education are significantly related to university leadership as facilitator of entrepreneurial culture, as can be seen in the respective figures: 0.641, 0.695, 0.339, and 0.695.

The sub-indicators of students attaining sufficient entrepreneurial skills during their university education, university study programs providing adequate knowledge on entrepreneurship, the university offering additional training programs that promote entrepreneurship, having sufficient human resources to promote entrepreneurship, and sufficient financial resources to promote entrepreneurship are significantly associated with university departments as promoters of entrepreneurial skills reached 0.638, 0.726, 0.723, 0.520, and 0.474, respectively. These findings are consistent with a few recent findings (A Maksum et al., 2020; A. Marini, Maksum, Edwita, et al., 2019; A. Marini, Maksum, Satibi, et al., 2019; A. Marini, Safitri, D., Sujarwo, Zahari, M., Lestari, I., Rihatno, T., Nuraini, S., Iskandar, R., and Ibrahim, N., 2019; D. Safitri & Y. Umasih, 2019; D Safitri et al., 2019; U. Wibowo et al., 2019; U. B. Wibowo et al., 2020).

The sub indicators of the university conducting research projects with the local private sector and the university supporting graduates who intend to launch start-ups have a significant relationship (0.642 and 0.160) with university research as incubator of local business development. However, university research providing valuable policy insights to improve entrepreneurship education and university students having opportunities to gain practical experiences in the local private sector as predictors of university research as an incubator of local business development were not supported. This result is consistent with Barba-Sánchez and Atienza-Sahuquillo (2018) finding that entrepreneurship plays an important role in developing an individual's entrepreneurship. Other studies that are consistent with these results include (Fahrurrozi et al., 2019; Hadi et al., 2020; Hartati et al., 2020; Ibrahim et al., 2020; Kaban et al., 2019; Arifin Maksum et al., 2019; A. Marini, Safitri, D., Sujarwo, Zahari, M., Lestari, I., Rihatno, T., Nuraini, S., Iskandar, R., and Ibrahim, N., 2019; Rihatno et al., 2020; Safitri, 2018; Desy Safitri et al., 2019; D. Safitri & I. Umasih, 2019). These studies suggested that entrepreneurship education contributes to entrepreneurial intentions.

## Conclusion, Implications and Limitations

The current era is a time of digital acceleration, technological innovation, and rising social challenges (automation, dematerialization, and social transformation). In this era, entrepreneurial competencies emerge as an increasingly important component of future skill sets. This study showed how entrepreneurship education stimulated individuals to think critically and creatively. Entrepreneurship education is related to the skills and capability as well as controlling difficulty. Educational programs related to entrepreneurship can help students develop attitudes and perform entrepreneurial tasks. The programs of entrepreneurship education offered by universities can support entrepreneurial achievement (Ogbari et al., 2018). There is an interrelationship between entrepreneurial progress and the program of entrepreneurship education offered by universities.

This research offered a basic empirical model for entrepreneurship education for higher education students. Indicators included university leadership as a facilitator of entrepreneurial culture, university departments as promoters of entrepreneurial skills, and university research as an incubator of local business development stimulate entrepreneurship education for higher education students. The limitation of this study lies in the fact that it was confined to students at the Universitas Negeri Jakarta in Indonesia. It is recommended that future research should expand the scope of the survey to other Indonesian universities in the Province of Jakarta and beyond.

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