Study of the Influence of Education and Literation of Entrepreneurship in Vocational High Schools: Indonesian Case

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Abstract

This paper aims to explain the factors that influence of entrepreneurship education and entrepreneurship literacy of vocational students (SMK). A paper based on research on 1,440 vocational grade XI students in 12 provinces in Indonesia obtained through random techniques, in the sense that each student has the same opportunity. Primary data collection is done through the distribution of questionnaires to students and analyzed by SEM techniques through the help of the Lisrel program version 8.70. The study found that the variables of school management, the role of teachers, teaching factories, and community participation had a positive influence on supporting facilities variables and entrepreneurship education variables. Facility support itself has a positive effect on entrepreneurship education, furthermore it has a positive effect on students' entrepreneurial literacy. On the other hand, external cooperation indicators contribute the strongest value for the school management variable, competent educator indicators of the teacher role variable, production training in the factory teaching variable, production marketing assistance in the community participation variable, and capital assistance information in the supporting facilities variable. In the entrepreneurship education variable, the indicator that contributes the strongest value is the identification of business prospects, while the entrepreneurship literacy variable is an indicator of business creativity. The implication is that entrepreneurship education efforts need to pay more attention to the above influence variables as well as indicators that have the effect strength of each variable.

Keywords: entrepreneurship, literacy, students, vocational

1. Introduction

The Indonesian government has long been implementing entrepreneurship education for vocational high school (SMK) students in particular, as an effort to expand the number of entrepreneurs but also to overcome graduate unemployment which is increasing every year. Entrepreneurship education is given in schools with the hope of motivating vocational graduates to be creative and innovative in utilizing the potential of the environment, trading, and others as the foundation of life after graduating
from school. To support entrepreneurship education in schools, the regulation also requires that principals (especially vocational) have entrepreneurial competence to produce graduates who are independent, creative, innovative, and able to create jobs.

Entrepreneurship is a strategic element that is considered capable of overcoming the problem of unemployment, especially graduates of vocational secondary education (SMK). The number of graduates of unemployed vocational education is increasing every year. In 2014 there were 1,332,521 people, and in 2018 there were 1,731,743 people (Central Statistics Agency, 2019). It is certain that this number continues to grow, not only because of the number of graduates in 2019 and 2020 who are faced with limited employment opportunities, but also because of the dismissal of mass workers for preventing the Covid-19 pandemic outbreak. The government is trying to restore the economic passion, suppress and overcome unemployment, one of which is expected from the creation of the small and medium scale entrepreneurial sector through the utilization of the potential of the local environment, culinary business, retail trade, motorcycle repair shops, electronic services, and others.

Economists argue that a country’s economic resilience can be seen from the indicator of the ratio of the number of entrepreneurs to the population. The average developed country that has a stable economy, has a ratio of 14 percent is a businessman compared to its population. In Indonesia the ratio of the number of entrepreneurs is still low, although from year to year the number shows an upward trend. Data from the Central Statistics Agency (2019) noted the number of entrepreneurs in Indonesia rose from 1.56 percent in 2014, and increased to 3.1 percent in 2016 from a population of 270 million. Efforts that need to be done are how that number can increase up to 14 percent. Until 2020, the number of entrepreneurs tends not to increase, or even decrease due to various reasons (Bisnis, 2019).

Entrepreneurship education is expected to produce students who are capable of entrepreneurship and increase the number of entrepreneurs. Through this education seeks to develop student entrepreneurship literacy so that it can be realized and utilized after graduation later. Literacy of entrepreneurship education is not only limited to the introduction and understanding of theory and conceptualism, but also allows for the creation and innovation of making and applying business forms as the foundation of work. On that basis the development of entrepreneurship education in vocational schools must be taken seriously, not only as additional lessons in schools. Education in major vocational schools is indeed an effort to develop certain knowledge and skills to prepare students to work in the formal sector, but also provides a second alternative so students can also create and innovate to create jobs independently. The latter is an effort for students who are not absorbed into the formal employment sector and reduce the unemployment rate. The government has issued a policy to stimulate and encourage graduates in entrepreneurship by providing loan capital assistance.

However, it is certain that entrepreneurship education is not only limited to classroom learning between teachers and students, but is more influenced by many factors. All these influencing factors must be clear and synergistic so that entrepreneurship education can motivate, encourage and realize students’ creativity and innovation to cultivate the business world in the non-formal sector. Among the factors that are thought to influence entrepreneurship education are school management, the role of teachers, teaching factories, community participation, and support for learning facilities. Therefore, this paper wants to explain the influence of school management factors, the role of teachers, teaching factories, community participation, and supporting learning facilities as exogenous latent variables in entrepreneurship education and entrepreneurial literacy of vocational students as endogenous latent variables. The discussion will also show the contribution of the indicators that show strength in influencing each variable studied.

2. Literature Review

Before this paper builds a theoretical framework to discuss the problem being studied, it is necessary to put forward the definition of each latent variable used here, namely: school management, the role of teachers, teaching factory, community participation, support for learning facilities, on entrepreneurship education and entrepreneurship literacy students.
2.1 School Management

In a simple school can be interpreted as a place for learning meetings between teachers and students. At school there are various elements that support learning, human and non-human. The human elements at school are the principal, teachers, administrative staff, library staff, security officers, cleaning staff, students, and others. Non-human elements, such as: school buildings, teacher rooms, classrooms, laboratories, practice rooms, curriculum, school libraries, school grounds, and others.

The school is led by the principal to manage all elements in his educational institution. Many experts believe that the successful implementation of education in schools is largely determined by the leadership of the principal: differences in achievement among schools are often caused by differences in the management of each school principal. The challenge of a school principal must have strength in vision and goals, oriented towards achievement, as an agent of change, courage to take risks, motivator and facilitator, democratic and egalitarian, believe in science and technology, implement a reward and punishment system, self-awareness, coaching harmonious and synergistic working relationships, etc. (Nanus, 2001; Goleman, 2002; Dahl, 2003; Davis, 2004; Luthans, 2004; Robbins, 2006; Usman, 2006; Mathis and Jackson, 2006; Wibowo, 2007; Thoha, 2008; Schein, 2014; Colquitt, Lephine, and Wesson, 2015; Anderson, 2016).

In the context of school management, the success or failure of entrepreneurship education is largely determined by the principal. Supporting entrepreneurship education in schools requires a strong vision and goals from the principal, especially in developing student literacy. The various roles and functions need to be realized by the principal of entrepreneurship education, namely: providing facilities to support entrepreneurial learning, developing economic activities in the school environment, fostering cooperative relationships with parties outside the school, training and internships in business and industrial institutions, and others. Deakins et al (2005), Arensburg (2015), Vera van Zyl (2006), Lackéus (2015), Samino (2013), Wiyatno and Muhyadi (2013), and Iswadi (2016) show that literacy in entrepreneurship is largely determined by vision and the purpose of the principal as the basis for the management of educational institutions, and other roles.

2.2 Teacher's Role

Another human element in schools is the status of the teacher who supports the complexity of the role in carrying out the main task of teaching. As a teacher not only acts as an educator in transforming the value of science and technology to students, but also other roles. Sociologically what is meant by status is the position or place of someone who has a certain set of rights and obligations which can be seen in terms of position, science, wealth, etc. (Parsons, 2012; Horton and Hunts, 1984; Soekanto, 2018; Sorokin, 2018). The other role of the teacher is as a motivator, facilitator, mentor, instructor, and others.

In entrepreneurship education, the teaching of the core theory and practice of entrepreneurial literacy is carried out by teachers, both in certain subjects and / or integration into other subjects. Various roles need to be realized by the teacher, not only related to the planting of entrepreneurship education curriculum, but also in motivating, facilitating, providing assistance, guiding, and others. As a motivator, teachers need to arouse students’ interest and concern for the entrepreneurial aspect by providing an overview of local potential, giving examples of successful entrepreneurs, the number of entrepreneurs around, and so on. As a facilitator, roles that can be realized provide supportive learning facilities, foster relationships with business people, invite experts / instructors / successful entrepreneurs, and so on. In the role of assistance, for example: traveling around the area identifying local potential, visiting business places, and others. Seikkula-Leino et al (2010), Diegoli, Gutierrez, and García-De los Salmones, Daniyati (2013), Apriliani (2015), and Mudawama (2018) show the importance of the teacher's role in arousing interest, becoming a facilitator of learning, providing assistance, fostering relationships with business people, and others to develop student entrepreneurship literacy.
2.3 Teaching Factory

Teaching Factory (Tefa) Implementation is an effort of vocational schools to foster cooperation with the business world and the industrial world. Tefa is an actual situation-based learning concept to increase the relevance of vocational education to the needs of the world of work and strengthen the skills of vocational students to enter the labor market (see: Directorate of Vocational Education, 2015; Haris, 2013). Business and industry players should not only provide training and apprenticeship facilities, by developing curricula that are in line with business and industry needs, but should also encourage students’ interest, creativity and innovation for entrepreneurship, both as suppliers needed by business and industry or independent. Implicitly the Tefa program should also be a place for students to learn, explore, motivate and prepare themselves for entrepreneurial literacy, so that after completing their education they can create and open businesses as jobs and sources of life.

Various studies have indeed shown that the implementation of the Tefa program is quite effective in producing vocational graduates who are absorbed as workers in the business and industrial world (Zainudin, 2012; Yunanto, 2016; Sari, 2017; Perdana, 2018; Mustari et al, 2017). But on the other hand Tefa has not been able to attract interest and encourage vocational education graduates (SMK) to create and innovate in developing business for their own lives and the environment. One obstacle of the Tefa program is that it has not yet developed a curriculum that can produce student skills to open business opportunities, and limited equipment for entrepreneurship education (Yunanto, 2016; Arifman, 2017; Anwar and Wailanduw, 2018).

2.4 Community Participation

Entrepreneurship education literacy requires community involvement, especially business actors around the school. Participation can be defined as the involvement of a person or group of people to strive for the success of an activity, so as to achieve the expected goals. Davis and Newstrom (2000) argue that participation is the mental and emotional involvement of a person or group to achieve goals and take responsibility in them. In simple terms, the community itself can be defined as a group of people who live together within certain administrative boundaries or territories for a long time and support a shared culture (Horton and Hunt, 1984; Koentjaraningrat, 2016; Soekanto, 2018).

On that basis community participation can be interpreted as the mental and emotional involvement of a person or group that is motivated to contribute in supporting the literacy of entrepreneurship education in schools. Community participation is an effort to support of entrepreneurship education, both inside and outside of school. There are at least 4 (four) forms of community participation, namely: financial assistance, business skills development, infrastructure and business property assistance (for example: provision of buildings and business space, personal computers, laptops, wifi, etc.), business production training, marketing assistance, suppliers of raw materials, and others (see: Wiratno, 2016; Normina, 2016; Eriza and Saragih, 2019).

2.5 Facility Support

Entrepreneurship education for vocational students requires the support of learning facilities at schools. Facilities are everything to support efforts to achieve certain goals. Thus, the supporting facilities for entrepreneurship education are everything that is used to support, accelerate, develop students’ entrepreneurial literacy.

Entrepreneurship education facilities are physical appearance and abilities (buildings, practice rooms, laboratories, etc.), as well as equipment, materials, modules, etc. that enable practical learning (Sofyan, Ari Pradhanawati, and Nugraha, 2013; Sedaya and Sulandari, 2019). The purpose of supporting facilities is an effort to simplify and accelerate the process of identification and understanding that can arouse student interest, creativity, and innovation in entrepreneurship after completing their education.
2.6 Entrepreneurship Education (EELS)

The essence of entrepreneurship education is teacher learning to students. Gagne (1977) argues that learning is a set of individual processes, which change a person’s environmental stimuli into a number of information, which in turn can lead to learning outcomes in the form of long-term memory. Briggs (1991) argues that learning is a series of events that affect learning, so that it is easier to interact with the environment. In this paper, learning is defined as the process of teacher interaction with students and learning resources in a learning environment for behavior change (see also: Law of the Republic of Indonesia No. 20/2003).

This paper refers to entrepreneurship education as a learning interaction between teachers and students inside and outside of school. The purpose of learning is to instill theory, concepts and practice to foster skills (literacy) about entrepreneurship. Kao (1995), Zimmerer (2005), Dubrin (2013), Drucker (2007), Robert and Coulter (2018) argue that entrepreneurship is a process in which a person or group uses organized efforts & infrastructure to find opportunities and create value to fulfill needs. In other words, entrepreneurship is someone who is creative, innovative, and able to make it happen in the form of business values in order to improve the welfare of themselves and the community.

Assuming that entrepreneurship is not only based on talent but also can be learned. Entrepreneurship education is the deliberate dissemination and cultivation of values through mentoring, teaching and training activities that take place at school and outside of school to develop independent and entrepreneurial student abilities (see: Dalle, 2017; Biography Dale, 2018; Sari, 2019). Entrepreneurship education is a holistic process that aims to enable students to translate ideas creatively, innovatively, productively, and responsively to take advantage of existing potential. Entrepreneurship education can be integrated into all subjects (intracurricular), extracurricular activities, self-development activities, business practices, local potential content, and so on (Curriculum Center, 2010; Hapsari, 2017).

2.7 Entrepreneurship Literacy Students (LACH)

Entrepreneurship education aims to develop student literacy as an unlimited ability to know or identify, but also to understand, interpret, create, and realize business forms after completing studies (see: Montoya, 2018). The theory and practice of entrepreneurship learning are expected to foster creativity and innovation to be independent and entrepreneurial after completing secondary education (vocational school), through the utilization of local potential, cooperation with business actors, goods suppliers, service providers, and others.

At the same time, experts believe that entrepreneurial literacy needs to underpin a number of traits of business behavior to achieve success. These characteristics include: self-confidence, initiative, task and result oriented, risk taking, leadership behavior, forward-looking, disciplined, working together, building good relationships, learning new things, utilizing science and technology, positive thinking, increased added value, be creative and innovative to make changes, sensitive to the environment, seek information continuously, and others (see: Meredith et al, 1982; Meredith, 1992; Hisrich, Peters, and Shepherd, 2009; Bev, 2014). Entrepreneurship education aims to prevent and prevent vocational education graduates from becoming unemployed.

2.8 Theoretical Framework and Hypothesis

Based on the above constructed a theoretical framework for approaching the problems and put forward a hypothesis that will be sought explanation.
Hypothesis:

- School Management (SM), Teacher’s Role (TR), Teaching Factory (TFA), and Community Participation (CPA) has an influence on Facility Support (FSU) and Entrepreneurship Education (EELS).
- Facility Support (FSU) has an influence on Entrepreneurship Education (EELS).
- Entrepreneurship Education (EELS) has an influence on Entrepreneurship Literacy Students (LACH).

3. Methodology

This paper is the result of studies in 24 vocational high schools (SMK) in 12 of 34 provinces in Indonesia, namely: West Sumatra, Jambi, Lampung, Jakarta, West Java, Banten, Central Java, East Java, Bali, West Nusa Tenggara, Sulawesi South and South Kalimantan. From each province, 2 (two) vocational schools were taken as a sample of educational implementers in the fields of technology and engineering expertise, agribusiness and agrotechnology, business and management, and tourism. Each of these areas of expertise has a minimum of 50 expertise programs, and each expertise program includes several expertise competencies (there are as many as 150 expertise programs). For example, the field of technology and engineering includes 13 expertise programs, one of which is a mechanical engineering expertise program consisting of competencies in machining engineering, welding engineering, metal casting engineering, industrial mechanical engineering, design and machining engineering, metal fabrication engineering and manufacturing. Or the area of tourism expertise consisting of hospitality expertise programs and tourism services that include competencies in business travel tourism expertise, hospitality, marine tourism and ecotourism, hotels and restaurants; culinary competencies include culinary expertise; cosmetology includes competencies in skin and hair beauty expertise, fashion includes fashion and design skills competencies, and so on (see: Directorate General of Primary and Secondary Education Regulation No. 06 / D.D5 / KK / 2018).

The subjects of this study were class XI students with a sample of 60 students from each school. The total sample was 1,440 people who were obtained through random techniques, meaning that every grade XI student had the same chance of being a research sample. Data collection is done by distributing questionnaires to students, coupled with interviews and conducting remote discussions.
(online) with a number of school principals and teachers. Specifically the use of the questionnaire as a data collection tool, previously tested on 30 students to determine the level of validity and reliability using the product moment criteria from Pearson and Cronbach Alpha with the help of the SPSS version 24.0 program. Only question items that prove to be valid and reliable are used in field research.

Research analysis using Structural Equation Modeling (SEM) with the help of Lisrel program 8.70. The analysis mainly includes CFA to determine the validity and reliability of question items related to the research indicators, GOF models, the structure of the relationship of the variables studied, and the contribution of the indicators for each variable (Joreskog and Sorborn, 1993; Ferdinand, 2002; Kusnendi, 2009; Hair et al, 2010; Haryono and Wardoyo, 2017).

4. Findings

4.1 Characteristic Respondent

The questionnaire was answered by 61.74% of the male student questionnaire, and 38.26% of the female students (see: table 1). Of the 24 sample vocational schools there are those who carry out education in the same areas of expertise, expertise programs, and competency expertise (for example: mechanical engineering, electric power, computer and informatics engineering, tourism, etc.), but there is also only one area of expertise, for example: maritime. Overall students said that they received entrepreneurship education in the learning process at school. Students come from parents with varied jobs ranging from traders in the market, opening kiosks, private drivers, taxi drivers, laborers, fishermen, farmers, and others. Most (84.24%) parents of students with a relatively low income of 4,000,000 million - 6,000,000 rupiah a month, only 15.76% said their parents earn more than 6,000,000 rupiah a month, namely working as government employees central government, regional government officials, military, police, teachers, business people, and others (currently USD $ 1 = 14,500 rupiah).

As many as 89.24% of student respondents answered that they chose vocational education because they wanted to work immediately after graduation, with the reason they wanted to help their parents, 5.56% answered they wanted to work while continuing their education to university, and 5.20% answered no Tofu. This answer is in line with the large number of student respondents (88.54%) who answered that they were not interested in becoming entrepreneurs, even though they received entrepreneurship education at school. The reasons stated: because they consider themselves not talented, do not have the capital, can not help parents directly, and do not have certainty so it is not guaranteed to get a steady income. As many as 2.78% of the student respondents answered that they were quite interested in becoming entrepreneurs, if they did not find work in the formal sector (government and private), as well as getting business capital assistance and business guidance. As many as 8.68% of students said they did not know or it was up to later after completing their studies.

Table 1. Distribution of Respondents (N = 1440)

| Field of Expertise | Expertise Program | Expertise competence | Men (%) | Women (%) | Total (%) |
|--------------------|-------------------|----------------------|---------|-----------|-----------|
| A. Technology & Engineering | Mechanical engineering | Machining technique | 90 (9.25) | 25 (1.74) | 115 (7.99) |
| | | Casting technique | 32 (2.22) | 5 (0.35) | 37 (2.57) |
| | | Welding techniques | 23 (1.60) | 5 (0.35) | 28 (1.95) |
| | | Installation techniques | 72 (5.00) | 14 (0.97) | 86 (5.97) |
| | | Cooling technique | 52 (3.61) | 12 (0.83) | 64 (4.44) |
| | | Network engineering | 23 (1.60) | 7 (0.49) | 30 (2.08) |
| | Graphic techniques | Graphic design | 37 (2.57) | 23 (1.60) | 60 (4.17) |
| | | Graphic production | 42 (2.92) | 18 (1.25) | 60 (4.17) |
| | Automotive engineering | Technical light vehicle | 48 (3.34) | 12 (0.83) | 60 (4.17) |
| | | Automotive body techniques | 50 (3.47) | 10 (0.70) | 60 (4.17) |
| B. Technique Computer & Communication | Technique | Software engineering | 35 (2.43) | 25 (1.74) | 60 (4.17) |
| | | computer & informatics | 38 (2.64) | 33 (2.29) | 71 (4.93) |
| | | Computer & Network Engineering | 30 (2.08) | 19 (1.32) | 49 (3.37) |
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Field of Expertise | Expertise Program | Expertise competence | Men (%) | Women (%) | Total (%) |
--- | --- | --- | --- | --- | --- |
C. Agribusiness & Agrotechnology | • Agribusiness plants | Landscape and gardening | 32 (2.22) | 28 (1.95) | 60 (4.17) |
| • Livestock agribusiness | Agribusiness poultry | 45 (3.13) | 15 (1.04) | 60 (4.17) |
| • Agricultural engineering | Agricultural machine tools | 52 (3.61) | 8 (0.56) | 60 (4.17) |
D. Maritime & Fishery | • Hotels and tourism services | Travel agent | 65 (4.51) | 25 (1.74) | 90 (9.25) |
| • Culinary | Culinary art | 35 (2.43) | 42 (2.92) | 77 (5.35) |
| • Beauty | Spa and beauty therapy | 22 (1.53) | 38 (2.64) | 60 (4.17) |
| • Fashion | Hair and skin beauty | 17 (1.18) | 44 (3.06) | 61 (4.24) |
| • Creative designs and prod. | Creative craft of batik and textile | 5 (0.35) | 6 (0.42) | 11 (0.77) |
| • Art | Art painting | 8 (0.56) | 4 (0.28) | 12 (0.83) |
| • The art of broadcast. & film | Production & Broadcast Radio Prog. | 15 (1.04) | 22 (1.53) | 37 (2.57) |

Total | 939 (65.21) | 501 (34.79) | 1440 (100.00) |

Source: Study of the influence of education and literation of entrepreneurship in vocational high schools: Indonesian case

4.2 CFA

Confirmatory Factor Analysis (CFA) is one of the widely used validity and reliability tests. CFA is used to test unidimensional, validity and reliability of construct measurement models that cannot be measured directly or also called descriptive measurement theory models or confirmatory factor models that show the operationalization of variables or research constructs into measurable indicators formulated in the form of equations and / or specific path charts. (Joreskog and Sorborn, 1993; Ferdinand, 2002; Kusnendi, 2008; Hair et al, 2010; Haryono and Wardoyo, 2017; Sarjono and Yulianita, 2019). The purpose of the CFA is to confirm or test the model, which is a measurement model whose formulation is derived from theory. CFA can be said to have two focuses, namely: whether indicators that are conceptualized are unidimensional, precise, and consistent; and what are the dominant indicators that make up the construct under study.

4.2.1 Validity and Reliability

The CFA should be implemented as a test of validity to determine whether the indicator variable actually forms the latent variable being studied (Joreskog and Sorborn, 1993; Ferdinand, 2002; Kusnendi, 2008; Hair et al, 2010; Haryono and Wardoyo, 2017; Sarjono and Yulianita, 2019). The validity test is related to the measurement of variables so they are valid or not. The validity test is done by comparing the loading factor to a minimum of 0.5. If the load factor value is greater than 0.5 then the indicator is valid. Reliability tests show how well the gauge can produce relatively similar results if repeated measurements on the same object. Reliability values were measured with Construct Reliability (CR) and Variance Extract (VE). It is said to be reliable if CR values> 0.70 and VE> 0.50.

Error measurement (ei) is intended to overcome the effect of parameter estimators and large or small size variances provided that the higher the loading factor value means the smaller the error value, thus indicating that the indicator truly reflects the latent variable. Below is shown the results of the validity and reliability of the indicators of each variable studied. Table 2 shows the validity and reliability test results.

Table 2. Validity and Reliability Results

| Variables | Indicators | SLF | ei | CR | VE | Conclusion |
|---|---|---|---|---|---|---|
| School Management (SM) | x1 = Entrepreneurial education administration | 0.95 | 0.10 | | | Valid & Reliable |
| | x2 = Entrepreneurial support facilities | 0.94 | 0.12 | 0.917 | 0.7769 |
| | x3 = External cooperation | 0.74 | 0.45 | | | |
4.2.2 Goodness of Fit Models

Goodness of Fit model is a test match or the good fit between the observations (observation frequency) acquired a certain frequency based on the expectation (expected frequencies). Through the test results can be seen whether whole or partial indicators suggest that the model Fit or SEM’ve been good, and able to answer the theory is built. In modeling system conformance test is very important, because the analysis of the structural model in SEM started based on statistical indicators Goodness-of-Fit (GFI) on output LISREL (Joreskog and Sorborn, 1993; Ferdinand, 2002; Kusnendi, 2009; Hair et al, 2010; Haryono and Wardoyo, 2017). Overall, a summary of the critical value of the model match testing can be seen from the summary in table 3.

Table 3. Eligibility Criteria for SEM Model

| Goodness-of-Fit                          | Cutt-off-Value         | Results      | Conclusion |
|------------------------------------------|------------------------|--------------|------------|
| RMR (Root Mean Square Residual)          | ≤ 0.05 atau ≤ 0.1      | 0.0021       | Good Fit   |
| RMSEA (Root Mean square Error of Approximation) | ≤ 0.08                | 0.0023       | Good Fit   |
| P-value                                  | ≥ 0.05                 | 0.06125      | Good Fit   |
| GFI (Goodness of Fit)                    | ≥ 0.90                 | 0.93         | Good Fit   |
| AGFI (Adjusted Goodness of Fit Index)    | ≥ 0.90                 | 0.92         | Good Fit   |
| CFI (Comparative Fit Index)              | ≥ 0.90                 | 0.94         | Good Fit   |
| Normed Fit Index (NFI)                   | ≥ 0.90                 | 0.93         | Good Fit   |
| Non-Normed Fit Index (NNFI)              | ≥ 0.90                 | 0.95         | Good Fit   |
| Incremental Fit Index (IFI)              | ≥ 0.90                 | 0.94         | Good Fit   |
| Relative Fit Index (RFI)                 | ≥ 0.90                 | 0.92         | Good Fit   |

Source: Study of the influence of education and literation of entrepreneurship in vocational high schools: Indonesian case
Table 3 shows, all indicators show that the SEM model is Fit or good. Data from the questionnaire has been able to answer the theory is built.

4.3 Structural Relationship Analysis

Data processing using the help of the Lisrel 8.70 program produces a structural model of the variables and indicators studied, as follows.

![Diagram 2. Standardized Loading Factor](Image)

**Source:** Study of the influence of education and literacy of entrepreneurship in vocational high schools: Indonesian case

**Table 4. Hypothesis Test Results**

| Hypothesis | Coefficient | Conclusion |
|------------|-------------|------------|
| SM → FSU  | 0.81        | Significant|
| TR → FSU  | 0.84        | Significant|
| TFA → FSU | 0.89        | Significant|
| CPA → FSU | 0.78        | Significant|
| SM → EELS | 0.65        | Significant|
| TR → EELS | 0.81        | Significant|
| TFA → EELS| 0.67        | Significant|
| CPA → EELS| 0.75        | Significant|
| FSU → EELS| 0.73        | Significant|
| EELS → LACH| 0.86      | Significant|

**Source:** Study of the influence of education and literacy of entrepreneurship in vocational high schools: Indonesian case

4.4 Relationship of Indicators in Variables

Based on the results of structural testing (diagram 2) it can be seen the relationship between indicators
and the variables studied. The aim is to find out how the contribution value of the indicators contained in each variable used. The results of the relationship of indicators to their variables.

Table 5. Relationship of Indicators in Variables

| Variables       | Indicators                                      | Loading value | Construct Coeff | Contribution |
|-----------------|-------------------------------------------------|---------------|-----------------|--------------|
| School          | x1 = Entrepreneurial education administration   | 0.10          | 0.95            | 0.0950       |
| Management (SM) | x2 = Entrepreneurial support facilities         | 0.12          | 0.94            | 0.1128       |
|                 | x3 = External cooperation                       | 0.45          | 0.74            | 0.3330       |
| Teacher's       | x4 = The role of educators                      | 0.29          | 0.84            | 0.2436       |
| Role (TR)       | x5 = The role of the facilitator                | 0.24          | 0.87            | 0.2088       |
|                 | x6 = The role of mentors                        | 0.23          | 0.88            | 0.2024       |
| Teaching Factory (TFA) | x7 = Production training/internship | 0.68          | 0.57            | 0.3876       |
| Community Participation (CPA) | x10 = Production marketing | 0.29          | 0.84            | 0.2436       |
|                 | x11 = Production training                       | 0.18          | 0.90            | 0.1620       |
|                 | x12 = Supplier                                 | 0.23          | 0.88            | 0.2024       |
| Facility Support (FSU) | x13 = Entrepreneurial practice in schools | 0.22          | 0.88            | 0.1936       |
|                 | x14 = Use of school partner equipment           | 0.31          | 0.83            | 0.2573       |
|                 | x15 = Business management guidance              | 0.10          | 0.95            | 0.0950       |
|                 | x16 = Production and marketing assistance       | 0.35          | 0.81            | 0.2835       |
|                 | x17 = Capital and business equipment            | 0.57          | 0.66            | 0.3762       |
| Entrepreneurship Education (EELS) | x18 = Entrepreneurial skills | 0.35          | 0.80            | 0.2800       |
|                 | x19 = Identification of business prospects      | 0.50          | 0.71            | 0.3550       |
|                 | x20 = Entrepreneurial life expectancy           | 0.27          | 0.85            | 0.2295       |
|                 | x21 = Active search for information             | 0.06          | 0.97            | 0.0982       |
|                 | x22 = Product marketing capabilities            | 0.29          | 0.84            | 0.2436       |
| Entrepreneurship Literacy (LACH) | x23 = Competence and entrepreneurial skills | 0.19          | 0.90            | 0.1710       |
|                 | x24 = Increased business interest               | 0.16          | 0.92            | 0.1472       |
| Students        | x25 = Job orientation                           | 0.16          | 0.92            | 0.1472       |
| (LACH)          | x26 = Creativity in business                    | 0.39          | 0.98            | 0.3822       |
|                 | x27 = Alternative job substitutes               | 0.34          | 0.81            | 0.2754       |

Source: Study of the influence of education and literation of entrepreneurship in vocational high schools: Indonesian case

5. Discussion

Hypothesis test results show that school management (SM), the role of teachers (TR), teaching factory (TFA), and community participation (CPA) have a positive effect on support facilities (FSU) and entrepreneurial education (EELS). Furthermore, entrepreneurial education literacy (EELS) has a significant and positive effect on entrepreneurship literacy students (LACH). These results indicate that the success or failure of entrepreneurial education literacy in developing student knowledge and skills is strongly influenced by school management, the role of teachers, teaching factory, community participation, and the availability of learning support facilities.

The school management variable (SM) has a positive effect on the supporting facilities (FSU) variable with a coefficient of 0.81 and entrepreneurial education (EELS) with a coefficient of 0.65. In this paper, the school management variable includes only 3 (three) indicators, namely: entrepreneurial education administration, entrepreneurial support facilities, and external cooperation relationships. The analysis shows that the external cooperation indicator (x3) has the strongest contribution to the school management variable of 0.3330, followed by the entrepreneurial education support facility management indicator (x2) of 0.1128, and the entrepreneurial education...
administration management indicator (x1) of 0.0950. These results indicate that students perceive the importance of schools in fostering cooperative relationships with various parties outside the school in entrepreneurship education (EELS), especially business actors in society and industry. Another aspect is the importance of schools managing literacy support facilities for entrepreneurship education, both inside and outside of schools. The administration of entrepreneurship education is placed the lowest by students, perhaps because it is considered a school affair that is not directly related to students.

Another variable is the role of the teacher (TR), which has a positive effect on the supporting facilities variable (FSU) with a coefficient of 0.84 and entrepreneurial education (EELS) with a coefficient of 0.67. Similar to school management variables, this teacher role variable also only includes three indicators, namely: the role of educators, facilitators, and mentoring. The results of the analysis show that students perceive the importance of the role of the teacher as educator (x4) which contributes the strongest value of 0.2436, followed by the facilitator role indicator (x5) of 0.2088, and the mentoring role indicator (x6) of 0.2024. As the role of educators, students require teachers to have good competence in implementing entrepreneurial education. Teachers will find it difficult to play the optimal role of educators if they do not have adequate knowledge and abilities, not only in mastering theory but also in practice. Another role expected by the teacher is to become a facilitator, related to the facilitation of learning entrepreneurial theory, concepts and practices, one of which is through collaboration with business and industry actors. Students also consider the important role of teacher mentoring in entrepreneurship education, especially in providing tutoring and learning assistance.

The factory teaching variable (TFA) also has a positive influence on the supporting facilities variable (FSU) with a coefficient of 0.89 and entrepreneurial education (EELS) with a coefficient of 0.67. Teaching factory is a production/service-based learning model that refers to the standards and procedures that apply in the business world and industry. The teaching factory model in schools is based on learning activities that are in accordance with reality by involving the industrial sector to develop student competencies. The aim is to transfer knowledge and production skills to students, so that graduates are ready to work and can be absorbed in industrial companies (Directorate of Vocational Education, 2015; Directorate of Vocational Education, 2017). However, the teaching factory is also expected to increase the creativity and self-reliance of students’ work. In this paper the teaching factory (TFA) variable includes three indicators, namely: the production training function, the function of providing experts (experts) and the management training function. The analysis showed that the production training/internship indicator (x7) contributed the strongest value of 0.3876, followed by the indicator of training by experts (x8) of 0.1936, and the management training indicator (x9) of 0.0198. Implicitly, students perceive that in the teaching factory implementation emphasizes the importance of training on production, so that it can be applied if they are involved in entrepreneurship later.

The community participation variable (CPA) has a positive effect on the supporting facilities (FSU) variable with a coefficient of 0.78 and entrepreneurial education (EELS) with a coefficient of 0.75. This paper contains only 3 (three) indicators that are deemed to provide reinforcement for the EELS variable, namely: production marketing assistance, production training in business activities in the community, and suppliers of manufactured goods. From the analysis it was found that the production marketing indicator (x10) gave the strongest contribution to the community participation variable of 0.2436, followed by the opportunity indicator as a supplier of production goods (x12) of 0.2024, and the indicator of the implementation of production training in business carried out by community members (x11) of 0.1620. These results indicate that in the context of community involvement, production marketing material is a very important lesson given in entrepreneurship education. Entrepreneurship education also needs to be directed at learning about opportunities and the possibility of becoming a supplier of goods to the type of business in society, so that it can stimulate students to produce the needs of these goods if they are going to be entrepreneurs in the future. Community participation in such entrepreneurship education will increase interest and equip students’ knowledge and skills in entrepreneurship.

The supporting facilities variable (FSU) has a positive effect on the student entrepreneurial education (EELS) of 0.73. In this paper, 5 (five) indicators are used to see their contribution to the FSU
variable, namely: infrastructure in schools, use of school partner equipment, business management guidance, identification of business opportunities, and assistance in equipment procurement. The results of the analysis show that the indicator of capital assistance and business equipment (x17) has the strongest contribution to the FSU variable of 0.3762, followed by the production and marketing assistance indicator (x16) of 0.2835, the indicator of school partner equipment use (x14) of 0.2573, the entrepreneurial practice indicator in schools (x13) is 0.1936, and the business management guidance indicator (x15) is 0.0950. From these results it can be seen that the main indicator emphasized by students is the importance of business capital assistance and business equipment when entering the world of entrepreneurship. They also think that an important facilitation in running a business is production and marketing assistance, especially from business and industry players. Entrepreneurship will have good prospects, if it is supported by smooth production and clear marketing objectives. Therefore students assume that the use of equipment owned by school partners will not only provide skills but also the possibility of being open suppliers of goods and services needed in business and industrial activities.

All of the above variables have a positive effect on entrepreneurial education (EELS), and EELS itself has a positive effect on entrepreneurship literacy students (LACH). (LACH), especially related to entrepreneurial ability. There are five indicators used in this EELS variable, namely: entrepreneurial ability, identification of business prospects, life expectancy of entrepreneurs, active information seeking, product marketing ability. The results of the analysis show that the business opportunity identification indicator (x19) contributes the strongest value to entrepreneurial education of 0.3550, followed by the entrepreneurial skills indicator (x18) of 0.2800, the product marketing capability indicator (x22) of 0.2436, the indicator life expectancy of entrepreneurs (x20) of 0.2295, and finally the indicator of activeness in seeking information about types of business (x21) is 0.0582. Students tend to view that the most important aspect of entrepreneurship education is the ability to identify local potentials as business prospects that are still open for use. Entrepreneurship education, both theoretical and practical, will not attract students’ interests if it is not supported by efforts to identify local potentials and seek it as a source of employment and income. The role of schools is to foster students’ business skills, develop knowledge and ability to market products, attract and convince students that entrepreneurship can be a job and income, and encourage students to seek information and deepen knowledge, mastery, and skills about the type of business to be carried out later.

The application of entrepreneurial education (EELS) is an effort to develop entrepreneurship literacy students (LACH). Entrepreneurship literacy students (LACH) is seen from 5 (five) indicators, namely: entrepreneurial competencies and skills, increased business interest, work orientation, creativity in doing business, and alternative work substitutes. The results of the analysis show that the indicators of creativity in doing business (x26) have the strongest contribution to the LACH variable of 0.3822. followed by alternative job replacement indicators (x27) 0.2754, indicators of entrepreneurial competence and skills (x23) 0.1710, and increased business interest (x24) and work orientation (x25) of 0.1472. From these results students emphasized that being an entrepreneur really requires the growth of creativity, so that it can be an alternative job if you don't get it in the formal sector. This must be supported by entrepreneurial education in schools which is able to foster competence and skills of students to create and develop certain types of businesses, and vice versa. Students’ entrepreneurial competence and skills must be sought, especially if they are faced with a lack of student interest in making it a job and income after completing their education.

This study found that school management (SM), the role of teachers (TR), teaching factory (TFA), and community participation (CPA) have an effect on the variable utilization of supporting facilities for entrepreneurial learning (FSU). Of these variables, the teaching factory (TFA) ranks first in giving a positive effect on the use of supporting facilities (FSU) of 0.89, followed by TR, SM, and CPA variables. Furthermore, the five variables (SM, TR, SM, CPA, and FSU) also have a positive effect on the entrepreneurial education variable (EELS). The fifth influence must lead to the application of entrepreneurial education for vocational students, not only making students familiar with and understanding the theory, concepts and practices of entrepreneurship learning, but also being able to
generate interest and be creative in developing this type of business. These variables also determine the success or failure of the implementation of entrepreneurship education in students. Through entrepreneurship education, it is hoped that graduates will no longer only want to be workers in the formal environment (government and private), on the contrary, they are determined to be independent by creating their own jobs in the non-formal business sector. Entrepreneurship education is expected to be able to increase the number of entrepreneurial graduates of the SMK.

The results of the analysis show that the teacher role variable (TR) has the highest positive effect on entrepreneurial education (EELS) with a coefficient of 0.81, followed by community participation with a coefficient of 0.75, supporting facilities with a coefficient of 0.73, teaching factory with a coefficient value of 0.7, and school management with a coefficient of 0.65. These results indicate that the most important element in EELS lies in the teacher's role as educators, facilitators, and mentors in fostering students' entrepreneurial knowledge and skills. On that basis, teachers must be competent by mastering entrepreneurial theory, concepts and practices, especially if entrepreneurship education is not carried out monolithically but is integrated into all subjects being taught. Teachers who are less competent will not arouse interest and convince students that entrepreneurship can be an alternative job in the non-formal sector. Entrepreneurship education needs to instill the view of students that entrepreneurship in the non-formal sector can also provide income security and increase welfare.

Community participation (CPA) is the next variable that has a positive effect on entrepreneurship education (EELS) with a coefficient value of 0.75. This positive influence is the role and function of society as a marketing medium for production businesses, providers of experts, and suppliers of products for business activities. As a marketing place, this will happen if the types of production that are pursued are aligned to meet the needs of the community, whether based on the utilization of local potential and / or others. On the other hand, participation can also be in the form of skill building for individuals or community groups classified as experts and supporting business activities, as well as management training.

Furthermore, supporting facilities (FSU) have a positive effect on entrepreneurial education with a coefficient value of 0.73. This variable is important, especially in facilitating the implementation of educational practices, both inside and outside of school. Supporting facilities in schools need to be available for practical entrepreneurship learning, supplemented by business management guidance, and information on production and marketing capital assistance. Facilities outside school include the use of equipment owned by business and industrial actors, as well as assistance in the provision of equipment and business capital.

In the following discussion, the teaching factory variable (TFA) becomes the next variable that has a positive effect on entrepreneurship education (EELS). Teaching factory is a complement to entrepreneurship learning by providing training and internships in real experiences by involving business and industry players, mentoring from experts in the world of business and industry, and management training. Teaching factories require collaboration between schools and business and industry players, especially in terms of equipment utilization and production practices. It is not surprising that this external collaboration is considered a determinant of entrepreneurial education knowledge and skills.

6. Conclusion

The above description shows that entrepreneurship education has a positive effect on entrepreneurship literacy students (LACH). However, literacy in entrepreneurship education is strongly influenced by various variables, including: school management, the role of teachers, teaching factory, and community participation. From the analysis, it is known that the role of teachers as educators, facilitators, and mentors occupies the highest position in entrepreneurial education literacy, followed by variables of community participation, availability of learning support facilities, teaching factory, and school management. This result does not mean that in the implementation of entrepreneurship education, it is sufficient to pay attention to the variable of the teacher's role, on the contrary ignoring other
variables, but it must be done simultaneously by giving special emphasis to the role of the teacher, especially teacher competence in mastery and ability entrepreneurial theories, concepts, and practices.

On the other hand, external cooperation indicators contribute the strongest value for the school management variable, competent educator indicators of the teacher role variable, production training in the factory teaching variable, production marketing assistance in the community participation variable, and capital assistance information in the supporting facilities variable. In the entrepreneurship education literacy variable, the indicator that contributes the strongest value is the identification of business prospects, while the student achievement variable is an indicator of business creativity. The implication is that entrepreneurship education literacy efforts need to pay more attention to the above influence variables as well as indicators that have the effect strength of each variable.

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