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An exploratory sequential mixed-methods approach to understanding students' entrepreneurial self-efficacy

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ABSTRACT

The aim of this study was to analyze the entrepreneurial self-efficacy (ESE) of teacher training students at ULM. This study uses an exploratory sequential mixed-methods approach (ESMMA) to an understanding of the entrepreneurial self-efficacy of economics education students of Universitas LambungMangkurat (ULM), Indonesia to find ways to become successful entrepreneurs. ESMMA analysis uses two research phases, namely the first stage is qualitative analysis with techniques namely data collection, display and conclusion). In the second phase, quantitative analysis was carried out using techniques namely quantitative data collection and data analysis. Data were obtained through developing entrepreneurial self-efficacy research questions: How can entrepreneurs manage stress during work?; Do entrepreneurs have original ideas in developing products?; Does the entrepreneur have a good relationship with anyone?; How do entrepreneurs analyse market opportunities, recruit employees, and be innovative to achieve success?. The results show that students have different personalities so that each decision for entrepreneurship is made in different ways. The analysis found that students need to develop risk management and uncertainty management skills, innovation management and product development skills, and interpersonal and network management to succeed in business competition.

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Introduction

Unemployment remains high among higher education graduates. In line with this fact, that entrepreneurship education at LambungMangkurat University has not optimally provided students with the ability to support the development of entrepreneurial values. Other facts show that ULM graduates are still not interested in becoming entrepreneurs after graduation. Even though research shows that entrepreneurship education should be able to support the development of entrepreneurial values in students while in college (Darmanto&Yuliari, 2018). Business research describes entrepreneurship as a creative process that involves evaluation and profit exploitation in the production of goods and services (Newman et al., 2019; Shane, 2012). A student of the department of economic education must have advantages compared to other departments. The ability that is always taught in the department of economic education is to become an entrepreneurship when graduating from college.

As educated entrepreneurs, students need to be proactive about social, technological and economic conditions. However, entrepreneurial skills are only part of the need for modern success

(Savickas et al., 2009). In general, entrepreneurial self-efficacy (ESE) - knowledge related to entrepreneurship - applies to individuals who believe in their ability to achieve success (Chen et al., 1998). Self-efficacy is discussed (Bandura, 2006), explaining that to achieve entrepreneurial success one must have high self-confidence. The theory reveals that ESE needs to get attention in the economics education department as an effort to guide students towards good careers. As a novelty in this research, the authors make teacher training and education students who have businesses as research respondents. This is also in line with Kasapoglu (2021) which revealed that it is also very important for teacher training students to be given attention to increasing the number of entrepreneurs among graduates of teacher training faculties.

Many previous studies used methods separately between qualitative and quantitative methods. Newman et al. (2019) reveal ESE research with qualitative research. This study used interviews with informants to find out in depth about ESE. Meanwhile, there are more researchers who use quantitative methods to discuss ESE, such as Cassar& Friedman (2009); Chowdhury et al. (2019); England Bayrón (2013); Fayolle&Gailly (2015); Gielnik et al. (2020); Hmieleski& Baron, R. (2008); Martínez Campo (2011); Miao et al. (2016); Nabi et al. (2018); Nowiński et al. (2019); Obschonka et al. (2017); Saraih et al. (2018); Uy et al. (2015); Wilson et al. (2007). Autor have not found the ESE study using a sequential mixed-method approach, so autor used a sequential mixed-method in this study. The use of mixed methods provides a more complete picture in terms of qualitative and quantitative data. Qualitative research can capture data that cannot be found with quantitative methods, while quantitative methods are able to generalize findings broadly.

Through initial observations, the authors found that economics education students had a strong interest in becoming successful entrepreneurs. The graduate profile that allows graduates from the Economics Education department to become successful teachers and entrepreneurs is an interesting study to discuss in depth. This research is expected to be able to help develop an appropriate curriculum in the department of economic education, given the department of economic education as a department that attracts many students who have just graduated from high school.

This study uses an exploratory sequential mixed-method. Researchers consider this research important because the increase in student confidence related to entrepreneurship needs to be clearly revealed so that researchers can provide suggestions for the development of entrepreneurship learning in higher education in improving ESE. ESE is a discussion about self-confidence to become a successful entrepreneur. In general, entrepreneurship can be built by making risk-based decisions, creating new ideas, and time management. The construct of ESE has been implemented in many aspects of life (Kickul&D'Intino, 2005). ESE more specifically explains the human phenomenon to become a successful entrepreneur. Entrepreneurial self-efficacy is very important compared to just talking about cognitive aspects only (Kickul&D'Intino, 2005). The coefficient of self-efficacy owned by individuals to be able to perform the tasks assigned (Bandura, 2006).

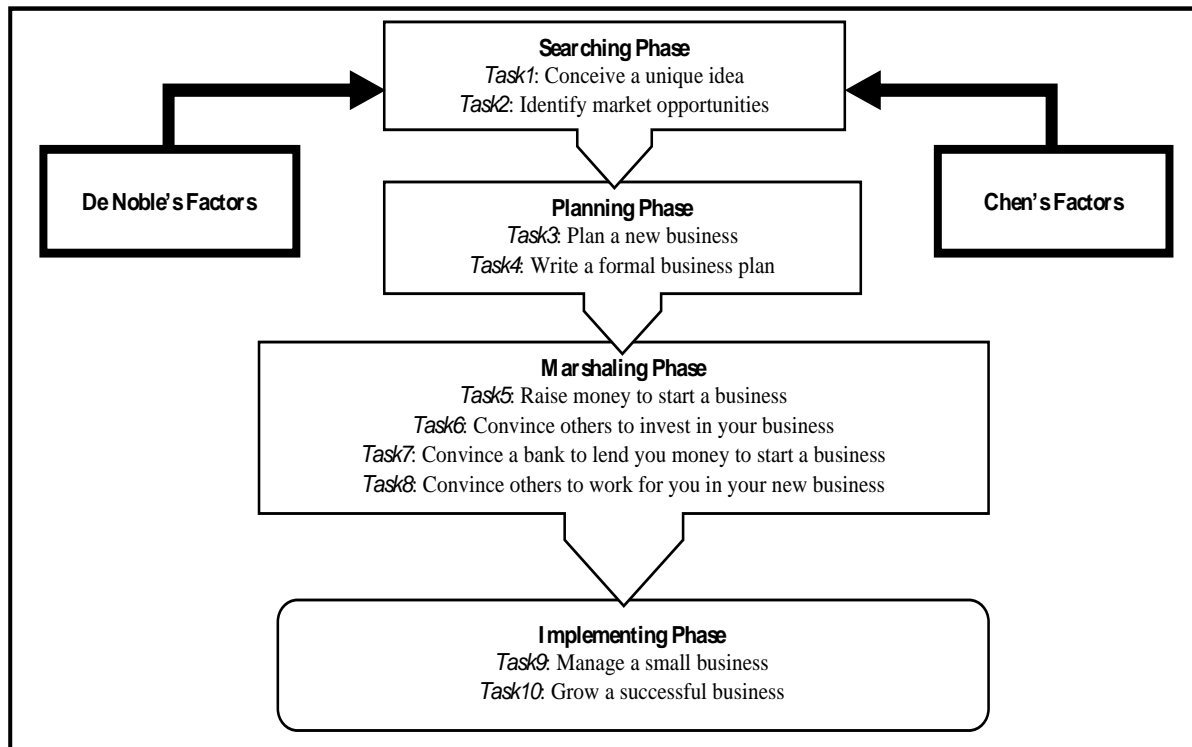
Figure 1 reveals that ESE is used as a measure of the confidence of entrepreneurs to become successful entrepreneurs (De Noble, Jung, & Ehrlich, 1999). ESE has some implications that show success in entrepreneurship. There are six theoretical dimensions of ESE namely risk management and uncertainty management skills, innovation management and product development, interpersonal and network management, recognition of opportunities, procurement of appropriate locations, and development and maintenance of innovative environments. Figure 1 explains that there are four phases that must be carried out by individuals or groups to become successful entrepreneurs. These phases include the search phase (2 tasks), the planning phase (2 tasks), the marshaling phase (4 tasks), and the implementation phase (2 tasks).

ESE is built and influenced by entrepreneurial outcomes. ESE is developed through the concept of self-efficacy through social cognitive theory (Newman et al., 2019), which contains social context, observation, and social learning behavior. Self-efficacy becomes the main construct that develops ESE, has the roots of agency perspective theory in individuals who interact socially. Self-efficacy represents individuals who can manage emotions, mental, and behavior (Bandura, 2006). This

study defines ESE as the ability to manage emotions, manage entrepreneurial behavior, and believe that one can become a successful entrepreneur.

Figure 1

Relationship of Self-Efficacy to Tasks and Roles Identified Within the Entrepreneurial Life-Cycle



Note. Kickul & D'Intino, 2005; (Cox, Mueller, & Moss, 2002)

ESE research has been built around theoretical perspectives including psychology, career development, and economics. ESE is also built from social cognitive theory to understand how to build ESE through experience, learning, social, and psychology (Drnovšek et al., 2010). ESE is also acquired through entrepreneurial experience, education, and training. Then, ESE can be developed through culture and institutions in ESE development.

There is a relationship of self-efficacy to tasks and identification roles within the entrepreneurial life-cycle (see Figure 1). ESE emerges from the broader concept of self-efficacy rooted in social cognitive theory (Newman et al., 2019). While research related to ESE literature to develop ESE theory contributes to entrepreneurship and vocational behavior literature and has implications for policymakers and observers of entrepreneurship education. ESE theory has relevance to entrepreneurship and career development of students after graduation. Self-efficacy in entrepreneurship consists of two distinct in ESE research, namely self-efficacy during business and second self-efficacy in the developing phase (Drnovšek et al., 2010). Chen et al., (1998); Newman et al., (2019) also developed and identified analysis factors consisting of five subscales of ESE that are still interconnected with the identification of (De Noble, Jung, & Ehrlich, 1999) namely marketing, innovation, management, risk-taking, and financial control.

Methods

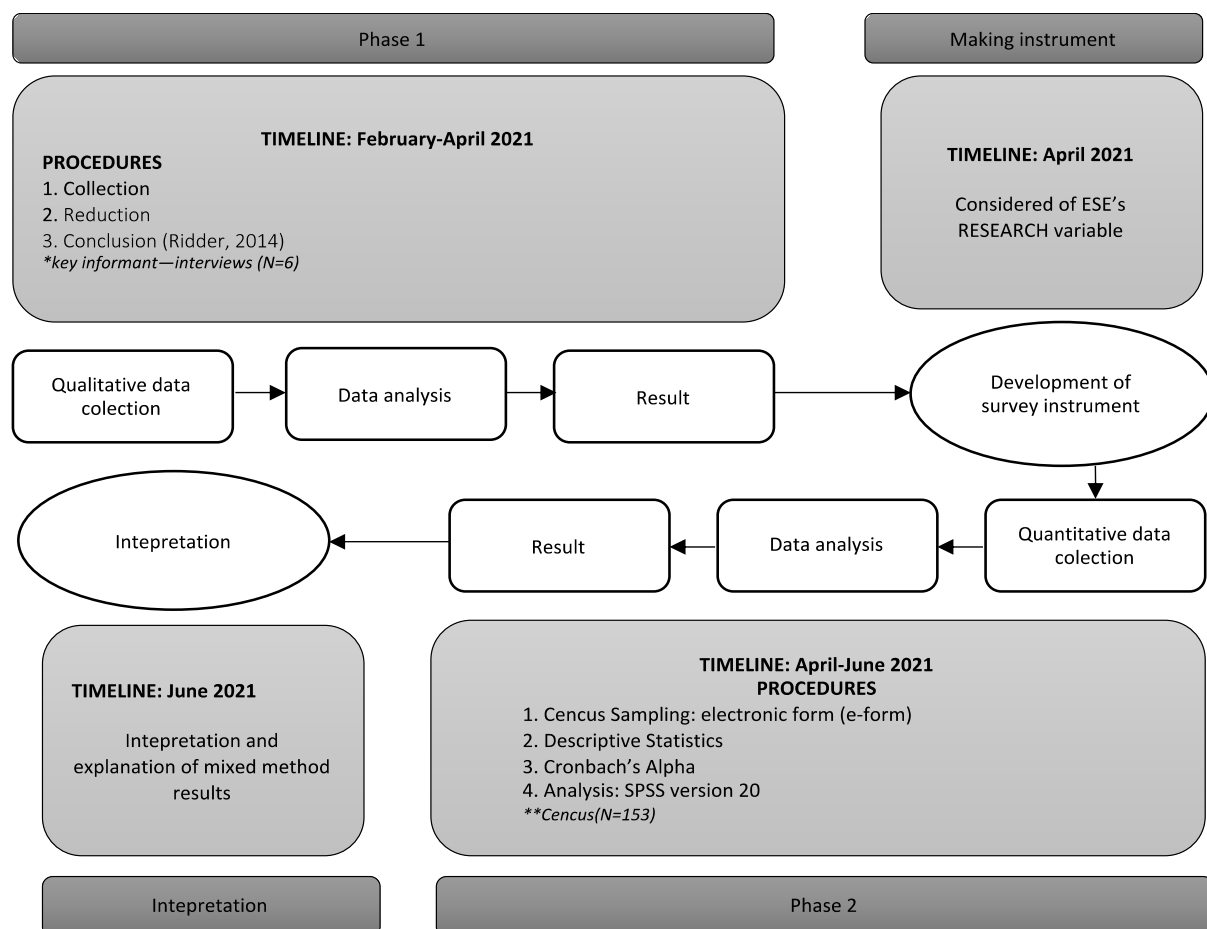
Research Design

Qualitative research methodologies are used to explore phenomena, develop theories, or describe experiences, while quantitative research methodologies are used to find causality, generalisation, and magnitude of effects (Berman, 2017; Fetter et al., 2013). Combining the two advantages of qualitative and quantitative research is called a mixed-method design (Berman, 2017). While the mixed method is defined as the center of research characteristics that require qualitative and quantitative methods to be analyzed sequentially. This method can reveal more in-depth findings. This can be done because it uses interview data and questionnaires as data collection techniques.

The item scale for ESE developed by (De Noble, Jung, & Ehrlich, 1999); (Kickul&D'Intino, 2005) adapted to the research respondents. This study uses Indonesian so that respondents can understand the purpose of the instrument that has been designed. The statement items developed to measure ESE such as "a. risk management skills and uncertainties", "b. I can work under pressure, stress, and conflict", " c. I can develop and maintain good relationships with anyone" and "d. I have an original idea of developing a product". ESE shaving when collecting quantitative data using a three-point Likert type scale (1 = disagree, 2 = neutral, 3 = agree).The purpose of this study was to analyze the ESE of teacher training students at ULM. In this study, an explanatory sequential mixed method research design was chosen to broadly explore and understand entrepreneurial self-efficacy in the department of economic education at ULM (figure 2).

Figure 2

Exploratory Sequential Mixed-method Research Design



In the first phase, data was collected from students from the Department of Economic Education who already had their own businesses while pursuing their Bachelor's degree program at ULM. The main data collection included depth-structured interviews (DSI) with key informant interviews. In-depth interviews are needed to find out information that cannot be obtained through closed questionnaires. The focus of the interview is on human phenomena to become a successful entrepreneur (e.g. risk management skills and uncertainties, the appearance of innovation management and product development, interpersonal and network management, recognition of opportunities, procurement of appropriate locations, and development and maintenance of innovative environments). Data analysis in the first phase was carried out by source triangulation. Data analysis procedures are performed during data collection, reduction, and conclusion (Ridder, 2014). This research is guided by four core research suggestions:

Q1: How can entrepreneurs manage stress while during work? (*Quantitative and Qualitative*)

Q2: Do entrepreneurs have original ideas in developing products? (*Quantitative and Qualitative*)

Q3: Does the entrepreneurs have a good relationship with anyone? (*Quantitative and Qualitative*)

Q4: How do entrepreneurs analyse market opportunities, recruit employees, and be innovative to achieve success? (*Quantitative and Qualitative*)

Quantitative Data Analysis

The second phase focuses on descriptive data collected through surveys. Data was collected using e-forms to facilitate the filling in of items and when tabulating data. The survey conducted interpreted perceptions related to ESE (e.g. marketing, innovation, management, risk-taking, and financial control) (Chen et al., 1998) (De Noble, Jung, & Ehrlich, 1999). All items qualify to be able to collect quantitative research data and Cronbach's Alpha results are 0.767 (see Table 1). Quantitative data is obtained to complement qualitative data that is unable to explain statistical data. A total of 153 respondents completed a survey of the e-forms that had been distributed. The collected data were analysed using SPSS version 20. The research questionnaire used was developed through the ESSE theory used. The questionnaire includes:

Question 1 (Q1): I can work under pressure, stress and conflict.

Question 2 (Q2): I have an original idea in developing a product.

Question 3 (Q3): I can develop and maintain good relationships with anyone.

Question 4a (Q4a) :I can see an opportunity for a new market.

Question 4b (Q4b) : I can recruit good employees for my business.

Question 4c (Q4c): I can build a productive work environment and do new things.

Table 1

Cronbach's Alpha Result

Variable	Cronbach's Alpha
Entrepreneurial Self-Efficacy	0.767

Mixed-Method Data Analysis

The interpretation of research data based on the research question (Q), is linked to qualitative data in the first phase and quantitative data in the second phase using a joint display (Table 2). A joint display shows the two results of the data (qualitative and quantitative data) together to make it easier to understand the results of the data (Berman, 2017; Fetter et al., 2013). Table 2 shows the sample quotes from the interview (first phase) and compared them to the results of the survey and analysis in the second phase. The results of the two data are combined into the main interpretation as a valid

research result. The two phases connected explain the marketing, innovation, management, risk-taking, and financial control of students who are entrepreneurs.

Table 2

Join Display Comparison or Qualitative and Quantitative Data

Theme	In-Person Interviews	
	First Phase*	Survey Second Phase**
RQ1. Managing Stress under pressure at work	P1:I set a schedule for my task deadline or schedule of activities in a written list so that I can manage my time and work or do something which will first be collected or done.	<ul style="list-style-type: none"> • 32.03% (N = 49) of the respondent cannot work under pressure • 34.6% (N = 53) of respondents responded neutral • 33.33% (N = 51) of respondents able to work under pressure
RQ2. Original idea	P2:I will often be alone, then think calmly. However, if I still haven't found a way to solve the problem, I like discussing it with friends who might be able to help find ideas.	<ul style="list-style-type: none"> • 2% (N = 3) of respondents have difficulty finding original ideas • 48.4% (N = 74) of respondents responded neutral • 49.67% (N = 76) of respondents had difficulty finding original ideas
RQ3. Social interactions	P3:I like to interact with other people, so I discover new things.	<ul style="list-style-type: none"> • 1.3% (N = 2) of respondents do not like to interact with other people • 20.3% (N = 31) of respondents responded neutral • 78.43% (N = 120) of respondents like interacting with others
RQ4a. Business opportunities	P4:I often see the needs that are needed by consumers or see trends being targeted by consumers	<ul style="list-style-type: none"> • 3.3% (N = 5) of respondents had difficulty finding business opportunities • 35.3% (N = 54) of respondents answered neutral • 61.4% (N = 94) of respondents able to find business opportunities
RQ4b. Recruiting Staff	P5:I try to recruit employees according to my needs and ability to provide salary	<ul style="list-style-type: none"> • 7.2% (N = 11) of respondents are unable to recruit employees • 30.1% (N = 46) of respondents answered neutral • 62.8% (N = 96) of respondents unable to recruit employees
RQ4c. Innovative	P6:I like to do things differently so that I don't get bored quickly	<ul style="list-style-type: none"> • 2.6% (N = 4) of respondents unable to innovate • 29.4% (N = 45) of respondents answered neutral • 67% (N = 104) of respondents can innovate

Findings

The research data consisted of two phases. Retrieval of qualitative data was done by depth-interview (interviews P= 6 persons). Personal interviews were selected according to the research criteria, namely students who already have their own business. Then in the next phase, a survey was carried out via e-form. The quantitative data survey was collected in the department of economic education at the ULM of 153 students. Descriptive statistics of quantitative data are explained in Table 3.

Table 3

General Descriptive Statistics

		Q1	Q2	Q3	Q4a	Q4b	Q4c
N	Valid	153	153	153	153	153	153
	Missing	0	0	0	0	0	0
Mean		2.9804	3.5556	4.0588	3.7059	3.6993	3.7712
Std. Error of Mean		.08523	.05399	.05955	.05856	.06497	.05525
Std. Deviation		1.05426	.66776	.73659	.72441	.80365	.68342
Variance		1.111	.446	.543	.525	.646	.467
Range		4.00	3.00	3.00	3.00	3.00	3.00

Table 4

Specific Descriptive Statistics of final respondents

Category	1*	2**	3***
N=153			
Time			
<1	81 (52.9%)	81 (52.9%)	81 (52.9%)
1-5	54 (35.3%)	54 (35.3%)	54 (35.3%)
5-10	13 (8.5%)	13 (8.5%)	13 (8.5%)
>10	5 (3.3%)	5 (3.3%)	5 (3.3%)
Q1 (N=153)			
Female (N=113)	39 (34.5%)	41 (36.3%)	33 (29.2%)
Male (N=40)	10 (25%)	12 (30%)	28 (45%)
Q2 (N=153)			
Female (N=113)	1 (0.8%)	56 (49.6%)	56 (49.6%)
Male (N=40)	2 (5%)	18 (45%)	20 (50%)
Q3 (N=153)			
Female (N=113)	2 (1.8%)	22 (19.5%)	89 (78.7%)
Male (N=40)	-	9 (22.5%)	31 (77.5%)
Q4a (N=153)			
Female (N=113)	2 (1.8%)	44 (38.9%)	67 (59.3%)
Male (N=40)	3 (7.5%)	10 (25%)	27 (67.5%)
Q4b (N=153)			
Female	9 (8%)	36 (31.9%)	68 (60.2%)
Male	2 (5%)	10 (25%)	28 (70%)
Q4c (N=153)			
Female	4 (3.5%)	34 (30.1%)	75 (66.4 %)
Male	-	11 (27.5%)	29 (72.5%)

Note.* disagree; ** neutral; *** agree

Q1: How Can Entrepreneur Manage Stress During Work?

Based on interviews with P1 it is known that students who are also entrepreneurs can manage their time well between work and study. It also reveals that students can make the right decisions about their business. This can manage stress when working under pressure. This is in line with research by Bhui, Dinos, Galant-Mieczkowski, de Jongh, & Stansfeld (2016) which revealed that individuals who are able to manage their time at work will more easily minimise the risk of stress while working. High stress will have a negative impact on work productivity (Panigrahi, 2017). This data is supported by quantitative data which explains that there is 32.03% (N = 49) of respondents unable to work under pressure, 34.6% (N = 53) of respondents respond neutral, and 33.33% (N = 51) of respondents able to work under pressure. The results of quantitative data related to respondents' answers are explained more specifically in Table 4.

Q2: Do Entrepreneurs Have Original Ideas in Developing Products?

The focus of the research question (Q2) is related to efforts to find original ideas to open a sustainable business. Phase 1 of the interview with P2 proposed to find good and appropriate and original ideas by discussing with colleagues who have the same goals. This was revealed because of the need for brainstorming to do new things, while competition in the market is very strong. Then in phase 2 statistically found 2% (N = 3) of respondents had difficulty finding original ideas, 48.4% (N = 74) of respondents responded neutral, and 49.67% (N = 76) of respondents found it easy to find original ideas (see Table 4).

Q3: Does The Entrepreneur Have a Good Relationship with Anyone?

To answer Q3, mixed-method research is needed. The focus of Q3 results is related to the social interaction of students while doing business. Phase 1, qualitative data obtained from P3, answered that he likes interacting with others. Interacting with many people will open up opportunities to introduce businesses that have been built or will be built. Then in phase two, quantitative data found 1.3% (N = 2) of respondents did not like to interact with others, 20.3% (N = 31) of respondents respond neutral, and 78.43% (N = 120) of respondents liked interacting with others (see Table 4). Specific quantitative data related to respondents who answered the items given by the author can be seen in Table 4. Social interaction is an important key to doing business. Students who have the opportunity to participate in social activities together at the university become a huge opportunity to interact with many people.

Q4: How Do Entrepreneurs Analyze Market Opportunities, Recruit Employees and be Innovative to Achieve Success?

The researcher developed the research instrument (Q4) into three sub-items namely related to business opportunities (Q4a), recruitment of employees / looking for work partners (Q4b), and innovative (Q4c). In phase 1, each sub-item is answered P4, P5, and P6 in sequence, namely business opportunities are obtained through analyzing the needs of consumers, recruiting employees or looking for work partners according to the needs of the situation, and doing things in different ways to improve the innovative way of making decisions. In phase 2 it can be shown in Table 4, quantitative data (Q4a) found that 3.3% (N = 5) of respondents were difficult to find business opportunities, 35.3% (N = 54) of respondents answered neutral, and 61.4% (N = 94) of respondents able to find business opportunities. Quantitative data (Q4b) found 7.2% (N = 11) of respondents were unable to recruit employees, 30.1% (N = 46) of respondents answered neutral, and 62.8% (N = 96) of respondents were unable to recruit employees. Quantitative data (Q4c) found 2.6% (N = 4) of respondents unable to

innovate 29.4% (N = 45) of respondents answered neutral, and 67% (N = 104) of respondents able to innovate (see Table 4).

Discussion

Risk Management Skills and Uncertainties

One way to become a successful entrepreneur is to manage risk and uncertainty. The results of qualitative research in the first phase showed that students who have a business managing time when doing work. Meanwhile, students can manage risk to become stressed while doing the work. Managing time when doing work is also a way to manage work pressure. However, managing time does not avoid risk and uncertainty but reduces risk and uncertainty to failure.

There is a positive impact between risk-taking propensity and entrepreneurial intentions (Austin & Nauta, 2016; Bacq et al., 2017; Hockerts, 2017; Pfeifer et al., 2016; Zhang & Cain, 2017). This reinforces the opinion that students who have the skills to manage risk and uncertainty as entrepreneurs, show positive indications of the success of students becoming successful entrepreneurs. The results in the second phase, show that there are different circumstances entrepreneurs respond to the situation. There was 32.03% of respondents indicated that there were entrepreneurs who were unable to face serious risks and predicted career uncertainty. As many as 53% of respondents face risks and uncertainties normally and not excessively, and 33.33% of respondents can manage risk and face uncertainty. Students who have a business and can manage risk identify a positive impact on becoming successful entrepreneurs (Chen et al., 1998). The study found that female (N = 113) included 39 (34.5%) of female respondents "had difficulty managing risk", 41 (36.3%) of female respondents were "neutral", 33 (29.2%) of female respondents were "able to manage risk", as well as male (N = 40) including 10 (25%) of male respondents "difficult to manage risk", 12 (30%) of male respondents "neutral", and 28 (45%) of male respondents "able to manage risk". The comparison between females and males is not too different, it is seen from the percentage of each respondent is almost the same.

Innovation Management and Product Development Skills

The era of technology requires that everyone must be able to use technology properly. Every business that developed in this era was successfully connected with the role of technology and information. One of the things that must be owned by students as entrepreneurs is to utilize technology to be able to develop innovation and product development. There is the devotion that technology has become one of the main aspects of being a successful entrepreneur (Huyghe et al., 2016; Kolvereid & Isaksen, 2017). In the first phase, students are found to find business ideas by discussing with business experts or colleagues who have the same goals. In the second phase, there was 2% (N = 3) of respondents found it very difficult to find original ideas in entrepreneurship, 48.4% (N = 74) of respondents responded neutrally in finding original ideas, and 49.67% (N = 76) of respondents found it easy to find an original business idea. This study found that female (N = 113) included 1 (0.8%) of female respondents "had difficulty finding original ideas", as many as 56 (49.6%) of female respondents were "neutral", and as many as 56 (49.6%) of female respondents "able to find original ideas". And as many as male (N = 40) including 2 (5%) of male respondents, as many as 18 (45%) of male respondents were "neutral", and 20 (50%) of male respondents were "able to find original ideas".

Business innovation is very necessary for doing business. However, it is no less important to control a good business plan and have a good interest in entrepreneurship (Arshad et al., 2016; Tsai et al., 2016). These results are in line with research findings, while students who have no intention of learning to innovate and the ability to make new products will not be able to compete well. Other research explains that innovation, subjectivity, and performance have a great influence on becoming successful entrepreneurs (Hallak et al., 2011, 2015; McGee & Peterson, 2019; Newman et al., 2019).

Interpersonal and Network Management

Entrepreneurial interest influences business success (Pihie& Bagheri, 2013). Success requires interpersonal and good network management. The first phase shows that students like to interact socially with many people. This was done to be able to analyze opportunities through open discussion. Entrepreneurial self-efficacy has a positive influence on the interests of students who want to become entrepreneurs (Geenen et al., 2016; Horvath, 2016; Lanero et al., 2016). In the second phase, 1.3% (N = 2) of respondents did not like to interact with other people, 20.3% (N = 31) of respondents responded neutral, and 78.43% (N = 120) of respondents liked interacting with others. The percentage of students who do not want to interact with others is quite high. Meanwhile, to be a successful entrepreneur requires skills and attitude in behavior (Arshad et al., 2016). Students should be able to behave openly to become successful entrepreneurs.

The procurement of the right location is also one of the most important aspects of building a business. Students must be able to see and innovate business layouts that will be done. Although efforts have been made, there is a need for creativity in every business development. The development and maintenance of an innovative environment is the key to the success of the work done by students. Students have the advantage of solving problems better, this is obtained through maturity in learning entrepreneurship education. This is in line with (Shaheen& AL-Haddad, 2018) explaining the level of education is very important to become a successful entrepreneur. Entrepreneurial knowledge and entrepreneurial experiences have a positive impact on ESE (Memon et al., 2019).

Conclusion and Implications

Research is an exploratory sequential mixed-methods approach to the understanding of entrepreneurial self-efficacy. The results were found based on the analysis of qualitative data and quantitative data on students of the department of economic education. Qualitative data were obtained through depth-structured interviews (DSI) and the collected qualitative data were analysed using SPSS version 20. The results show that students have different personalities so that each decision for entrepreneurship is done in different ways. However, it should be understood that entrepreneurial self-efficacy has an important role to be a successful entrepreneur. Students have greater knowledge and opportunities to become entrepreneurs. Students need to develop risk management and uncertainty management skills, innovation management and product development, and interpersonal and network management to win the business competition.

This research can be a reference for students who are studying at university. The results of the study illustrate the importance of ESE in becoming a successful entrepreneur. However, the difference in ESE for each different person is one important factor in being able to develop a business. The social and cultural background of the student must be overcome by efforts to develop risk management and uncertainty management skills, innovation management and product development skills, and interpersonal and network management to succeed in business competition. This finding is not the only determining factor in becoming a successful student to become an entrepreneur. This study focuses on respondents and informants who are still students while entrepreneurship. Need for further research related to this study. So, the authors recommend other researchers examine entrepreneurs who graduated from higher education and then decided to become entrepreneurs. Moreover, it would be best if future studies could interview teachers and students to explore how their ESE influence student's entrepreneurial behavior.

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