

The Entrepreneurial Learning of Generation Z Students in Industrial Revolution Era 4.0 (A Case Study in Tertiary Education of Yogyakarta and Surakarta, Indonesia)

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Abstract: This study intended to review how the entrepreneurial learning was done in the level of tertiary education and to contribute thoughts in the form of recommendations of how the maximal effort in entrepreneurial learning should be implemented so that students would have strong entrepreneurial attitudes to compete in industrial revolution era 4.0. This case study was done in two colleges of Yogyakarta and Surakarta cities in Indonesia by involving 183 students to fill the first survey and 20 students to do an in-depth interview. A grounded-theory model was applied as an approach to investigate the current form of entrepreneurial learning applied by the lecturers, how the entrepreneurial attitudes were instilled in class, the suitability of the learning model to the current generation, and views of the appropriate entrepreneurial learning model for the current generation. The result showed that entrepreneurial learning had been 51.91% taught in the form of theories, hence the entrepreneurial learning was not yet optimally felt by the students. They also revealed that the model of learning applied by their lecturers in entrepreneurial learning was not yet suitable for the development of the current generation. The students wanted the portion of theoretical material in entrepreneurship learning to be reduced, and develop it to practical learning, business internship and training involving digital information technology and online social media. With such learning, the students would get better entrepreneurial attitudes.

Keywords: entrepreneurial learning, industrial revolution 4.0, entrepreneurial attitudes.

1. INTRODUCTION

Currently, the industrial world has come to a 4.0 revolution where there is a change in the order of a motorized work system to the automation, and the technology of data exchange. Its development transcends organizational and territorial boundaries consisting of agility, intelligence, and digital networking development (Liao, Rocha, Deschamps, & Brezinski, 2018). Surely, it will affect the education development in colleges which, in fact, are producing graduates who are ready to face competition and technological developments. One of the important efforts in facing the 4.0 industrial revolution is that the colleges have to form and strengthen the entrepreneurial attitudes of their graduates. Through this effort, the college students hopefully obtain strong entrepreneurial attitudes. The form of entrepreneurial attitudes that must be instilled in the students are: 1) having self-confidence, 2) being able to do work planning, 3) able to socialize with the environment, 4) initiative and innovative in seeing opportunities, 5) being professionals in their fields, 6) able to manage finances, 7) having leadership spirits, 8) being prospective in the future, 9) dare to take risks (Arab, Sofiyabadi, Branch, & Branch, 2013; Fayolle & Gailly, 2015).

The current college students are those who are categorized in generation Z, having different thoughts from the previous generations. Nowadays, generation Z does not longer expect traditional jobs and business, they tend to prioritize social media, digital networking and digital application to work (Cogin, 2012; Myers & Sadaghiani, 2010). Generation Z has a big intention to work within a new work culture, new management, innovations, and new ways of interactions with their colleagues (Chou, 2012). Thus, generation Z has a view to growing and developing themselves, manifesting themselves in an inspiring workplace/ business environment, and being able to build personal experiences from a good and meaningful work/ business for themselves (Liao, Rocha, Deschamps, & Brezinski, 2018).

The current students who are generation Z prefer to learn through feedback, fairness, recognition, and real practice learning as often as possible, reflecting that current students need learning towards the inculcation of entrepreneurial attitudes. In the United States, it is noted that half to two-thirds of millennials are interested in entrepreneurship, and more than a quarter (27%) are self-employed and they launch nearly 160,000 startups every month, while 29% of all entrepreneurs aged 20 to 34 years old (Pyöriä, Ojala, Saari, & Järvinen, 2017). Meanwhile, in Indonesia, there are only 1,65 to 1,8% or 4,6 million entrepreneurs. From the new startup creation view, there are only 847 startups made up to 2018 (Mohan & Thaddeus, 2018; Penjaminan, 2018). The lack of entrepreneurship in Indonesia is caused by certain attitudes, mindsets, or judgments in the community which still consider working in a beneficial agency of company is more prestigious than entrepreneurship (Astamoen, 2008). It is contrasted with what happened in developed countries like the United States. They have a big intention to create their business opportunities, and also the intention to succeed and collect wealth from the company they have built. In the other aspect, the courage to become entrepreneurs is also encouraged by lecturers and universities teaching them entrepreneurship subjects. In addition,

entrepreneurship lecture material must be wrapped as attractive as possible to foster the students' interest in entrepreneurship (Alma, 2011).

Successful inculcation of entrepreneurial attitudes at the global level plays a crucial role in building the economy since through strong entrepreneurial teaching, jobs and economic growths in the world will be created (Zoltán, 2015). One of the efforts in instilling good entrepreneurial attitudes that will create strong entrepreneurial attitudes towards graduates is by presenting entrepreneurial learning with the appropriate models and methods (Hegarty, 2006). One of the studies shows that from 710 students of the faculty of economics observed, about 53% of them are not ready to take part in entrepreneurial activities. The relevant reason for this result is because of the lack of skills and knowledge needed and no practical experience gained by the students during their four-year study. Furthermore, 60% of respondents show the inability of their lecturers in teaching entrepreneurship (Ustyuzhina, 2019). The result of this study indicates that there are problems in entrepreneurial learning because the role of lecturers is not only limited to providing theoretical knowledge, but lecturers must be able to create such learning that improves the students' skills. With these skills, the students will be able to apply it in real practice.

Looking at the various things and problems outlined above, it seems that universities as the institutions that prepare and produce graduates who will compete in the global competition have not been able to fully instill a strong entrepreneurial attitude. Therefore, universities need to revitalize the entrepreneurial learning in order to present better learning, accommodate the needs of the era, able to prepare the students to gain a strong entrepreneurial attitude. Based on the problems above, this study intend to review how the entrepreneurial learning done by the colleges currently, and to contribute thoughts in the form of recommendation of how the optimal steps must be taken in teaching entrepreneurship in colleges so that the students will gain a strong entrepreneurial attitude and able to compete in the era of industrial disruption 4.0.

2. LITERARY REVIEW

Industrial Disruption of 4.0

Industry 4.0 is the current industrial automation and digitalization trend. The impact and urgency of industry 4.0 are reflected in all aspects of our lives, including the educational world (Hariharasudan & Kot, 2018). Rapid acceleration has influenced the development of educational technology. The learning characteristics have undergone major changes (Liang, Wu, Chang, Lee, & Lin 2015). Digital learning methods and information technology and effective communication will accelerate students in learning. The teaching-learning process supported by technology is a core concept of education 4.0. the types of technology-based learning provide opportunities for independent learning according to the students' acceleration and intention (Kayimbaşioğlu, Oktekin, & Haci, 2016).

Industrial revolution 4.0 contribute thoughts about teaching and learning innovation by using information and technology in its process. At this time, free learning applications and more educational content are presented in the Play Store and on the YouTube channel that brings better learning. Besides, many online courses can be accessed freely and opened to the public. Hence, the terms digital and ICT learning have occupied a prestigious place in the educational field (Alemi, 2006; Garavaglia, Garzia, & Petti, 2012; Gulicheva, Lisin, Osipova, & Khabdullin, 2017; Raudeliūnienė, & Vida, 2018).

Generation Z

Generation Z can be defined as people who were born between the 1990s to early 2010 so that they are aged from 7 to 22 years in 2017 (Tapscott, 2009). The generation Z generally likes to communicate by using video and spends a lot of time with their smartphones. They are also active in accessing the internet and social media (Skinner, Sarpong, & White, 2018; Wallington, 2013).

Generation Z has been formed by technological advancement, unstable economic growth, and social justice movements. Through smartphones, broadband internet access at home, or online connection at their schools have more access to pieces of information rather than the previous generations (Seemiller & Grace, 2017). Until now, generation Z is estimated to have reached 2,56 billion individuals globally. Meanwhile, in Indonesia, generation Z is estimated to have reached 68 million individuals (Dwidienawati & Gandasari, 2018).

Entrepreneurial Learning

Entrepreneurship education is expected to produce highly educated entrepreneurs who have the potential to create wider employment opportunities (Case, 2013). Entrepreneurship education in colleges can be beneficial to graduates and the community in terms of encouraging them to be more responsive to new technological changes (Cheng, Chan, & Mahmood, 2009). Entrepreneurship education has been widely recognized as an important and positive impact carrier for training and the new creation of commercial ventures (Ghina, Simatupang, & Gustomo, 2017).

Entrepreneurial learning in colleges must be designed innovatively, giving a chance for the students to explore the new concept of entrepreneurship and learn to run the new concept they have made. Thus, they will be able to instill entrepreneurial attitudes strongly in the lecturing process (Xie, 2014). Entrepreneurial learning must include: 1) pursuing entrepreneurship; 2) teaching through entrepreneurship; 3) teaching for entrepreneurship (Hannon, 2010). Through well-designed entrepreneurial learning, entrepreneurship education will be able to: 1) increasing the students' basic knowledge, skills, and entrepreneurial behavior in life; 2) forming practical knowledge for entrepreneurs; 3) starting micro-business ownership through education; 4) facilitating those who want to start business of new products/ services; 5) updating skills of micro business awareness (Blair & Lacy, 2000).

3. METHODOLOGY

This study aimed to review the entrepreneurial learning applied in colleges and to contribute thoughts in the form of a recommendation of how the optimal steps must be taken in teaching entrepreneurship in colleges so that the students gain a strong entrepreneurship attitude and ready to compete in the era of industrial disruption 4.0. based on those purposes, this study used a descriptive quantitative method with a grounded-theory approach. The design of grounded-theory could explain the process of an event, activities, acts, and educational interaction. In its implementation, this grounded-theory study is carried out systematically to collect data, identify the categories, link the categories, and form a theory explaining the process (Creswell & Guetterman, 2018).

Initial data collection was carried out by conducting a preliminary survey of 183 students. It was conducted online. The 183 students surveyed consisted of 95 students from a university in Yogyakarta and 88 students from a university in Surakarta. The students being samples were from these two cities. They were taken from the department of economics and accounting at two different universities. The instrument used in the preliminary survey was in the form of an online questionnaire made by Google Form that eases the respondents to fill it out. The form of the instrument presented in Google Form is a questionnaire from consisting 2 main questions, they were: 1) what is the form of entrepreneurial learning taught by your lecturers to you?; 2) in order to grow self-confidence, work planning, socialize with your environment, initiative and innovative in seeing opportunities, professionals in your field, able to manage finances, posses leadership spirit, future prospective, creative, and dare to take risks, what form of learning do you think is appropriate?.

After conducting the preliminary survey towards the students, the next data collection step was done by doing an in-depth interview as an effort to investigate the result of the previous survey. This interview was conducted towards 20 students from the two different cities as the sample. The instrument used in this interview was in the form of interview arrangement guidelines containing 4 main questions, namely: 1) what is the entrepreneurial learning model applied by your lecturers?; 2) does the entrepreneurial learning have instilled entrepreneurial attitudes, including a) possessing self-confidence, b) arranging work plan, c) socializing with the environment, d) being initiative and innovative in seeing opportunities, e) being professionals in the field, f) managing finance, g) possessing leadership spirit, h) having future prospect, i) being creative, and j) dare to take risks? How did the lecturers teach instill them?; 3) what is the suitable entrepreneurial learning model for your generation? Referring to the results of the survey you have filled in, practical learning, business internship, and business training are the learning model your generation expected; 4) what is the appropriate entrepreneurial learning for generation Z?

A sampling strategy to obtain the interview respondents was by through purposive sampling which did not only consider the case based on various criteria and situation to maximize the sample variations (Gobo, 2004) but also

depending on the researcher's decision about whether such respondents would contribute suitable data (Jupp, 2006). This case study was done to two colleges in Yogyakarta and Surakarta, Indonesia. The data were analyzed through Constant Comparative Method which was done in four steps: 1) comparing the findings of each category; 2) integrating the finding of each category; 3) restricting theories; and 4) writing the theories (Glaser, 2014). This constant comparative method would ensure the data reliability for the data were not directly inputted in the findings but passing through these four steps as Glaser has argued above. For more details, the following table presents a review of data analysis steps to ensure data reliability.

Table 1: steps in ensuring data reliability

Steps	Descriptions
1. Comparing the findings of each category	a. Comparison of an interview (comparing all the interview content of one interviewee to measure the consistency) b. Comparison between the interviewees in the same group (comparing the content of interviews among the interviewees in the same group "same university" to measure the consistency of answers among students) c. Comparison of different group interviews (comparing the contents of interviews between students of different groups "different university" to see the contents of interview answers)
2. Integrating the findings of each category	This step was done by coding the data of the interview result, and after being coded, the result of the interview would be integrated in order to process and limit the interview result.
3. Restricting theories	This step aimed to restrict the interview results. Thus, any irrelevant answer could be eliminated from the data.
4. Writing theories	In this final step, the researcher integrated and completed the theories from the interview result so that the findings could be presented, and the recommendation could be concluded.

4. FINDINGS

The result of the preliminary survey

In this first step of research, the researcher conducted an online preliminary survey involving 183 students from two different universities. This survey was done to find out two things: a) A survey to find the model of entrepreneurial learning applied in the entrepreneurship class; b) A survey to find out what model of entrepreneurial learning expected by the students. From those surveys, the following results were obtained:

a. A survey to find out the model of entrepreneurial learning applied in the entrepreneurship class.

From the first survey, a view was obtained and presented in figure 1 below:

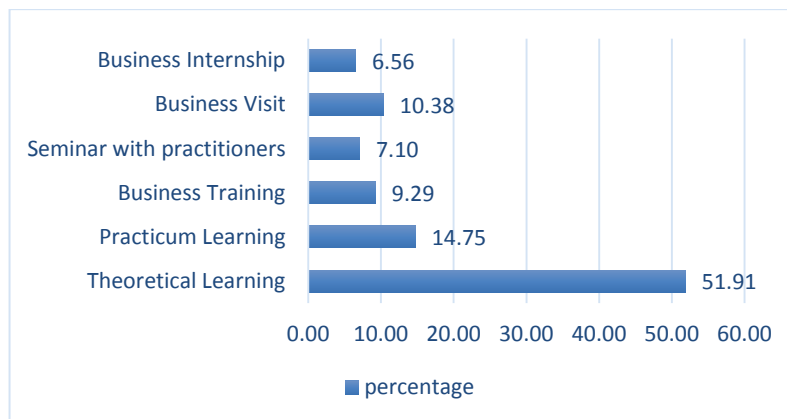


Figure 1: the survey results in entrepreneurship lecturer learning models.

From the figure above, it was obvious that 51.91% of students declared that their lecturers presented entrepreneurial learning theoretically. The data obtained above indicated that this survey supported the presentation in the introduction above.

b. A survey to find out what model of entrepreneurial learning expected by the students.

It was to find out what the students expected in entrepreneurial learning implication. They were asked to answer this second question, and from 183 students, the results were extracted in figure 2 below:

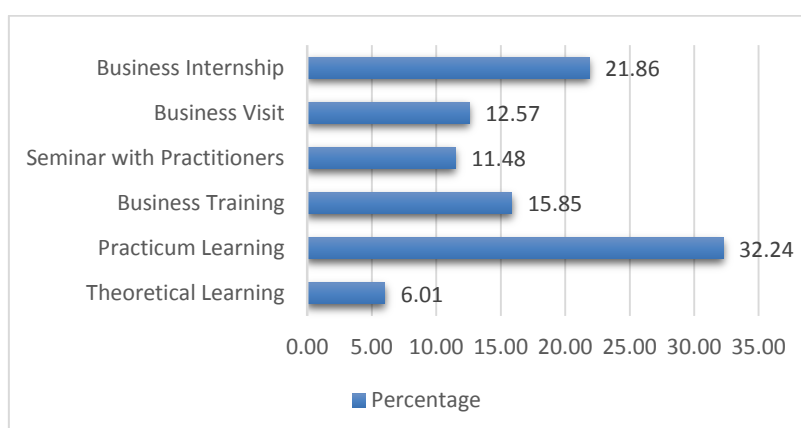


Figure 2: the survey result towards entrepreneurial learning model expected by the students

From the data above, it was obvious that 32% of students expected practicum learning and 21,86% of students expected a business internship. To deepen the survey results above, the next step done by the researcher was doing an in-depth interview with 20 students who were chosen from each university in both

Yogyakarta and Surakarta. The result of the interview would be a reference to conclude recommendations in this study.

Interview Results

The interview result presented below was the result that had gone through the first to third steps of table 1 related to ensuring data reliability. Thus, the answer consistency of the participants had been ensured and the consistency of the interview answers between the students (both students of one university and students of different universities) had been checked. Furthermore, the researcher had also limited the interview results by eliminating the data whose answers were out of the interview topic. For more details, the following are the interview results presented per question.

a. The result of the first question

Table 2: Table of the first question in Interview

Question	Students' Responses
What is the form of entrepreneurial learning taught by your lecturers?	<ul style="list-style-type: none"> a. "Well, it is presented orally, and only theories." b. "We are asked to design a business plan, and it is also explained how to be a good entrepreneur" c. "Most of the lectures are theories, that's why it is considered difficult to practice entrepreneurship." d. "Since most of them are theories, the practice is very limited. It causes boredom to study at my university." e. "There are only theories in the class and practices which were done by the students in their homes."

From the summary of students' answers in the first question above, the researcher can integrate the results in which entrepreneurial learning received by the students were still in the form of theoretical learning. There is a portion for making business plans but the implementation had not been well managed since it was done individually by the students.

b. The result of the second question

Table 3: table of the second question in the interview

Question	Students' Responses
Does the entrepreneurial learning have instilled entrepreneurial attitudes such as 1) possessing high self-confidence, 2) able to do work planning, 3) able to socialize with the environment, 4) initiative and innovative in seeing opportunities, 5) professionals in your fields. 6) able to manage finances. 7) possessing high leadership spirit, 8) future prospect, 9) dare to take risks? If it has been	<ul style="list-style-type: none"> a. "By analyzing the students' characteristics, observing them, and also presentation activity to increase self-confidence and proposing an entrepreneurial proposal to the university." b. "The values have been instilled through discussion related to the business plan, inviting the young entrepreneur to motivate and teach us how to see opportunities, and the way our lecturers give us self-confidence related to the business we create." c. "In every lecture, our lecturers give us advice, motivation, and direction of entrepreneurship." d. "The lecturers present information related to successful entrepreneurs, their amazing ideas,

instilled, then in what way did the lecturers instill it?	<p>brand as a differentiator, their work spirit, teamwork, and also give us motivation while presentation or assessment."</p> <p>e. "The values are instilled through every answering question and at the end of the lecture. They emphasize that those entrepreneurial values are very important."</p> <p>f. "It is only a little, it is about being creative in entrepreneurship, managing finances, and others, but only the basics."</p> <p>g. "After explaining theories, they also follow it up by giving the assignment to deepen our understanding and instill the values of responsibility, critical thinking, creativity, innovative, and keen towards business opportunities around us."</p>
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From the summary of the students' answers toward the second question, the researcher can integrate the results that in the lectures, the students have obtained some entrepreneurial attitudes inculcation. They are in the form of assignments in making business plans, and group discussion which can form attitudes in socializing with the environment and being initiative and innovative in seeing opportunities. Through presentation activity, it will instill self-confidence. Through advice and giving the students' chance to meet successful entrepreneurs, it can motivate the students. However, referring to the interview results, the entrepreneurial attitudes inculcation obtained by the students are categorized as entrepreneurial attitudes inculcation at the basic level.

c. The interview result of the third question

Table 4: Table of the third question in the interview

Question	Students' Responses
If you see the suitability with your generation, is the current learning model suitable for your generation? If you look at the results of the survey that you have filled in, practicum learning, business internship, and business training are the most popular learning models.	<p>a. "Not yet. Because I still run the business individually and prioritize the profit"</p> <p>b. "In my opinion, it is not yet suitable. Because it is only theory being taught in an entrepreneurship class. there is no follow up activity to be applied continuously."</p> <p>c. "Not yet. The student doesn't yet explore the learning in reality condition, including the use of ICT media, and social networking media to optimize entrepreneurial practices."</p> <p>d. "Not yet. Because it doesn't yet give additional skills directly in entrepreneurship, including developing skills in using online social media for promotion which has not been instilled in learning."</p> <p>e. "In my opinion, it is not yet suitable because the students are only given experience inside the classroom and not yet practice directly in the field which is limited."</p> <p>f. "Not yet, because we don't practice directly. We</p>

	<p>only make proposal. Moreover, the limited time and space also make it less than what we expected"</p> <p>g. "Not yet. Because of the lack of meetings, that makes so many materials less in its implication."</p>
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From the summary of the students' answers towards the third question, the researcher could integrate the results that the model of learning applied by the lecturers are not yet suitable with the development of their generation (Generation Z), for the entrepreneurial learning are still dominated by theoretical learning, and making business plan activity focus only to the profits. Also, the learning does not direct to practical learning which will be able to develop the students' skills and take advantage of developments in ICT and social media networks to practice marketing and form wider networks.

d. The result of the fourth question

Table 5: Table of the fourth question in the interview

Question	Students' Responses
what is the suitable entrepreneurial learning model for your generation?	<p>a. "It tends to add more practicum related to the utilization of digital devices"</p> <p>b. "It should be directly applied in the field with a good accompaniment from lecturers or entrepreneurial mentors."</p> <p>c. "It should be a creative industry visit surround the campus, and also directly doing business practice in one semester apart from learning the theories."</p> <p>d. "The effect of observation and practicum seem to be directly felt by the students in reality."</p> <p>e. "It should be based on technology and product needs which are trendy and not merely theories."</p> <p>f. "It should integrate entrepreneurship with the business world, internship, and giving capital as well as providing entrepreneurial practice and adequate facilities."</p> <p>g. "It should be theory and practice. Practice means creating a group that simultaneously makes an effort and is practiced in the field. In this case, it is given 1 semester to see the progress of the business made."</p> <p>h. "practical and fun learning by conceptualized such light discussions and creating a relaxed atmosphere."</p> <p>i. "It should be learning more than only theories and light practice, but also immediately work in the field with the actual conditions."</p> <p>j. "The existence of practicum, training, seminars, visits, and entrepreneurial internship that utilize IT (entrepreneurial technology) and online social networking media."</p>

From the summary of the students' answer towards the fourth question, the researcher could integrate that the students wanted the entrepreneurial learning done by combining theoretical learning, field observations, internship to gain experiences and entrepreneurial mentors, and also entrepreneurial practicum learning by utilizing information technology and social networking media in its implication. Thus, the students will be able to realize the business plans they have made.

5. DISCUSSION

Looking at the data presentation and interview, it indicates that 51.91% of students stated that entrepreneurial learning taught by their lecturers still uses theoretical learning. Another fact shows that the portion of arranging business plans and practicum implementation seems not well managed. Surely, it leads to the success of entrepreneurial learning to be less optimal. The lack of optimal entrepreneurial learning can also be seen from the interview result regarding the entrepreneurial attitudes inculcation. Among 9 attitudes confirmed, there are only 3 attitudes felt by the students which have been instilled by the lecturers, they are: the attitude of being able to socialize with the environment, initiative and innovative in seeing opportunities, and attitudes of possessing self-confidence. Therefore, the findings of this study indicate that the entrepreneurial learning has not been maximally instilled in the entrepreneurial attitudes inculcation, since basically the entrepreneurial learning must be designed to provide real entrepreneurial knowledge and practices in which there is a process of inculcating creativity, a willingness to take strategic risks, innovating and finding new ways in facing future challenges (Fiet, 2000; Gielnik, Frese, Graf, & Kampschulte, 2012; Ward, 2004; Yar, Wennberg, & Berglund, 2008). Furthermore, entrepreneurial learning also needs the ability to solve problems, communicate and work within an interdisciplinary team (Elia, Margherita, Secundo, & Moustaghfir, 2012; Lüthje & Franke, 2003).

The results of the interview also emphasized that the learning model applied by the lecturers were far from the students' expectation and suitability, in which they were categorized as Generation Z. The unsuitability of learning models with the current generation was shown by entrepreneurial learning which was still dominated by theoretical learning, and business plans making which focused on the profit income. Moreover, learning has not to lead to practical learning that can develop the students' skills and utilize the development of ICT media.

Reflecting on the needs of the current generation Z students, entrepreneurial learning must be wrapped through learning activity which directly focuses on creativity, risk-taking, proactive, communication and team working. Such learning activity surely will automatically foster the students' entrepreneurial attitudes (Gielnik, Frese, Graf & Kampschulte, 2012).

The results of the last interview with students showed that they wanted the entrepreneurial learning to be carried out by combining theoretical learning, field observations, internship to gain experience and mentors. Besides, the

students expected an entrepreneurial practicum with the use of information technology and social media. With such activity, the students felt that they would be able to realize the business plans they have made into the real entrepreneurial practice. Through such entrepreneurial learning, the students assumed that they would be able to easily secure their entrepreneurial attitude as the main provision to face any competition when they graduated. This was in line with the statement from the Ministry of Research and Technology stating that the college graduates are currently required not only to possess knowledge and skills to work in companies and other agencies, but also to possess an entrepreneurial attitude to create new jobs by utilizing arising from the industrial revolution 4.0 (Menristekdikti, 2018).

The implementation of entrepreneurial learning must contain an effective program, or at least it must contain four components, namely: 1) learning is taught by sharing the latest material resources; 2) learning is directed at developing an innovative business plans; 3) entrepreneurial learning requires entrepreneurship practicum; and 4) entrepreneurial learning needs the university support to provide infrastructure, and bring in entrepreneurial practitioners to guide and interact directly with the students (Potishuk & Kratzer, 2017).

In this study, the results have been presented that we can draw the findings, they are, entrepreneurial learning was still carried out theoretically and not many lecturers use direct practice learning models. This is proven by the survey results which show that the amount of 51.91% entrepreneurship learning in two universities was still taught in the form of theoretical learning. entrepreneurial learning has not also led to practical learning by integrating the development of digital information technology media. In addition, the inculcation of entrepreneurial attitudes is not fully embedded in students, since several forms of learning were only limited to the task of making business proposals, present it and discuss it in lectures. On the other side of entrepreneurial learning, the students wanted a change in the learning model. They expected that entrepreneurial learning would no longer be dominated by theoretical learning, but they wanted it to be presented in the form of practical learning, business internship, business training involving the use of digital information technology and online social media in the learning process. Moreover, they expected the practitioners or mentors from among the entrepreneurs to guide and motivate them. Those practitioners should be willing to be the place of consultation for entrepreneurial practices. Another thing that the students wanted in entrepreneurial learning was the existence of the group of capital assistance to support them in practicing entrepreneurship.

Looking at the results above, and with the support of theory and the result of previous studies, it seemed that entrepreneurial learning required changes to be able to encourage students to compete in the era of industrial revolution 4.0. therefore, it is appropriate that entrepreneurial learning that has been taught in the university must change the paradigm towards practical learning or project-based learning to provide a real experience to students. however,

entrepreneurial learning must be designed innovative, giving opportunities for students to learn to explore new concepts of entrepreneurship and learn to implement/ run the new concept they have made. Thus, the students would be able to instill strong attitudes and entrepreneurial values in the learning process (Xie, 2014; Fiet, 2000).

Through the results of this study and reducing some of the results of previous studies above, the researcher provided recommendations on how to maximize the steps of entrepreneurial learning in colleges, so that the students would possess a strong entrepreneurial attitude and be able to compete in the era of industrial disruption of 4.0. Moreover, the researcher recommended the lecturers to change the paradigm of entrepreneurial learning to be more applicable, and focus on instilling students' entrepreneurial attitudes. Thus, the entrepreneurial learning model must prioritize the students' needs in the future, also, it must be student-centered. The following are recommendations for entrepreneurial learning models that the lecturers can develop:

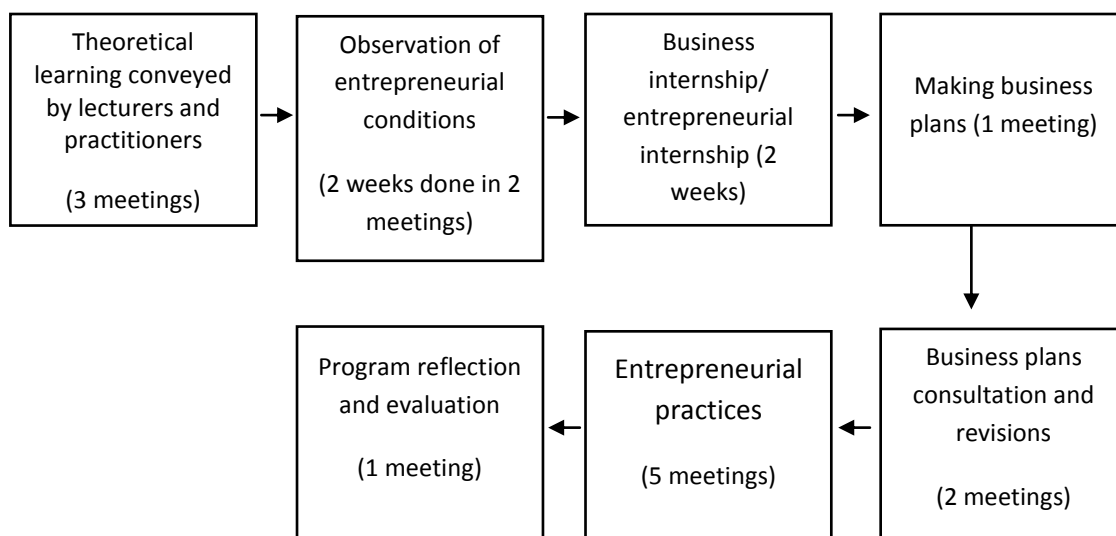


Figure 3. Reconstruction of Entrepreneurial Learning Model.

The recommendation in the form of the learning model above is a learning model that can be done in one semester consisting of 14 to 16 meetings that can be developed in every entrepreneurial lecture in colleges. The learning model above is an entrepreneurial learning model accommodating an optimal entrepreneurial attitude inculcation. The following is a description of the implementation of entrepreneurial attitude inculcation in the model of figure 3 above.

Table 6: Description of the entrepreneurial attitudes in the learning model

Steps in the learning model	Entrepreneurial attitudes being instilled
Theoretical concept learning conveyed by lecturers and practitioners	<ul style="list-style-type: none"> a. Rise self-confidence b. Rise initiation and innovation in seeing opportunities c. Be professionals in their fields
Observation of the entrepreneurial condition	<ul style="list-style-type: none"> a. Rise initiation and innovation in seeing opportunities b. Able to socialize with the environment c. Prospective future d. Communicative
Business internship/ entrepreneurial internship	<ul style="list-style-type: none"> a. Possess self-confidence b. Able to socialize with the environment c. Initiative and innovative in seeing opportunities d. Possess leadership spirit e. Prospective future f. Communicative
Making business plans	<ul style="list-style-type: none"> a. Able to do work planning b. Dare to take risks c. Able to socialize with the environment d. Initiative and innovative in seeing opportunities e. Be professional in their field f. Able to manage finance g. Possess leadership spirit h. Prospective future and creative
Consultation and revisions of business plans	<ul style="list-style-type: none"> a. Able to do work planning b. Able to socialize with the environment c. Initiative and innovative in seeing opportunities d. Communicative e. Responsible
Entrepreneurial practices	<ul style="list-style-type: none"> a. Able to realize work plans b. Dare to take risks c. Able to socialize with the environment d. Initiative and innovative in seeing opportunities e. Be professionals in their field f. Able to manage finances g. Possess leadership spirit h. Prospective future i. Creative, discipline, and communicative
Program reflection and evaluation	<ul style="list-style-type: none"> a. Able to evaluate work realization b. Prospective future

6. CONCLUSION

Currently, entrepreneurial learning plays an important role in raising and strengthening the students' entrepreneurial attitudes so that they will be independent and possessing high competitiveness in industrial era 4.0. The importance of entrepreneurial learning at this time must be supported by a good entrepreneurial learning model and following the level of students' development and advancement of digital information technology. However, the fact occurred at this time indicated that entrepreneurial learning is still taught theoretically and has not involved the students to direct practical activities. Therefore, the

entrepreneurial attitude was not fully embedded towards the students since several forms of learning are only emphasize on giving assignments to arrange business proposals, present it, and discuss it in lectures. The results of this study showed that students need entrepreneurial learning which is in line with their development and development of industrial revolution 4.0. They needed entrepreneurial learning in the form of practicum, business internship, and business training which involved the use of digital information technology and online social media in the learning process. With such learning, they will obtain a better entrepreneurial attitude inculcation for themselves. Hence, entrepreneurship education that has been running all this time requires reconstruction that combines theoretical learning, field observations, business internship which accommodates the students in interacting with the actual entrepreneurs. Furthermore, to complete meaningful learning, students must be guided to carry out planned entrepreneurial practices and evaluate the process. By examining the result of this study and the strength of its theoretical study, the researchers provided recommendations for future entrepreneurial learning that must prioritize the needs of future students, also it must be student-centered by at least integrating the learning models that contain: 1) theoretical concept learning conveyed by lecturers and practitioners; 2) Observation of entrepreneurial condition; 3) Business internship/ entrepreneurial internship; 4) Making business plans; 5) Consultation and revisions of business plans; 6) Entrepreneurial practices; 7) Program reflection and evaluation.

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