ENTREPRENEURIAL PRACTICES IN SCHOOLS: READY FOR THE ERA OF THE 4.0 INDUSTRY REVOLUTION?

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Abstract. The purpose of this study was to analyze the readiness of students' entrepreneurial practice in schools in preparing students to enter the world of work in the era of industrial revolution 4.0. Research method used in this study was the descriptive qualitative method and carried out on Satya Wacana Christian Senior High School of Salatiga. The study results showed that entrepreneurial practice in schools was adequately ready to prepare students to enter work. Based on the results of this study, students' entrepreneurial practices were crucial in preparing globally competitive graduates. The school's strategy in preparing entrepreneurial practices was fairly sufficient, however it had to be noted that the strategy had not been directed towards the industrial revolution 4.0. This research suggests that schools have to prepare and develop students` personality, skills and motivation in entrepreneurial practice in schools so as to enable them to compete and meet competency requirements in the era of the industrial revolution 4.0.

Keywords: entrepreneurship practice, student entrepreneurship, entrepreneurship education, industrial revolution 4.0

INTRODUCTION

Entrepreneurship is related to the knowledge of employees, economic growth, innovation, product promotion and product quality, and competition (Mortan et al., 2014) . Entrepreneurship is about people, their choices and actions in starting a business, determining business or their involvement in corporate decision making strategy (Mortan et al., 2014). An entrepreneur is characterized in the form of problem discovery and how to overcome it. Entrepreneur organizes objectively and hold control to achieve desired goals (Gutiérrez & Baquero, 2017).

Many studies agreed that the growth and development of developed countries is pioneered by skilled, creative, innovative entrepreneurs that have an impact on general population earnings and welfare (Heydari et al., 2013); (Gutiérrez & Baquero, 2017); (Kadir et al., 2012). Entrepreneurship acts as a solution in responding to the global economic crisis, managers and policy makers played a role that will increase people`s understanding of entrepreneurial behavior. Thus, the importance of entrepreneurs in entrepreneurship is apparent in contributing to the public and the country in terms of economic progress and development.

Entrepreneurship education is a special training given to students to help them hone their skills, ideas and develop understanding of their personal capacity (Bindah & Magd, 2016), Entrepreneurship education is also a development of attitudes and character of an entrepreneur (Gámez Gutiérrez & Garzón Baquero, 2017). This training can be given holistically in its every practice stages. Formal entrepreneurship education affects students' entrepreneurial interests (Welsh et al., 2016; Kadir et al., 2012). The results of the study showed that entrepreneurship education that started at the elementary school level focused on increasing creativity, making planning and risk management, the middle level focused on the awareness of entrepreneurs who

have succeeded in creating and maintaining companies starting from things that were preferable, higher education focused on working with other people and forming different types of entrepreneurs such as business people, intrapreneurs, public and social. Thus, entrepreneurship education can be introduced even from primary, secondary to higher education (Gámez Gutiérrez & Garzón Baquero, 2017).

Entrepreneurship education is a necessary education that can help graduates to self-develop and also enable them to help others, this, in turn, will help them to prosper (Bindah & Magd, 2016). Entrepreneurship education must prioritize critical thinking and be proactive to find useful alternatives for professional development for their social environment (Gámez Gutiérrez & Garzón Baquero, 2017). This can also help to develop awareness about the importance of entrepreneurship education in supporting overall economic growth (Bindah & Magd, 2016). Entrepreneurship education in schools can help develop students into graduates who are equipped with knowledge, entrepreneurial character and entrepreneurial skills. The role of schools in this development will increase students' entrepreneurial interest in developing themselves early and sustainably in every level of education.

Entrepreneurial practices in schools has an impact on teacher creativity to develop innovative and practice-oriented entrepreneurial learning. Strategies that can be provided in entrepreneurship education to hone skills and practice in the classroom include: 1) interactive pedagogy learning, 2) curriculum development, 3) continuous learning at various levels, giving students the ability to seek funds, 4) development of people involved in education, 5) partnership (business) to cooperate with schools (Bindah & Magd, 2016). In addition, entrepreneurship education can also be developed through giving students experiences about entrepreneurial practices, referring to role models, solicitation and support by involving them in hands-on learning activities, direct experience in making business plans (business plans) and running real business simulations in schools (Kadir et al., 2012).

Student participation in entrepreneurship education is associated with changes in attitudes and intentions towards entrepreneurship. Appropriate and relevant teaching strategies are given with a student-centered approach. Several strategies in the learning process can be developed according to school needs and characteristics of student abilities for the best achievement in the practice. Entrepreneurship in schools will be able to develop further if both teachers and students work together to form a culture of entrepreneurial practice in a sustainable manner. Such development demands a review of the subject and a better understanding of entrepreneurship education through school management, supporting managerial, financial and legal needs (Bikse et al., 2014).

Entrepreneurship given to students is basically aimed at developing their competence, knowledge and character (Luca & Cazan, 2011). Entrepreneurial competence is defined as the overall personal ability, quality and skills that ensure success in entrepreneurship. Some of the competencies that can be introduced including: creativity and innovation, communication competencies, organizational competencies, project/ task management, action planning and risk taking, knowledge and skills to form new businesses through practical ideas in managing them (Luca & Cazan, 2011). In addition, the importance of entrepreneurship is applied in schools because of the need to prepare students for the future working world (Wibowo & Narmaditya, 2022).

Current school graduates are expected to have adequate provisions to face the era of the industrial revolution 4.0. The industrial revolution is a challenge in itself for those who yet to meet the expected criteria. Changes in competencies of technology proficiency will also have an impact on the competence of current job seekers. Faced with the current situation, a lot of school graduates at various levels of education have not yet got a decent job. Schools can and are able to provide entrepreneurial provisions for those who are not fortunate enough to continue their education to a higher level. According to Central Bureau of Statistic (BPS) (2019) data on the 2007-2018 open unemployment rate for Central Java are presented in the following table:

Table 1. Average Open unemployment rate in Central Java and Salatiga 2007-2018

Central Java	Open unemployment rate (OUR) (Percent)										
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2017	2018
Central Java	7.7	7.35	7.33	6.21	7.07	5.61	6.01	5.68	4.99	4.57	4.51
Salatiga	11.35	11.27	10.95	10.22	9.02	6.84	6.21	4.46	6.43	3.96	4.28

Source: BPS Central Java (2019)

Based on the open unemployment data of Central Java Province from 2007 to 2018, the percentage of unemployment rate in Central Java has a tendency to decline. Although there have been several years in which the number of unemployment rate indeed increased. Statistical data shows that there are still a number of people who are unemployed. In fact, the result is that many of the workforce from various levels are not absorbed by the number of available jobs. In addition, people have a tendency to get a job as a participant of available job seekers. The following shows the data on the number of job seekers who registered themselves through the available agencies (BPS, 2019) as follows:

Table 2. Number of Registered Job Seekers According to the Highest Level of Enrolled Education and Gender in Central Java Province, 2015-2016

Highest education attainment	Gender					
	Male		Female		Total	
	2015	2016	2015	2016	2015	2016
Elementary School	5.737	4.415	12.821	7.937	18.558	12.352
Junior High School	15.470	10.317	31.415	15.687	46.885	26.004
Senior High School	43.292	39.607	43.120	41.658	86.412	81.265
Vocational School	54.554	44.153	47.400	42.983	101.954	87.136
Diploma I	3.456	2.707	3.548	3.799	7.004	6.506
Diploma II	4.789	2.845	4.897	3.699	9.686	6.544
Diploma III	6.841	7.451	6.992	10.483	13.833	17.934
Diploma IV	7.497	2.574	7.015	3.769	14.512	6.343
Strata I	17.856	15.710	18.753	19.785	36.609	35.495
Strata II	6.081	2.418	6.781	3.309	12.862	5.727
Total	**165.573**	**132.197**	**182.742**	**153.109**	**348.315**	**285.306**

Source: BPS Central Java (2019)

To summarize, the provided table shows that people's interest tends to be driven to job seeking instead of creating jobs. In addition, low interest or knowledge and even skills in entrepreneurship can be seen in the results of table 1. This is because the people of Central Java have yet to develop themselves through entrepreneurship and thus minimize unemployment. Entrepreneurship is a place for skilled people to take advantage of existing opportunities. If entrepreneurial interest and practice can be developed then this unemployment phenomena will decrease because the available entrepreneur opportunity is taken. The impact of this will be obvious on various levels of education, especially secondary education, which shows the largest number of job seekers on the list. According to the data on Table 1, in 2015 high school numbers of job seekers was 86,412, while in 2016 the number was 81,265. in 2016 the Vocational level shows that the number of job seekers was as much as 101,954, while in 2016 it fell to 87,136. Even though the data shows a decline, the position of high school / vocational high school education is the largest numbers compared to other levels of education. Senior High students are not equipped with special skills to develop their talents through entrepreneurship, but in fact they do not have a clearer outlook on life in the future. Another thing that is in the spotlight is that vocational school graduates have not been able to become job creators but instead are the most job

seekers. Vocational graduates have greater job seeker numbers compared to other education levels (Hadi et al., 2015).

Thus, secondary education institutions have the responsibility to develop students so that they are able to create their own jobs and are able to become entrepreneurs. Entrepreneurs who have been equipped with the knowledge, attitudes and character of entrepreneurship and entrepreneurial skills. There are a significant relationship between attitudes development, behavior development and educational support for entrepreneurial interest in schools (Kadir et al., 2012). So, entrepreneurship education is very important to apply to establish graduates who are able to create entrepreneurial opportunities in the future, especially in the face of the era of the industrial revolution 4.0.

The industrial revolution 4.0 aims to increase not only the productivity of the 21st century but the flexibility, adaptability and resilience of industrial systems (Brik et al., 2019). Such abilities are very much needed in the changing era, especially in the field of technology. Industry 4.0 provides a learning overview of specializations and fewer employees doing the same job. Several new learning systems in Industry 4.0 emphasize the form of supervision, guidance and collaborative learning, synchronizing learning resources through Information and Communication Technology / ICT tools (Tvenge & Martinsen, 2018). Data analysis, simulation and communication are sources not only to support decisions, but also continuous learning and increased knowledge. Thus, learning in the industrial era 4.0 prioritizes the ability to process data, synchronize data and communication in the use of existing technology.

The industrial revolution 4.0 reduces the gap between the digital and physical worlds so that graduates with the best equipped knowledge and skills are needed in order to face the incoming future (Ellahi et al., 2019). Education requires a curriculum that is in line with the technological competencies needed in the upcoming industrial 4.0 era. So, educational institutions need to provide an adjustment to the entrepreneurship education curriculum needed in the industrial era 4.0 (Ellahi et al., 2019).

The skills and qualifications of graduates are currently being a substantial consideration in responding to the changes in the revolutionary era 4.0. This is supported by (Mayasari et al., 2016) whom stated that education plays a role in equipping students in mastering 21st century relevant skills. In addition to industrial changes, education has also been changed from Education 3.0 to Education 4.0. According to (Benešová & Tupa, 2017) education 4.0 will combine real and virtual world information, the virtual learning environment will be used for the transfer of knowledge and skills development. Based on this, entrepreneurship education needs to assess the skills, knowledge and attitudes that are relevant to the development of the industrial era 4.0. The use of ICT as a teaching medium can make it easier for teachers to provide access to students other than in the classroom (Prestridge, 2012). One of the goals of the 2013 curriculum in Indonesia is integrating ICT with learning is to improve independent learning and development of student communication. Thus, learning that focuses on experiential skills and concepts in real contexts results in meaningful learning because students will apply skills and concepts directly in entrepreneurial activities at school (Dewi, 2015).(Wibowo & Narmaditya, 2022).

Satya Wacana Salatiga Christian High School entrepreneurial activities are given to all students at every level. Entrepreneurship curriculum is given in the form of Craft and Entrepreneurship subjects. In its activities, students practice according to the learning objectives in the curriculum. Learning based on concepts and practices provides learning experiences for students to realize ideas in entrepreneurial practices. This entrepreneurial learning orientation involves the form of group and individual collaboration, making business plans, practicing and product making, and packaging products for sale. Entrepreneurial activities in schools cannot be separated from the government's expectations for students to gain real experiences in entrepreneurship. In this study, the research problem is how the entrepreneurial practices of students in schools as an effort to face the era of the industrial revolution 4.0? Meanwhile, the purpose of this study is to find out the entrepreneurial practices of students in schools as an effort to face the era of the industrial revolution 4.0.

RESEARCH METHOD

The research was conducted on Satya Wacana Christian High School, Salatiga. Entrepreneurial activities in the school includes students who are active in raising funds for school activities. This research used qualitative studies in analyzing student entrepreneurial practices in schools as an effort to face the era of the industrial revolution 4.0. Determining the research subject were done by using purposive sampling through snowball sampling. This is meant to select research subject based on a specific goal, in this case, the students and or others who understands student entrepreneurial practices in schools. After finding such subject, he or she will recommend other(s) who he or she considered to have better understanding the topic. The subject in this study consisted of Craft and Entrepreneurship teachers, school principals, and students and other subjects who felt they had information and understood the phenomenon of entrepreneurial practice. Data collection techniques utilized in this study are interviews, observation and documentation of student entrepreneurial practices in schools. Qualitative data analysis techniques use domain theory from Spradley (1997: 153) by going through the following stages: a) Determining semantic relationships, b) making domain analysis sheets, c) choosing equations taken from interview transcriptions and observations, d) determining the terms of coverage and covered terms, e) compile structural questions in each domain, f) find a list of (identified) domains.

RESULT AND ANALYSIS

The entrepreneurial practice of students at the Satya Wacana Christian High School, Salatiga, shows an interesting phenomenon. The data obtained and divided into several domains include: 1) Resources that support school entrepreneurial practices, 2) Challenges of student entrepreneurial practice in responding to the industrial revolution 4.0, 3) Strategies for student entrepreneurial practice to answer the challenges of the industrial revolution 4.0. The following will be presented with a domain analysis in student entrepreneurial practices answering the challenges of the industrial revolution 4.0.

Table 3. Domain Analysis of Entrepreneurial Practice Students on the Challenges of the Industrial Revolution 4.0

No	Sub domain Detail	Semantic Relation	Domain
1	Natural environment which refers to Local Wisdom	Is a part of	Supporting resources for entrepreneurial practice
	Creative Human Resources: teachers, students, parents		
	Material: Funds, facilities		
	A supportive student organization platform		
2	Systematic and continuous learning planning	Is a part of	Entrepreneurship education strategy
	Project-based learning / business simulation		
	Internalization of entrepreneurial character and competence		
	Provision of technology-based learning facilities		
3	Creative and innovative creating entrepreneurial products	Is a form of	Entrepreneurship practical answer to challenges of

Digital marketing strategy	industry 4.0
Learning facilities that support digital marketing / e-commerce	
Technology-based skills	

The entrepreneurial practice of students at the Satya Wacana Christian High School in Salatiga illustrates that in an effort to develop entrepreneurial skills, school provide opportunities for students to have direct experience in the field. Entrepreneurship in the world of education has a very important role in preparing graduates who are ready to compete in global ecosystem. Creative and innovative individuals that are able to pinpoint market opportunities are certainly needed, so it is relevant to properly prepare them to have adequate provisions. Based on data from the domain and sub domain analysis presented in table 1, some of the preparations that schools have provided in facing the challenges of the industrial revolution going forward is shown. Some of them are preparing resources capable of facing the industrial revolution 4.0, including: 1) Natural environment that refers to Local Wisdom, 2) Creative human resources both teachers, students, and parents, 3) Materials such as business capital, technology facilities , 4) Student Organization that supports development of entrepreneurship.

In addition to the preparations that schools can do in developing an entrepreneurial spirit , schools also need to understand some of the challenges of entrepreneurial practice in relation to the industrial revolution 4.0 including: creative and innovative traits that students must have dynamically following the developments in science and technology, the introduction of digital marketing which currently has succeeded into their intended market, technology-based learning facilities and skills to support the constantly evolving mastery of technology. Schools at least need to formulate a proper strategy, which is of importance at this time of such rapid changes. Several strategies are needed such as planning sustainable entrepreneurship education, entrepreneurship that based on projects and direct experience, internalizing the character and skills of an entrepreneur and providing technology and facilities for internet access. Some of the domains provide an overview that lays the the domain analysis work pattern as follows:

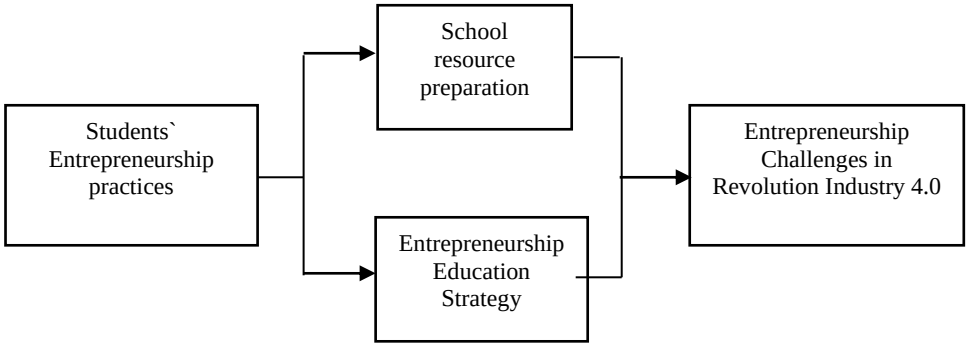

Fig 1. Domain analysis work pattern of the students of SMA Kristen Satya Wacana Salatiga

Figure 1 shows the results of the work pattern analysis of the student entrepreneurial practice domain at the Christian High School Satya Wacana Salatiga. This figure shows the pattern of student entrepreneurial practice including school preparation of available resources, entrepreneurial education strategies provided in schools in facing entrepreneurial challenges in the era of industrial revolution 4.0 This work analysis of the domain shows the relationship of phenomena related to school readiness in responding to the challenges of the industrial revolution in the era of digital technology so that it is necessary to identify strengths and strategies that can be carried out. The readiness referred to is not only the duty and responsibility of the school but all school elements involved in the educational process. Seeing this, the findings of this study provide an idea of how ready the entrepreneurial practice of students in schools is to answer today's global challenges. Some research domains that show the relationship between work analyses in the

readiness of students' entrepreneurial practice to face the era of the industrial revolution 4.0 are as follow:

1.1 Students` Entrepreneurship practices in school

1.1.1 Students` Entrepreneurship practices through classroom learning (intracurricular)

Entrepreneurship is a familiar thing in the daily lives of Satya Wacana Christian High School Salatiga students. This is because entrepreneurial practices are always instilled in students in the learning process through Craft and Entrepreneurship subjects. Introduction and practices has begun from as early as from grade 10 and up to grade 12. This lesson aims to introduce students to entrepreneurial studies and crafts that can be created into useful products. Such learning also provides opportunities for them to realize creative ideas in making the products, the products` display, for example, so it later can be assessed and even sold, according to the learning objectives at each grade level. The basic competencies taught in this subject are related to technological engineering, crafts, cultivation and processing.

The entrepreneurial practice of students at Satya Wacana Christian High School provides a learning experience of making products produced by students from grade 10 to grade 12. Class 10 is introduced to making non-material cultural crafts into cultural object, grade 11 is introduced to engineering and cultivation, while grade 12 is introduced to processing. During this practical process students begin to be directed, starting by a product plan of the work that have to be made with their group. *"Class 10 crafts explain how to change non-material crafts into cultural object"* (S-E.1). This shows the focus of class 10 is on making works originating from non-material cultural symbol such as which are then used as decorations in objects that are being made. In the process students are encouraged to plan a product and a budget in making it. *"These children compile a budget. For example, first they present what non-object culture is, literacy researches are then presented"* (SE.2). Thus, students have been trained starting from designing product, researching supporting literature, making budgets, and presenting their ideas. The next stage is students practicing the work that has been designed. *"The assessment is from the process, from each face to face meeting, attendance, contributions in group."* (S-E.6). Entrepreneurial practice has a teacher assessment, of the activities carried out by each student in his group. This entrepreneurial practice process can hopefully form entrepreneurial character in students. Based on the results of interviews and observations students can show discipline, honesty in making products, creativity and innovation in designing and practices, collaborating and leadership as well as the coordination of other students.

Entrepreneurship practice is also given to 11th graders with the theme of engineering and cultivation. "*Entrepreneurship in the engineering chapter is usually take a form of presentation, the presentation is because of the world of information technology ... Usually I ask students to present it on YouTube as a final project, so the aim of craftsmanship and entrepreneurship are indeed about independent student entrepreneurship, designing systematic product in stages in the manufacturing process* (S-DJ.1). The first semester product in this lesson provide direct experience for students, they will have to make engineering products related to electricity sourced from the materials around them. The creation of these new products is finally presented through the internet media, which is YouTube. Moving forward to the next semester, the students will practice the farming of commercial fish. Starting on previous semester products have not been marketed but in this particular period, students would have to try to sell fish that they have farmed along the semester. Students start from designing their farming plan such as determining the type of fish (i.e. Catfish or Tilapia), media or equipment required, startup capital and product marketing. In practice, students have direct experience regarding the farming of commercial fish in groups and through the process of farming and harvesting.

At the 12th grade students' entrepreneurial practice focuses on the theme of processing. This processing part uses traditional food ingredients that are tweaked according to the creativity of the students. *"Students are looking for regional specialties, modified, yesterday I said they should not imitate other people's ... After this they made a design and then presented it, after that the practice of making modified processed food.* (S-NK.5). 12th grade entrepreneurial practice activities also pay attention to the business plan process which is then practiced directly in groups. *In grade 12, it appears that the direct experience of modifying traditional food processing requires creativity and*

innovation in making it (S-SB. 7). Thus, students will learn about the process in the field to complete entrepreneurial projects with their groups. This will also have an impact on creativity, independence, courage to take risks, problem solving and motivation to succeed in entrepreneurial work (Stamboulis & Barlas, 2014).

1.1.2 Entrepreneurship Practices outside the classroom (Co-curricular and extracurricular)

The practice of entrepreneurship at Satya Wacana Christian High School cannot be separated from the participation of teachers who help guide students to be directly involved in the field. The teacher provides directions ranging from business design or craft products, presentations design, practice, problem and solution analysis and sales that must be done by students in craft and entrepreneurship classes. It is not only the participation of teachers that gives students the opportunity to develop their entrepreneurial skills but the school environment also supports entrepreneurial activities. "Children are also involved in maintaining the school canteen or school union, then children are also involved in the student council, they also participate in in events that require fund effort (S-SJN.5). This shows that schools involved the students to take part in hands-on experiences related to entrepreneurship. Students are encouraged to sell food in school canteen and make profit from that sell. While student council and Adiwiyata and Arts extracurricular provide experiences to foster creativity and innovation. Funding of school performance activities or exhibitions often come from students` own financial efforts to fulfill the events` financial requirement. This fundraising effort help students develop their skill in communication and product marketing through online media or social media. This creativity in marketing enable the students to learn to solve problems they encountered and take risks in entrepreneurial activities (Kabukcu, 2015).

1.2 Resources Supporting School Entrepreneurship Practices

1.2.1 Natural environment which refers to Local Wisdom

Based on several entrepreneurship activities in school, it is apparent that school can provide ample resources. The resourcefulness provided in school could be seen from tools used by students and also media they used in creating their entrepreneur products. Resources that were utilized by the students are as follow:

a. Recycled materials, such as, used tires, plastic waste and paper waste.
b. Farmed plants, such as, water lilies and decorative plants.
c. Ideal, mild climate location for planting and cultivation
d. Commercial fish farming of popular fish in Salatiga such as Catfish, Tilapia and Pomfret
e. Traditional food that are readily available and could be easily modified by the students.

Some of these resources have the potential to be processed, modified, and created according to students' ideas. Used goods can become valuable items that can be sold when they have been made into ready-to-use goods. As for plants used for craft and entrepreneurship activities is based on the natural potential of the Salatiga area which has a cool climate and is able to support the cultivation of plants and the farming of commercial fish. Through a natural environment with a preferable climate, the impact on the process of entrepreneurial activities have a potentially better process and outcome.

1.2.2 Creative Human Resource

In addition to the school environment that supports student entrepreneurial activities, there are several other things that contribute to entrepreneurial practice readiness, one of which is creative educators. Creativity is the ability to develop new ideas and to find new ways of solving problems and finding opportunities (Kabukcu, 2015). Innovation, on the other hand, is the ability to implement creative solutions to problems and opportunities. Seeing the importance of creativity,

it is preferable to encourage it in students` development, especially in learning process. This is proven in each grade, teachers provides craft and entrepreneurship projects through a clear systematic stage. Some of these stages are shown in the following figure:

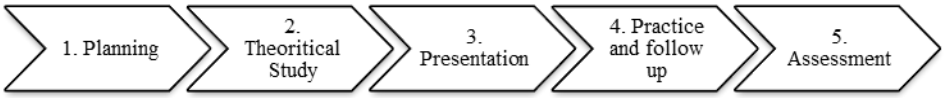

Fig 2. Systematic of students` Craft and Entrepreneurship Practice

Based on Figure 2, it can be seen that the stages that students must go through to practice their entrepreneurship skills in the learning process. The first stage, the teacher provides the opportunity for students to provide learning objectives or projects to be done in that semester. Students will be given the opportunity to design their own craft and entrepreneurship in groups. This design involves determining the type of product to be made, the teacher emphasizes product renewal or innovation. This encourages students to design new and modified products according to their learning objectives. Student craftsmanship and entrepreneurship learning objectives include: crafts, technology engineering, cultivation and processing. Each of these objectives is given in one semester and produces a product according to the target group of students.

The second stage is a theoretical study that provides students with understanding of the information or theory that supports the process of working on their project. Students can look for references or inspiration through various sources such as the internet, books or entrepreneurial activities they have encountered in the community. In addition to theoretical design students also design a budget that is to be used as a guide of their capital startup. This budget design is formed from the capital startup owned by each group through the contributions of each member. This aims to provide an overview and basis for them to carry out their business plans before practicing in the field. At this stage students can also observe in the field about materials and entrepreneurs who have run their business.

The third stage is the presentation of each group about the results of the business design. This stage provides the opportunity for students to hone their Communication skills in order to convey their ideas to teachers and other groups. This presentation opportunity can form a sense of independence for students, open them to inputs from others that can further help them find a complete business plan. In addition, other groups can also provide input and ideas that the group presenting has not previously thought of. This could also potentially help students formed their critical way of thinking in building business ideas.

The fourth stage is practice and follow up. On this stage, students practice the ideas that have been designed. Fourth stage is when the students try to buy materials, make and practice the types of businesses that have been determined. Students work together to achieve their projects. For example, students make crafts from used goods, students make technological engineering with materials environmentally friendly, students can also practice the fish farming of certain fish such as catfish and tilapia, students practice making traditional food processing that has been modified by them. Some of these practices certainly would not go according to plan. Each group encountered obstacles in practice.

Students in each class meeting will provide reports to the teacher and other groups regarding their group practice. Input and direction from the teacher (follow up) helps students in carrying out their entrepreneurial activities. This certainly provides opportunities for students to learn problem solving to the problems that arise in their project activities. Some of the class levels in entrepreneurial practice make sales as the final target. Students have experience in product packaging, bidding, sales and profit and loss. So, not only these skills can be learned and developed, but others entrepreneurial character can also be developed such as cooperation, problem solving ability and self-motivation to succeed and responsibility.

The fifth stage is assessment. This stage is about the final report on the entrepreneurial activities of Satya Wacana Christian High School students. Students present the results of their entrepreneurial activities in groups, their successes, obstacles, advantages, disadvantages and several other things related to practice. Teachers do not only assess this stage but also include the

previous stages of the process starting from designing, presentation, field practice and final evaluation of their entrepreneurial activities. Each process during one semester is what provide real experience related to the given project. Each project is about students` practice, collaboration, creativity and innovation, independence, problem solving, risk taking and motivation to succeed, completing projects and earning benefits. Thus, entrepreneurship education can shape students' personalities when students implement entrepreneurial practice in schools (Vilcov & Dimitrescu, 2015).

1.2.3 Learning Facility

Entrepreneurship learning activities at Satya Wacana Christian High School provide facilities that can support learning activities such as a computer room to design products and area that can be used for cultivation. However, based on the researcher's analysis, it is apparent that the crafts have not collaborated with the canteen or student cooperatives to show the results of their products. Crafts and Entrepreneurship teachers seek to provide motivation so as to be able to market their products. Some of the teachers are still limited in their intended marketing targets because they are only sell to fellow students, teachers and parents. Student cooperatives can be used as a place for them to develop their management skills. Students can manage finances, manage inventory, financial reporting and profit and loss obtained by the cooperative

1.2.4 Supportive Student Organization Platform

The development of hard skills and soft skills of students is also formed through various organizational platforms including the Intra School Student Organization (OSIS), Scout (Scouts), and several other extracurricular activities. This can be seen from the creative efforts of students to create activities from each of these organizations and their efforts to generate funds. This activity also spurs students' entrepreneurial behavior in increasing their knowledge and skills in the field of entrepreneurship. With this opportunity, students learn to create opportunities, communicate, negotiate and manage finances to achieve the expected organizational goals. These are what schools do to support entrepreneurship behavior in students, in a holistic and sustainable manner.

1.3 Entrepreneurship Practical Answer to Challenges Of Industry 4.0

Entrepreneurship education at Satya Wacana Christian High School in Salatiga is inseparable from the participation of teachers who continue to develop entrepreneurship learning. Teachers carry out systematic and continuous learning plan. The learning design is made to meet the competencies standard that students must achieve in craft and entrepreneurship subjects. In addition, the teacher provides entrepreneurship material that can motivate students in learning entrepreneurship and craftsmanship. Entrepreneurship education is also determined by the teacher's efforts to provide examples of entrepreneurial craftsmanship models / products that can stimulate students' innovative ideas. Through this motivation, students will continue to create products and have better opportunities in their entrepreneurial practice. Creating an active, creative and confident atmosphere in craft learning is the focus of the learning activities. This systematic learning is related to entrepreneurial activities that are given in stages. This aims to provide students the opportunity to design business simulations that will be carried out with the group as a character development in cooperation. The stages in are:

a. Students determined the topic/products that they want to make, either individually or through group discussion
b. Students determined characteristic, creativity and innovation of existing products as a point of reference
c. Students conduct research through relevant sources to determine their product
d. Students determine materials needed for their project and present it to the teacher and other groups
e. Students practice their business plan
f. Students evaluate their business/products that they do in their entrepreneurship activity

In practice, students will be given milestones by the teacher according to the competencies that must be achieved in entrepreneurial themes such as crafts, cultivation, engineering and processing. The implementation is of course adjusted to the times that the students have designed themselves. Entrepreneurship education at Satya Wacana Christian High School provides a learning model through project based learning or business simulations from students own designs that put into practice. With this learning model, students are able to design a business with a predetermined project, according to student creativity. In addition to students learning to design, practice also provides students with opportunities to solve real problems in the field such as recognizing problems and solutions. Some students can even sell their products to friends, teachers and their parents. Some students also continue to run their business outside of the allocated lesson time. In the final stage, students will also be asked to provide reporting during entrepreneurial practice in the field.

During the implementation of entrepreneurial business practices and simulations in schools students can indirectly develop entrepreneurial characters and competencies. This can also be seen as an effort to internalize the character and entrepreneurial competencies in students while also providing entrepreneurship education in schools. Some of the preferable characters to be developed, for example, are creative, innovative and dare to take risks on the design and manufacture of the products that they make. Students will continue to work hard on completing the tasks they are doing. Students also seem to give efforts through ideas, capital startup and energy that can be done in order to achieve their task completion. In addition to character, students would also be able to develop other competencies such as leadership, problem solving and communication. The communication in question appears in presenting designs, the results of the products in assessment and evaluation of business or entrepreneurial activity.

Schools could also try to provide technology-based learning facilities through computer labs and school Wi-Fi. Students can design their products using available computers and Wi-Fi to conduct theoretical studies in making their products. Students could take advantage of these facilities in designing and manufacturing their products. Thus students will make product innovations that they have designed from the references they have obtained. So, students will learn to do research before starting to make business plans or their entrepreneurial craft activities.

1.4 Students` Entrepreneurship Practice Challenges in Response of Revolution Industry 4.0

Students 'entrepreneurial practice plays an important role in developing students' skills and creativity. At Satya Wacana Christian High School, the school provides understanding and experience in entrepreneurial activities. Students are ushered to be skilled and creative in developing business ideas, new works and product innovations so as to provide provisions for students to continue to create new things. Entrepreneurship is not only about how students can sell their products, but how students could and will always find creativity in determining entrepreneurial business ideas in schools. Creativity is the main factor for an innovation that refers to the properties of products and processes (Kabukcu, 2015). This means that students will turn their creative ideas into reality and encourage an innovative work in the learning process.

This is in accordance with the current demands of developing technology and information that requires people to always develop creative ideas in the field of entrepreneurship. Creative, innovative and hard work are personal characteristics that are more likely to make students capable of successful entrepreneurship so that it should be the focus on students learning in schools. According to research by (Stamboulis & Barlas, 2014) through entrepreneurship education for the younger generation today, which can improve organizational skills, time management, leadership development and interpersonal skills. The result of this study shows that entrepreneurship education is very effective in improving students' entrepreneurial skills (Din et al., 2016).

Seeing such challenges, Industry 4.0 not only changes the quality of the workforce but also factors that affect competitiveness such as the financial system, innovation skills and education (Bal & Erkan, 2019)· According to the 2018 Global Competitiveness Report there are 4 main components used in calculating the global competition index which has subsections including: 1) in the environmental sector (intuition; infrastructure; technology, information and communication; and economic stability. macro), 2) human capital (goods market; labor market; financial system and market size), 3) market (health; skills, 4) innovation ecosystem (business dynamics and

innovation capabilities). Several components in this global competition education needs to focus on the formation of graduates who are globally competitive. Entrepreneurship education enable students to be able to develop character and skills that can support today's global competition. In addition, adequate knowledge in the fields of information, communication and technology can be provided simultaneously to students at Satya Wacana Christian High School.

School policy in forming graduates also support government policy programs, especially the Minister of Education, Mirzanti's research, Simatupang and Larso (2015) shows that the areas that needed to be put into the learning process, entrepreneurship education, skills in engineering such as technology and computers, marketing skills and motivation in entrepreneurship, the purpose of this is to form entrepreneurs in the fields of technology, information and business communication. With a focus on mastering this technical comprehension, at least students are equipped with knowledge and skills in planning, practicing, marketing their entrepreneurial products through technology, information and communication adapted to the industrial revolution 4.0.

The industrial revolution is closely related to the internet. The use of the internet has changed various aspects of life today and has made many activities easier, effective and efficient. One aspect that is also made widely available to the community regarding the impact of the internet on entrepreneurship is the emergence of websites e-commerce and the shift of market to e-shopping (M. Yadav & Rahman, 2017). Social media is a widely adopted platform for e-commerce because it can provide information about the best product and price options and enable sellers to interact with customers directly.

Digital business model will undergo a transformation in marketing strategies including: 1) Branding Strategy, explains the forming of a brand in owned products, Channel Strategy, explains that students can adopt the use applications, 2) Relationship Strategy related to entrepreneurial efforts can bring closer to customers with smartphone technology, 3) Pricing Strategy, understanding how to determine the selling price of a product, 4) Service Strategy is related to service strategies through quick response to customer inquiries. Knowing this, schools need to provide knowledge and skills about digital marketing strategies in order to support student entrepreneurial activities. Students can be focused on internet technology to be aware of Information, Technology and Communication (ICT) (Shaltoni, 2016).

CONCLUSION

Entrepreneurial practice has a big impact on the personality and entrepreneurial skills of students. Continuous assistance at every level of education will form a creative, innovative, risk-taking character, leadership management and problem solving individuals during entrepreneurial practice. Based on the results and discussion of this study, it shows that students' entrepreneurial practices are very important in preparing graduates who are globally competitive. School's strategy in preparing entrepreneurial practices is fairly sufficient, but it has not been directed towards changes in the industrial revolution 4.0. Students need to be given an understanding of digital marketing such as branding strategy, channel strategy, relationship strategy, pricing strategy and service strategy in student entrepreneurial practices in schools. In addition, efforts to develop student skills are also at least equipped in terms of the use of marketing technology in practice. This research is limited to the entrepreneurial practices of students in one school, so it requires comparisons in other educational institutions in entrepreneurial practices. The implications of this study provide an understanding that entrepreneurial practice provides direct knowledge, skills and experience and requires changes in the field of technology that can be used as a support for technology-based entrepreneurship, especially in the 4.0 era.

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