STUDY OF EDUPRENEURSHIP OPPORTUNITIES FOR STUDENTS THROUGH THE SCIENTIFIC ENTREPRENEURS

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Abstract

Saintific enterpreneurs is implemented in education to foster students' attitudes and desires in the field of entrepreneurship through the ability to innovate a product or new idea using scientific concepts. This saintific enterpreneurs provides students with opportunities to gain edupreneurial prospects, thereby preparing them for the future. Through product development based on scientific concepts and processes, students of the PGMI study program have the opportunity to develop their creativity and innovation talents.

Keyword: *Edupreneurship Opportunities; Scientific Enterpreneurs*

A. INTRODUCTION

Reflecting on the current profile of graduates from Educational Institutions, graduates are more inclined to seek employment rather than create job opportunities, whereas education should be able to foster independence before graduates join society. According to Masitha, university graduates are more inclined to wait for jobs that match their education. They are reluctant to work in other fields, especially if the offered salary is below the expected standard (Masitha dkk., 2018). Entrepreneurship is considered to shape a person's independent character. Entrepreneurship training is expected to provide inspiration and open new job opportunities (Adlım dkk., 2014). Thus, through education, it will produce qualified graduates who are ready to compete and work independently in the fields they have previously studied.

In the world of education, we are familiar with the term "Edupreneur." Edupreneurship refers to a learning concept that was initially used in the business field to seek profit (Wijatno, 2009). Edupreneurship can be defined as entrepreneurial education, which is a learning process that focuses on entrepreneurial activities both theoretically and practically. Edupreneurship aims to place entrepreneurial concepts and attitudes within the world of education. The concept of edupreneurship focuses on integrating entrepreneurial values into the educational curriculum. The goal is to train, develop interests, and shape future entrepreneurs (Machali, 2012). Thus, edupreneurship becomes a choice to shape individuals who can optimize their potential without relying on others.

The Advanced Science course at MI/SD is a course offered in the PGMI FTK UIN Imam Bonjol Padang Study Program. This course is an advanced stage of the previous course, Basic Science at MI/SD. This course has learning outputs in the form of teaching materials, learning media, and teaching modules. Field observations indicate that the products generated have not been utilized and developed into something with greater value, aside from their use for educational evaluation purposes. In fact, this product is worthy of being disseminated or even commercialized. This finding explains that the utilization of skills in commercializing the generated science ideas/products is still not optimal. Students also admitted that there has been no direct exposure on how to market the products that have been produced.

Students as future teachers need to master innovation and entrepreneurial thinking in education. Edupreneurship emphasizes the existence of creative or innovative efforts undertaken by institutions to achieve accomplishments and increase income (Sutrisno & Cokro, 2018). The enhancement of edupreneurial skills is important to ensure that students possess strong entrepreneurial skills. Lilia et al. suggest that school curricula use teaching strategies that combine scientific research and market research, which are important aspects of entrepreneurship (Ishak dkk., 2017). According to Adlim 2014, the integration of entrepreneurial practices in science education can be a strategic solution to prepare students to live better in society (Masitha dkk., 2018).

The integration of entrepreneurial practices in science education is also known as entrepreneurial science. Entrepreneurial science needs to be implemented in education with the aim of fostering students' attitudes and desires in the field of entrepreneurship through the ability to innovate a product or new idea using the scientific concepts that have been taught in previous classes. The role of

science education and innovation in advancing entrepreneurial thinking and skills is of great importance (Venuvinod dkk., t.t.). Starting from this, the author is interested in researching the examination of student edupreneurship opportunities through entrepreneurial science.

B. METHODOLOGY

The type of research conducted in this study is qualitative research using the library research method. This research is derived from primary and secondary data sources. The primary data for this study includes the distribution of courses, main teaching materials, and learning media. The secondary data used consists of books, journals, and articles relevant to the thesis title as additional research materials or supporting materials for the researcher. In data collection, the researcher used documentation techniques, which are employed to explore and gather data from reading sources related to the problem. The data analysis technique used is the content analysis method, which is employed to analyze all forms of books, journals, and documents.

C. DISCUSSION

Opportunities for Edupreneurs for students

Higher education institutions play an important role in ensuring that entrepreneurship education can cultivate the potential of entrepreneurs to recognize and seize opportunities, and then venture into the world of entrepreneurship (Othman dkk., 2020). Moreover, currently, the world of education is undergoing significant changes with the emergence of new innovations and technologies. this provides a great opportunity for students to develop themselves, one of which is becoming edupreneurs.

Edupreneur or educational entrepreneur comes from two words, namely education meaning education and entrepreneur meaning businessman or entrepreneur. Edupreneur in simple terms is also called a businessman in the field of education. According to the term, education is a learning process about knowledge, attitudes, and skills that are transformed by one person to another through teaching, training, or community service (Masitha dkk., 2018).

Through edupreneurship, students are enabled to develop creativity, take initiative, and be responsible for all risks. Thus, edupreneurship is not just about making money through business, but also about education that can shape the character, mindset, and behavior of an entrepreneur. The result of entrepreneurship education is for someone to become an intrapreneur, business entrepreneur, academic entrepreneur, corporate entrepreneur, and social entrepreneur.

The opportunities for student edupreneurs are actually wide open, especially with the current advancements in technology. However, the students' lack of ability to generate ideas and innovate products (Hb, t.t.) causes them to be reluctant to delve deeper. Thus, the spirit of edupreneurship needs to be instilled and cultivated within students to foster a strong desire to learn and create. As educators, lecturers can help ignite enthusiasm by internalizing entrepreneurial values. According to Martin, lecturers should become facilitators for students in honing their skills not just through theory, but by training students to develop their potential through practical experience in creating economically valuable products (Hb, t.t.).

Speaking about entrepreneurial values, Echdar 2013 mentions that entrepreneurial values are encapsulated in the entrepreneurial spirit for entrepreneurs, namely strong will, ability to make decisions, ability to take risks, creativity and innovation, perseverance, meticulousness and productivity, a spirit of creation, and understanding of business ethics. According to David E. Rye in 1996, entrepreneurial values are based on the profile of an entrepreneur, which includes high achievers, risk-takers, problem solvers, status seekers, and self-confident individuals. By understanding entrepreneurial values, students will be ready to face increasingly fierce competition in the job market. They will be more prepared to create new jobs, generate new ideas, and contribute to economic growth

Edupreneur opportunities that can be managed or turned into projects by lecturers in the faculty of education include: 1) Creation of Creative Educational Content: Learning Videos: Creating tutorials, animations, or educational vlogs in various fields of study. For example, making science learning videos in an enjoyable way or animations about the process of photosynthesis; Educational Podcasts: Chatting with experts or discussing interesting topics in audio format. For example, creating a podcast about effective study tips or interviews with famous authors. E-books and Digital Books: Writing digital books or e-books that contain lesson materials or study tips. For example, writing an e-book about science subjects. And Infographics and Other Visual Materials: Designing infographics, mind maps, or engaging presentations to facilitate understanding of the material. For example, creating an infographic about the solar system or a mind map about concepts in renewable energy science. 2) Online Learning Platforms: Online Courses:

Creating and selling online courses on various platforms such as Udemy, Coursera, or your own platform. For example, creating an online course on web programming or a foreign language course. Online Learning Community: Building an online community to share knowledge and learning experiences. For example, creating an online discussion forum for students interested in the field of science or an English learning community; and Learning Applications: Developing mobile applications that can help students learn more effectively. For example, creating an application for learning foreign language vocabulary or an application for practicing exam questions.

3) Educational Consultation includes Tutoring: Providing private or group tutoring for specific subjects. For example, offering math tutoring for middle school students or English tutoring for TOEFL exam preparation. Self-Development Consultation: Helping students develop their potential, such as public speaking, leadership, or time management. For example, providing public speaking training for university students who want to improve their presentation skills. And 4) Educational Products include: Educational Games: Creating board games, card games, or game applications that combine educational and entertainment elements. For example, creating a board game to learn history or a game application to learn mathematics. Teaching Aids: Designing innovative teaching aids to help students understand difficult concepts. For example, creating teaching aids to explain the concept of gravity or teaching aids for learning human body anatomy. Educational Merchandise: Selling merchandise such as t-shirts, mugs, or notebooks with attractive designs and educational themes. For example, selling t-shirts with mathematical formula designs or notebooks with inspirational quotes about learning.

Science Entrepreneurs

The term science entrepreneur is adopted from Malay, namely "Sains Keusahawanan," which means the ability to combine scientific knowledge and entrepreneurial attitudes (Syukri dkk., 2013). In English, entrepreneurial science is also known as Scientific Entrepreneurs. According to Peter Drucker, scientific entrepreneurs possess the ability to create something new based on science, which means using scientific ideas to develop products or services that are beneficial to society (Drucker, 1985). According to Menzies, the phenomenon of scientific entrepreneurs is evident in the current development of products based on scientific concepts designed with creativity and innovation to advance the economy (Menzies, 2008). Thus, it can be concluded that scientific entrepreneurship is the ability of an individual to design and develop products by applying scientific concepts that have economic value.

The science enterpreneur plays a role in driving innovation across various sectors. In essence, scientists and researchers involved in entrepreneurial activities can bridge academic knowledge with its application in real products and services. This involves the creation of technology-based startups, collaboration with industry, and the use of science to identify and solve new problems. Entrepreneurial science becomes key in creating innovative business models and addressing global challenges. This approach integrates scientific development with commercial opportunities, often through synergy between universities, research centers, and companies. In the economic context, the innovations produced help enhance industrial competitiveness and drive technology and science-based economic growth. Science entrepreneurship offers a tremendous opportunity to create innovations that have a positive impact on society. By combining science and the spirit of entrepreneurship, scientists can build successful and sustainable businesses.

Entrepreneurial science is related to scientific process skills because both originate from a scientific method-based approach. Here is the relationship between the two:
1) Observation and Problem Identification: In the scientific process, observation is the first step to identify phenomena or problems. In the business world, this skill is used to identify market needs or technical problems that can be solved through innovation based on research; 2) Formulating Hypotheses and Creative Ideas: In science, hypotheses are used to test specific cause-and-effect relationships. In entrepreneurial science, these hypotheses are applied in the form of product or solution ideas, which are then tested for validity through experiments or market research; 3) Experimentation and Validation: The ability to conduct experiments is used to test hypotheses in science. In the business world, this can be interpreted as the step of testing prototypes, validating products, or trying business models to ensure that the provided solutions are effective and appropriate. 4) Data Analysis and Conclusion: in science, data analysis is used to draw conclusions from experiments. In science-based entrepreneurship, data is analyzed to assess the success of products or business strategies and make decisions based on facts. 5) The ability to communicate in science is very important for conveying research results. In entrepreneurship, this communication is applied in the form of presenting ideas to investors, business partners, or consumers, with a focus on the benefits and value of the innovation.

Therefore, the development of edupreneur products is not only viewed from the perspective of the science product itself but can also be viewed from the process aspect, thus creating a connection between science entrepreneurship and science process skills.

Based on findings from previous research, the results of science entrepreneurship innovations and creations are quite diverse. The research conducted by Lilia et al. has attempted to combine science and entrepreneurship. (2009) and her colleague Nor Aishah. In 2010, a science learning module was created by incorporating elements of entrepreneurship. The module created is known as the "PeSaK" module (Entrepreneurial Science Thinking). PeSaK is a module developed from research on the steps taken by scientific entrepreneurs in creating creative and innovative ideas or products (Othman dkk., 2020). The thinking process in entrepreneurship has been outlined in the steps or learning activities within the PeSaK module. The activities include: a) consistently observing, b) generating new ideas by continuously thinking and seeking uniqueness, c) selecting several ideas that can be innovated, d) strengthening and refining the ideas, and e) ensuring that the ideas or products meet the needs. The results are useful for society (Othman dkk., 2020).

The research conducted by Putut on the Development of science entrepreneurship teaching materials was carried out by integrating the results of entrepreneurship research. The developed science entrepreneurship teaching materials based on research results received a favorable assessment from entrepreneurship experts; students were able to prepare Student Creativity Program (PKM) proposals well after utilizing the developed teaching materials in the science entrepreneurship course, and the use of the developed science entrepreneurship teaching materials was effective based on student learning outcomes (Hb, t.t.). Aqil's research discusses efforts to integrate biotechnology education with entrepreneurship to enhance students' entrepreneurial interest. This module is designed so that students not only understand the concept of biotechnology but can also apply it in a business context, such as bioentrepreneurship (Aqil dkk., 2021).

In science education in the PGMI study program has learning outputs in the form of teaching materials, learning media, and teaching modules. All of that is useful to help teachers at school create innovative learning. Therefore, it is necessary to provide a platform to promote and introduce students' works so that they reach the teachers. Promoting and commercializing student works in the form of learning media or technology-assisted devices requires strategies involving branding, marketing, and collaboration.

So far, the method that has been implemented is through exhibitions of learning devices, which has broadened the reach of the products created. In addition to exhibitions, students also conducted media dissemination to five schools. Some of the targeted schools showed interest and awarded recognition with commercial and promotional value.

D. CONCLUSION

Entrepreneurial science helps bridge scientific products and processes with the needs of industry and society, creating technology and innovation-based products or services. Through entrepreneurial science, students are encouraged to combine scientific skills with business capabilities, such as market analysis, project management, and marketing. Through a series of scientific processes to produce a product that meets market demands, the output of science education becomes commercially viable. However, a broader spectrum for promotion is recommended in this research.

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