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THE ROLE OF HIGHER EDUCATION IN FOSTERING THE CREATIVITY AND INNOVATION OF STUDENTS, COLLEGE STUDENTS, AND BUSINESS ACTORS

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Abstrak: Artikel ini bertujuan untuk mendeskripsikan peran Perguruan Tinggi dalam menumbuhkan kreativitas dan inovasi di kalangan siswa, mahasiswa dan pelaku usaha. Kegiatan ini menekankan nilai keunggulan karya mereka sehingga memungkinkan konsep baru dalam kerangka pembangunan yang berkelanjutan. Penelitian merupakan setting lapangan pada expo inovasi teknologi Universitas Sains Al-Qur'an tahun 2023, dengan jenis penelitian kualitatif dari data observasi dan dokumentasi. Penelitian menyimpulkan: bahwa peran Perguruan Tinggi dalam menumbuhkan kreativitas dan inovasi dapat dilakukan melalui pelibatan hasil karya siswa, mahasiswa dan pelaku usaha. Kolaboratif ini memungkinkan untuk menguntungkan berbagai pihak di dalamnya. Langkah penilaian dan pendampingan diperlukan guna mentimulasi lahirnya kreativitas baru. Perguruan tinggi dapat memfasilitasi agar puduk inovasi layak bersaing di pasaran dengan memberikan fasilitas kurasi produk dan pendampingan ijin usaha. Penelitian merekomendasi bahwa kreativitas dan inovasi, dapat diterapkan pada berbagai disiplin ilmu. Selain itu agar merancang kurikulum dalam pendidikan kreativitas, inovasi, dan kewirausahaan untuk berbagai tingkat pendidikan demi munculnya inovasi terapan menuju pembangunan berkelanjutan.

Kata-kata Kunci: *Perguruan Tinggi, Kreativitas, Inovasi*.

THE ROLE OF HIGHER EDUCATION IN FOSTERING THE CREATIVITY AND INNOVATION OF STUDENTS, COLLEGE STUDENTS, AND BUSINESS ACTORS

Abstract: This article aims to describe the role of Higher Education in fostering creativity and innovation among students, university students, and business people. This activity emphasizes the superior value of their work to enable new concepts within the framework of sustainable development. The research is a field setting at the Al-Qur'an Science University's technological innovation expo in 2023, with the type of qualitative research from observational data and documentation. The research concluded: that the role of Higher Education in fostering creativity and innovation can be carried out by involving the work of students, students, and business actors. This collaboration makes it possible to benefit the various parties in it. Assessment and mentoring steps are needed to stimulate the birth of new creativity. Universities can facilitate Puduk Innovation to be competitive in the market by providing product curation facilities and assistance with business permits. Research recommends that creativity and

innovation can be applied to various disciplines. In addition, to design a curriculum in creativity, innovation, and entrepreneurship education for various levels of education for the emergence of applied innovation towards sustainable development.

Keywords: *Higher Education, Creativity, Innovation.*

INTRODUCTION

Education today differs in structure and practice from previous generations, not only because of the impact of technology and the Internet, but also because, throughout life, everyone learns, works, and plays in a global community that was previously unknown to most generations. While organizations around the world recognize that their current and future success depends on a workforce capable of effective thinking, creative problem-solving, and innovation, educational practice still lags behind our knowledge in this area (Sri Jumini et al., 2022; Treffinger et al., 2021).

Today's modern world is marked by the rapid development of science and technology. This is a challenge for the world of education to produce graduates who have comprehensive competencies. Comprehensive competencies, namely learning and innovation skills, mastering media and information, and life and career skills (Yuliati, 2017). Learning and innovation skills equip graduates to think creatively in solving problems, communicating and collaborating, and being creative and innovative.

Innovation is a key component for achieving institutional success and sustainability (Millet et al., 2017). Innovation can include creativity, innovation mechanisms, and entrepreneurship, which will provide life and career skills. Namely having the ability to be flexible and adaptive, take initiative and be independent, interact socially, be productive and accountable, and have a spirit of leadership and responsibility. The ability to innovate is an important indicator of economic and social development. Meanwhile, creativity is an educational indicator of learning effectiveness (Sri Jumini & Madnasri, 2019; Shu et al., 2020).

Creative and innovative education can embody strong resources to close the gap between research and practice and to promote understanding and effective practice related to creativity and innovation (Sri Jumini, 2016; Treffinger et al., 2021). So it takes the participation of various parties, both academic and business actors, to spur students to think creatively and innovatively.

The twenty-first century is a century of fierce competition, globalization, cutting-edge technology, and progress adopted for continuous improvement and improvement. Such an environment of uncertainty and fluctuation fuels the need for continuous innovation across the nation to achieve success in every field.

Universities, both public and private, are the main agents that facilitate instilling innovation as a habit among youth because some of their initiatives play a key role in strengthening the innovation ecosystem on campuses

which further strengthens innovation cultures nationally (Kaur & Arora, 2020). Considering this, this research article aims to describe the role of Higher Education in fostering creativity and innovation among students, university students, and business people.

Several similar studies were found, including Millet at al (Millet et al., 2017), which Examine ways to unlock creativity and innovation. Shu et al, (Shu et al., 2020) offer education on creativity and innovation-oriented toward sustainability. Treffinger et al (Treffinger et al., 2021) reveal the importance of creativity and innovation in education. Ellis & Childs (2019) examines innovation in teacher education through collective creativity.

Valdez (2021) examines creativity and innovation in nursing education. Seechaliao (2017) researched learning strategies to spur educational creativity and innovation. Sharif (2019) examines the relationship between acculturation and creativity and innovation in higher education. Leydesdorff (2018) examines synergies in knowledge-based innovation systems.

Previous research has not explored the role of the campus in growing and developing the creativity and innovation of school students, so this article contains elements of novelty and is feasible to do. Thus, the purpose of this research is to reveal the role of campuses in educating the creativity and innovation of students, students, and business people through technological innovation expos.

RESEARCH METHOD

This research is a field setting according to Moloeng (2018) considered a broad approach as a method for collecting qualitative data in field activities of Technological Innovation Expos Universitas Sains Al-Qur'an year 2023. Data was obtained through observation and documentation. Qualitative methods are used to obtain natural conditions, where the researcher is the key instrument (Sugiyono, 2021), Data collection techniques are carried out by combining literature sources and field data. The data analysis is qualitative in nature, with the research results emphasizing the findings of the data rather than generalizations (Creswell & Poth, 2018).

RESULTS AND DISCUSSION

1. Expo Inovasi Teknologi Universitas Sains Al-Qur'an Year 2023

On February 1, 2023, Sentra Kekayaan Intelektual & Inovasi Teknologi (INOTEK) Universitas Sains Al-Qur'an Organizing technological innovation product expos to realize sustainable development. The activity was attended by various parties, including junior high school and high school students, students, and Micro, Small, and Medium Enterprises in the Wonosobo district (Masitoh, 2023).

This activity is also intended to foster a relational network between schools, the academic world of higher education, the business world and the industrial world, Micro, Small, and Medium Enterprises, and the government, as well as Sentra Kekayaan Intelektual dan Inovasi

Teknologi (INOTEK) Universitas Sains Al-Qur'an which acts to facilitate the expo of creative and innovative works of academics as well as Micro, Small and Medium Enterprises.

The expo activity took place at Campus 1 Universitas Sains Al-Quran (UNSIQ) Jawa Tengah di Wonosobo, It will be held from Wednesday 1 February to Thursday 2 February 2023 (PSI-UNSIQ, 2023). Sri Jumini, Leader of Sentra Kekayaan Intelektual dan Inovasi Teknologi Universitas Sains Al-Qur'an, stated that this activity was a form of his party providing a forum for those who have works, whether students, lecturers, schools, or entrepreneurs who wish to obtain copyrights for their works. This expo is also for the sake of facilitating academic products so that they can be marketed to the business world because in the industrial world competitive innovation is needed. INOTEK Universitas Sains Al-Qur'an is ready to become a liaison between them (Masitoh, 2023).

The Expo for academic creativity and innovation products was attended by students and students as well as Micro, Small, and Medium Enterprises. From the student segment followed by 6 educational institutions, SMP Negeri 1 Wonosobo; SMP Negeri Mojotengah, SMA Negeri 1 Wonosobo; SMA Negeri 1 Wadaslintang; Komunitas Pembimbing Riset SMA-MA (PRISMA); & Madrasah Aliyah Al-Maksum Wonosobo. The student segment is followed by 8 study programs, Department of Physics Education; Early Childhood Islamic Education Study Program (PIAUD); Faculty of Health Sciences (FIKES); Mechanical Engineering; Informatics Engineering; Informatics Management; Architectural Engineering; and Islamic Religious Education. From Micro, Small, and Medium Enterprises there were 46 participants (PSI-UNSIQ, 2023).

Figure 1. Opening of the INOTEK Expo
Source (UMC-UNSIQ, 2023)

The academic product expo, both for students and university students, aims to assess their innovations to provide intellectual property certification facilities, and downstream them to the market. While the expo for Micro, Small, and Medium Enterprises is products for sale. 46 expo participants from the Micro, Small, and Medium Enterprises segment came from various regions including Semarang, Temanggung, and so on. This activity is expected to realize the harmonization of the triple helix relationship between academia, business, industry (DUDI), and the government.

This Expo is an event for the publication of innovative products by lecturers, students, teachers, and students so that they do not stop at just evaluating but can be channeled to the market. This can overcome the relationship gap between DUDI and academics. The world of business and industry needs creative ideas from academics, and academics need the business and industry world to finalize

academic products so they can be sold to the public. This is very helpful for government programs in building economic independence and the Sustainable Development Goals.

Also present at this activity were all leaders from the Universitas Sains Al-Qur'an, school principals, and the business community in Wonosobo. During this activity, assistance was also provided for the duration of product standards entering the modern market. While the evaluation of the participant's products was carried out by academics, namely lecturers, the Intellectual Property Center section to see the innovation, and practitioners to see whether it was appropriate to downstream it to the market. Assessment from practitioners focuses on the feasibility of the product so that it can enter the market. The assessment from the academic side of the process is whether there are artificial or original elements, while the assessment from Inotek focuses on the innovation side (Masitoh, 2023).

Figure 2. Part of Creativity and Innovation at the 2023 UNSIQ Inotek Expo

Source (UMC-UNSIQ, 2023)

Apart from that, to provide added value to the participants, a talk show was also held to provide knowledge and education for the expo participants. The talk show was held with 4 themes namely: 1) The importance of intellectual property certification in the business world, 2) how to launch business products, and 3) business product standards to enter the modern market. In addition, business actors who have successfully entered the modern market are also presented to convey their experiences, so that they can provide an overview and motivation for academics to make products according to market standards.

This expo activity also provides championships for participants based on the results of the assessment. The championship is carried out in two categories, namely the student segment and the student segment. The winners in this Intek expo activity can be seen in Table 1 as follows:

Table 1. Winners of the 2023 INOTEK UNSIQ Expo in the Student Category

No	Product name	Institution
1	Campus Education About Creativity and Innovation Electroprecipitator (garbage burner)	Mechanical Engineering
2	Hydroponic Automatic Nutrition Controller	Informatics Engineering
3	Planning and Design of the Bukit Kekep Paragliding Area Resort in Wonosobo, Central Java With an Eco-Architectural Approach	Architectural Engineering

Source (UMC-UNSIQ, 2023)

Table 2. Winners of the 2023 INOTEK UNSIQ Expo

in the Student Category

No	Product name	Institution
1	Nipow tilapia powder	SMA N 1 Wadaslintang
2	SAKELES (Leson Flower Soap)	SMP Negeri 1 Wonosobo
3	Plastic bottle shredder machine	SMAN 1 Wonosobo

Source (Inotekunsiq, 2023)

2. The Role of the Campus in Educating Creativity and Innovation

The Fourth Industrial Revolution calls for a transition to expectations-reflexive entertainment in terms of models as a source of increasing innovation. Indicators of synergy from different industry actors allow us to use institutional arrangements as examples of knowledge dynamics and thus assess choice-making and uncertainty reduction in information-theoretical terms. By using this indicator, one can evaluate empirically—in terms of negative information; that is, redundancy—where the innovation system is and the extent to which the technological revolution is taking place (Leydesdorff, 2018).

The activities carried out by INOTEK UNSIQ by providing education to students, both school students, university students, and business people, are concrete steps in the context of connecting the theoretical dichotomy between creativity and technology with the realities of the business world so that the results of education can be felt more for students. This is important because sometimes students after graduation are often confused about finding a job. From here it allows them to be able to create jobs, not stuck looking for work.

This argument indicates that creativity and innovation from an educational perspective must continue to grow. An educational framework can be formulated around creativity, innovation, and sustainability-oriented entrepreneurship that uses creative problem-solving (S. Jumini et al., 2021).

This framework can contain four layers and three dimensions. The first layer concerns the thinkers and basic structures, and the second layer contains the catalysts for sustainable development goals. The third layer is the thinker's cultivation advanced structure. The last layer is the generation of students who will try to start social enterprises. These three aspects apply the creative nature of thought that spreads to social innovation; apply demand expansion to extend individual needs to societal needs; and implement educational development objectives to promote sustainability (Shu et al., 2020).

The INOTEK expo activity strengthens research Washington-Ottombre & Bigalke (2018) that implementation of campus sustainability innovations can use the Association's sustainability assessment tool for progress on sustainability in Higher Education. External and internal factors provide favorable incentives and contexts for the implementation of certain environmental innovations. Environmental innovation creates innovation dynamics that echo and reinforce the culture of higher education institutions and contextualizes the role of

the campus as an agent of change.

The role of the campus in research, development, and innovation systems can be studied through campus development in the context of research results in society. The potential for the campus to be more developed and encourage smart growth in the surrounding environment so that a relationship that benefits both parties occurs (Ylimartimo, 2018). Campus development stimulates innovation and that guides them to add value to their organization (Mawonde & Togo, 2019).

Campus connectivity is critical regardless of whether the campus is in a downtown or suburban neighborhood. Improving campus connectivity may be an efficient way to spend the large amount of public and private resources invested in campus development to foster innovation (Curvelo Magdaniel et al., 2018).

Today's students need to be well-positioned to recognize and take advantage of potential start-up opportunities. The results of Pradeep & Satish's (2022) study provide insight into the role of universities, higher education departments, and government agencies in promoting a sustainable campus start-up culture through entrepreneurial learning.

Related to the business world, the campus also needs to educate business actors that to achieve the best performance and innovation, every organization must achieve its competitive advantage. The advantage gained from employees is extra-role behavior. As a requirement for that, other supporting factors are needed, namely servant leadership and organizational commitment (Setiawan et al., 2020).

The INOTEK UNSIQ expo activity is very beneficial for the parties involved, students, university students, business people, and universities. It is framed by the theory of innovation diffusion, which recognizes that the adoption of innovation must go beyond a tipping point to ensure lasting success (Braddlee & Vanscoy, 2019). Then mentoring and assessment allow for innovations in the process.

The collaborative model of the various elements will allow innovation to be absorbed in the joint process. This corroborates research from Lanou et al (2021) that transferable practices in collaborative activities are promising for the parties involved. Everyone will benefit from this innovation.

In addition, according to research Eversole (2022) the role of developing the university campus area in disadvantaged suburban areas by paying attention to the role of students. With innovation involving the community, it can increase their concern for education. The position of Universitas Sains Al-Qur'an which is categorized as being in a suburban area will be increasingly eyed by the community because it can bridge this dichotomy.

From here it is necessary to practice learning that teachers and lecturers can provide creative assignments to stimulate student interaction and encourage them to think creatively.

Creative tasks developed in education can serve as a pedagogical model for teachers and lecturers to design creative oral communication tasks based on their curricular goals (Wang, 2019).

Learning strategies that support the creation of creative and innovative education must focus on a systems approach. Instructional strategies are usually based on design-based learning, problem-solving, creative problem-solving, creative thinking, research-based learning, problem-based learning, project-based learning, science, or innovative teaching processes that can lead to creating innovative education. Teaching that involves practicality should also be focused.

This instructional strategy has the same elements and processes: initial problem, solution finding, testing, and evaluation. Also, using a variety of stimulating ideas to find possible solutions to problems facilitates brainstorming and helps students think about new ideas. Learning strategies using questions, class discussions, independent learning, inductive and deductive thinking, media, or social media make students feel involved in learning activities and create innovations in learning (Seechaliao, 2017).

To spur student creativity and innovation, lecturers and teachers must highlight the power of acculturation aspects, especially biculturalism and the integration of ideas of contrasting cultures, in influencing the ability to be creative or innovative in the environment (Sharif, 2019). This is important to do to produce products that are right on target for the community.

CONCLUSION

After being discussed and analyzed, the research concluded: that the role of Higher Education in fostering creativity and innovation can be carried out by involving the work of students, students, and business actors. This collaboration allows for the benefit of various parties in it. Assessment and mentoring steps are needed to stimulate the birth of new creativity. Universities can facilitate innovation so that product innovation is feasible to compete in the market.

This study recommends that creativity and social innovation can be applied to various disciplines. In addition, to design a curriculum in creativity, innovation, and entrepreneurship education for various levels of education for the emergence of applied innovation towards sustainable development.

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