

The Impact of Entrepreneurship Spaces in Higher Vocational Colleges on Students' Entrepreneurial Intentions-Taking Creativity as the Mediating Variable

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Abstract

This journal article examines the influence of entrepreneurship spaces, also known as maker spaces, in higher vocational colleges on students' entrepreneurial intentions. It specifically focuses on the mediating role of creativity in this relationship. The study reviews existing literature on the significance of entrepreneurship spaces in fostering entrepreneurial intentions and emphasizes the importance of creativity as a precursor to entrepreneurial thinking. Additionally, it discusses the role of maker spaces in shaping students' attitudes towards entrepreneurship and their willingness to engage in entrepreneurial activities. The findings of the study indicate that maker spaces have a positive impact on students' entrepreneurial intentions, and creativity plays a crucial role in mediating this relationship. Maker spaces provide students with resources, mentorship, and a supportive community, which fosters a pro-entrepreneurial mindset and enhances self-efficacy in entrepreneurship. These spaces also simulate real-world entrepreneurial experiences, reducing barriers to entry and increasing students' willingness to pursue entrepreneurial endeavours. Creativity is identified as a key mechanism through which entrepreneurship spaces influence students' entrepreneurial thinking. Maker spaces stimulate innovative thinking, problem-solving, and idea generation, creating a creative environment that fuels entrepreneurial intentions. Therefore, fostering creativity within these spaces is crucial for nurturing entrepreneurial intentions among students and preparing them for the evolving business landscape. The article concludes by emphasizing the importance of understanding the interplay between entrepreneurship spaces, creativity, and entrepreneurial intentions for designing effective entrepreneurship education programs and optimizing the impact of maker spaces in higher vocational colleges. It suggests that future research should explore contextual variations, long-term effects, curriculum integration, inclusivity, interdisciplinary collaboration, mentorship and support networks, measurement and assessment tools, collaborative research, and policy implications of entrepreneurship spaces in higher vocational colleges..

Keywords: *Maker space, Creativity, Entrepreneurial Willingness.*

Introduction

According to Bauman and Lucy (2021), the increasing prevalence of entrepreneurial activity and innovative thinking in today's economy has resulted in a refocused effort on educational programming geared toward aspiring business owners. Based on research by Tomy and Pardede (2020), higher vocational colleges have been an essential component in the process of equipping students with the knowledge, skills, and connections necessary to develop an interest in and capacity for entrepreneurship. Entrepreneurship spaces, also referred to as "maker spaces," are centres of invention and creative activity (Akhavan, 2021). As noted by Cui, Sun, and Bell (2021), these places provide students with a one-of-a-kind setting that encourages them to acquire an entrepreneurial mindset, which may in turn lead to the conception of new company concepts and plans.

This study focuses on the function that creativity plays as a mediator in the relationship between entrepreneurial intents and entrepreneurship spaces, despite the fact that previous research has been conducted and published on the role that entrepreneurial spaces play in the nurturing of entrepreneurial aspirations. As stated by Barinua and Ndukeuba (2022), creativity is regarded a key antecedent to entrepreneurial thinking because innovative and creative ideas typically serve as the foundation for new company endeavours. This study intends to contribute to the existing knowledge in the field of entrepreneurship education by gaining an understanding of how creativity mediates the relationship between entrepreneurial environments and entrepreneurial goals.

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Background of the Study

The 21st century has witnessed the emergence of entrepreneurship as a pivotal catalyst for both economic growth and innovation (Sergi et al., 2019). The cultivation of entrepreneurial capabilities, which extend beyond technical abilities and embrace a comprehensive entrepreneurial attitude, is a primary aim in modern education (Mawson, Casulli & Simmons, 2023). Boldureanu et al. (2020) assert that higher vocational institutions have acknowledged their significant contribution in equipping students with the necessary skills and knowledge to engage in entrepreneurial pursuits. This recognition places emphasis not only on theoretical understanding but also on the acquisition of practical experiences.

The incorporation of entrepreneurship spaces, also referred to as maker spaces, has emerged as a significant advancement in the realm of education (Akhavan, 2021). The purpose of these spaces is to foster experiential learning, facilitate cooperation, and promote innovative thinking (Cui, Sun, & Bell, 2021). The influence of entrepreneurship education on students' attitudes towards entrepreneurship is widely recognized, but the process by which it affects their entrepreneurial aspirations is intricate and diverse (Rodrigues et al., 2019). The primary objective of this publication is to examine the complex association between maker spaces and students' inclination to participate in entrepreneurial endeavours, with a particular emphasis on the role of creativity as a crucial mediating factor.

The rising quantity of peer-reviewed studies provides more support for the importance of maker spaces in influencing entrepreneurial inclinations inside higher vocational colleges. The study conducted by Choi and colleagues (2022) highlights the significant impact of adequately equipped maker spaces on enhancing students' inclination to engage in entrepreneurial pursuits. Unterfrauner, Voigt, and Hofer (2021) underscore the significance of maker spaces in influencing self-efficacy in entrepreneurship, emphasizing their considerable influence on students' self-assurance in their entrepreneurial competencies.

Furthermore, the research conducted by Tomlinson, Siivonen, and Laalo (2021) has examined the impact of maker spaces on students' entrepreneurial mindsets in the higher education setting, highlighting their ability to diminish perceived obstacles for prospective student entrepreneurs. Extensive research has been conducted to study the mediating role of creativity, which is considered a crucial factor in the relationship between entrepreneurship environments and entrepreneurial goals. The study conducted by Puccio et al. (2020) underscores the importance of creative thinking in the domains of problem-solving, idea development, and innovation, which are fundamental components of the entrepreneurial process. Soomro, Casakin, and Georgiev (2022) present empirical evidence that substantiates the impact of the environment on creativity. Their study demonstrates how entrepreneurship spaces establish an environment that facilitates the development of creative thinking.

Through the synthesis and integration of these study findings, our study seeks to make a valuable contribution to the scholarly understanding of the complex relationship between entrepreneurship spaces, creativity, and the entrepreneurial ambitions of students. The objective is to furnish educators, policymakers, and researchers with a thorough basis for formulating efficacious entrepreneurship education programs and enhancing the influence of maker spaces at higher vocational colleges.

Literature Review

Entrepreneurship Spaces and Education:

The incorporation of entrepreneurship spaces, often known as "maker spaces," into educational settings has become a highly attractive approach to promote entrepreneurial education (Akhavan, 2021). According to Akhavan (2021) and Cui, Sun & Bell (2021), these areas are carefully planned to foster creativity, teamwork, and problem-solving skills-qualities that are very supportive to entrepreneurial endeavours. The study by Ratten and Usmanij (2021) highlights the importance of entrepreneurship spaces, especially in higher vocational colleges, where they have been crucial in giving students practical experience in developing entrepreneurial ideas.

Jena (2020) explored the impact of entrepreneurship spaces on students' desire to start their own business in a groundbreaking study. Strong favourable correlations between these venues' existence and students' attitudes toward entrepreneurship were established by the research's convincing findings. The research highlights that entrepreneurial spaces are more than just physical infrastructure; they function as dynamic ecosystems that provide students with access to necessary resources, guidance, and a community of support. Morris, Santos, and Neumeyer (2020) have explained that this diverse support structure plays a major role in encouraging students to adopt a pro-entrepreneurship perspective.

Moreover, Bell, R., and Bell, 2020 emphasize the critical role that entrepreneurial spaces have in easing the transfer of knowledge from the classroom to real-world application. Their study emphasizes how vitally important these kinds of places are to bridging the knowledge gap between classroom instruction and practical entrepreneurial experiences. These areas, which provide students a chance to put their knowledge to use and demonstrate their business prowess, are becoming essential components of entrepreneurial education in higher vocational colleges (Orr, et al., 2020).

According to research by Cohen, Hsu, and Shinnar (2021), entrepreneurship spaces actively include students in the entrepreneurial process rather than being passive settings. These areas provide students with an engaging setting in which to test their business concepts, work together with classmates, and get advice from seasoned mentors. According to Bell, R. & Bell (2020), the influence goes beyond theoretical education and includes the growth of practical abilities including risk management, problem-solving, and critical thinking. These venues are catalysts for increasing students' entrepreneurial intents because they immerse them in an authentic entrepreneurial atmosphere (Towers et al., 2020).

Creativity and Entrepreneurship

The literature focuses on the mediating function of creativity in the relationship between entrepreneurial goals and entrepreneurship environments (Shi et al., 2020). Many eminent scholars have stressed the critical role that creativity plays in the entrepreneurial process, establishing it as an essential competency for the generation and implementation of creative business concepts.

The authors Duxbury (2021) and Wang, M., Soetanto, Cai, and Munir (2021) offer a thorough analysis of the importance of creativity in entrepreneurship. They contend that creativity is an essential component of entrepreneurial success rather than just a byproduct. The importance of creative thinking in the entrepreneurial process is highlighted by this statement.

Furthermore, Liang et al.'s (2019) research provides empirical evidence supporting the relationship between an individual's surroundings and creativity. They demonstrate via their work that creativity is highly influenced by environment and is not only an innate quality. Students' creativity can be fostered and enhanced in entrepreneurial spaces, which are recognized for their collaborative and resource-rich environments. These spaces are dynamic, multidisciplinary settings that promote experimenting, tweaking, and the search for new ideas. As a result, students' intentions to start their own businesses are positively impacted. According to Liang et al. (2019) and Iwara and Kilonzo (2022), the physical design of these venues as well as the dominant culture encourage alternative thinking and innovative problem-solving.

Additionally, by highlighting the complex interactions between creativity and innovation in the entrepreneurial process, Ferreira, Coelho and Moutinho (2020) and Pittaway et al. (2020) expand on this topic. In the end, they emphasize that these spaces are favourable not only to idea production but also to the conversion of creative conceptions into business realities. They draw attention to the role that entrepreneurship spaces play in cultivating both qualities among students.

According to Tricarico, Jones, and Daldanise (2022), entrepreneurial spaces actively foster innovation through their design and culture. Students are exposed to a variety of viewpoints, interdisciplinary collaboration is encouraged, and they are given the freedom and tools to try out their ideas. Students can come up with creative solutions to challenges in the real world in this setting, which fosters creativity and increases their desire to pursue entrepreneurial endeavours (Tan, 2021).

Entrepreneurial Willingness and Maker Spaces

Many studies have been conducted in the literature on the connection between maker spaces and students' propensity for entrepreneurship. Comprehensive studies by Andrews, Borrego, and Boklage (2021) and Dos Santos and Benneworth (2019) showed how involvement in maker space activities can significantly alter students' perceptions of their own ability to succeed as entrepreneurs. The idea that maker spaces and other entrepreneurial spaces are crucial in influencing students' views toward entrepreneurship is strongly confirmed by their findings.

Beavers et al.'s (2019) findings are consistent with a larger body of research that highlights the beneficial influence that maker spaces have on students' inclination toward entrepreneurship. Additional research sheds lighter on this connection. For example, Zhang, Zhou, and Shirshitskaia (2021) discovered a substantial positive correlation between maker space involvement and the development of an entrepreneurial attitude in a cross-sectional survey of students enrolled in maker space programs. The survey made clear that students who interacted with maker spaces showed a higher inclination to look into starting their own businesses.

Furthermore, Akhavan's (2021) and Bonnette's (2020) research explore the particular characteristics of maker spaces that influence their impact on entrepreneurial willingness. They discovered that two important elements that raised students' self-efficacy and persuaded them to think of entrepreneurship as a feasible career path were the collaborative character of maker spaces and the chance to engage on diverse projects.

A longitudinal viewpoint on the effects of maker spaces is offered by Barnecutt (2022) and Bhaskar, Baruch, and Gupta (2023). Students who had taken part in maker space activities were tracked throughout their academic careers in this study. The results showed that involvement in maker spaces has long-lasting consequences in addition to immediate ones. These students demonstrated greater levels of self-efficacy and entrepreneurial motivation even after their official education ended, indicating that maker spaces provide long-term benefits that support an entrepreneurial mindset.

Moreover, maker spaces provide a distinct, experiential learning environment that transcends traditional classroom settings, according to Kajamaa & Kumpulainen (2019). Students can experiment with prototypes, work on actual projects, and collaborate with mentors and peers in these places. Instilling a sense of readiness to take entrepreneurial initiatives, as well as boosting students' confidence in their capacity to negotiate the difficulties of entrepreneurship, are two benefits of this experiential learning approach (Chase, Bensimon & Robinson, 2021).

The lived experiences of students in maker spaces are explored in a qualitative study by Greenberg et al. (2019) and Fasso and Knight (2020). They discovered that students frequently talked about how these venues were transformative and crucial in helping to shape their entrepreneurial goals. They felt empowered and more confident in their capacity to pursue their business dreams when they witnessed their ideas come to life in a real way in a community that supported them. The assumption that entrepreneurship spaces have a significant impact on the future of entrepreneurship education in higher vocational institutions is supported by the empirical evidence, as they provide students with the necessary tools, experiences, and self-confidence to pursue entrepreneurial endeavours. Students' entrepreneurial attitude and preparedness to explore chances are eventually fostered by the practical, hands-on character of these spaces, which provides them with the skills, mindset, and drive necessary to face the hurdles of entrepreneurship (Reynolds, 2021).

Methodology

This journal's methodology comprised a thorough and methodical search of peer-reviewed publications on creativity, education, and entrepreneurship. Databases including PubMed, Google Scholar, JSTOR, and numerous academic journal databases were used to find pertinent papers. To guarantee a thorough investigation of the research issue, a mix of keywords, such as "maker space," "creativity," and "entrepreneurial willingness," were used in the search.

The chosen publications had to fulfil certain requirements in order to be included, such as being closely connected to the research topic, peer-reviewed, and published in respectable academic journals between 2019 and 2023 (for the most recent data). We considered articles that shed light on how entrepreneurship settings affect students' aspirations to start their own businesses, how creativity acts as a mediator, or how these elements interact. On the other hand, research that had nothing to do with the selected keywords, conference papers, non-peer reviewed sources, or sources released in a year earlier than 2019 were all disregarded.

The chosen publications were initially assessed for relevance to the research topic based on their titles and abstracts in order to further narrow the choices. After this preliminary screening, full-text publications were carefully examined to determine whether or not they should be included in the literature review. To make sure that the chosen publications made a significant contribution to our understanding of the connection between entrepreneurship spaces, creativity, and students' entrepreneurial intents, a thorough examination was carried out.

To highlight significant discoveries, techniques, and theoretical frameworks, information was taken from the chosen publications and arranged in an organized manner. After that, these data were combined to form a logical story that examined how entrepreneurship spaces affect students' aspirations to start their own businesses, with an emphasis on the mediating function of creativity.

Based on their primary conclusions, the chosen articles were further divided into themes or subtopics. The impact of entrepreneurship spaces on students' willingness to pursue entrepreneurship, the function of maker spaces in entrepreneurship education, and the effect of creativity on entrepreneurial aspirations were all included in these themes. To get a thorough grasp of the complex relationships found in the chosen literature, a thorough examination of these topics was carried out.

Results and Discussion

The results of this study provide strong evidence of a positive relationship between students' intentions to start their own businesses and the availability of maker spaces. This reinforces the important role that entrepreneurship spaces play in influencing students' attitudes toward entrepreneurship in higher vocational colleges. This link has become better understood due to several studies.

First, Tomy and Pardede's (2020) study explores how maker spaces affect students' aspirations to start their own businesses in the particular setting of higher vocational colleges. The results of the study show that students regularly expressed a greater willingness to investigate entrepreneurial endeavours when they had access to maker spaces that were sufficiently equipped and supported. The present finding is consistent with earlier studies, such as Boldureanu et al. (2020), which highlighted the role of entrepreneurship spaces in promoting a pro-entrepreneurial mindset among students by giving them access to resources, mentorship, and a supportive community.

Furthermore, studies conducted in 2019 by Beavers et al. and Zhang, Zhou, and Shirshitskaia (2021) highlight the transformational impact of maker space activities. Their results demonstrate the critical role maker spaces play in influencing students' self-efficacy in entrepreneurship, in addition to validating the favourable association between maker spaces and their entrepreneurial willingness. According to the data, students who interact with maker spaces often grow to have a strong feeling of self-assurance in their capacity to start their own businesses, which in turn increases their intentions to do so.

Furthermore, a study carried out in the context of higher education by Greenberg et al. (2019) and Fasso and Knight (2020) investigate the impact of maker spaces on students' views about entrepreneurship. The results of this study support the notion that maker spaces have a major influence on students' entrepreneurial intents because they offer a hands-on learning environment that mimics real-world entrepreneurial experiences. The study also emphasizes how important maker spaces are in helping prospective student entrepreneurs see fewer obstacles to entry, which in turn increases their motivation to follow entrepreneurial careers.

Additionally, our research demonstrated that creativity plays a mediation role in the relationship between entrepreneurship environments and entrepreneurial goals (Shi et al., 2020). This conclusion is supported by a number of important research, like Matthee and Turpin (2019), which highlight the crucial role that creativity plays as a major mechanism via which maker spaces influence students' entrepreneurial thinking.

According to Anjum et al. (2021), creativity is both an essential element of entrepreneurship and a key factor in its success. Their study emphasizes how important creative thinking is to innovation, idea generating, and issue solving—all crucial components of entrepreneurship. This viewpoint is consistent with our research, indicating that the innovative environment and tools found in maker spaces encourage students' creative thinking and mold their aspirations to become entrepreneurs.

Furthermore, research by Mahmood, Uddin, and Fan (2018) provides factual backing for the idea that people's environments have an impact on their creativity. Students can thrive in entrepreneurial settings because they offer a collaborative and resource-rich environment that fosters creativity (Clevenger & Munro, 2022). According to our research, these venues' physical design, the availability of a wide range of expertise, and the general culture foster innovative problem-solving and divergent thinking, which in turn stimulate entrepreneurial intents (Jardim, 2021).

All things considered, these results highlight the value of maker spaces in higher education vocational schools and the critical role they play in influencing students' perspectives on entrepreneurship. According to the research, these areas have several advantages, including lowering entrance barriers for would-be business owners, raising students' self-efficacy, and creating a creative atmosphere that encourages entrepreneurial thought. These realizations have consequences for educators, decision-makers, and organizations trying to foster an atmosphere that supports entrepreneurial education, ultimately helping to produce a workforce that is more creative and enterprising.

Implication for Future Research

Future research may examine how the influence of entrepreneurial spaces varies depending on the situation. Although the body of research already in existence provides a strong basis, it is crucial to take into account the institutional, cultural, and geographic variations that might affect how well entrepreneurship spaces influence students' aspirations to become entrepreneurs. Conducting comparative studies among various locations and establishments may provide insight into these contextual subtleties.

Future research should focus on examining the long-term impacts of entrepreneurship spaces on students' desire to start their own businesses and their actual success in doing so. It is possible to gain insight into the long-term effects of these places by following the paths of higher vocational college graduates who have been exposed to these spaces and examining their entrepreneurial endeavours, including start-up success rates and business sustainability.

Further investigation on the incorporation of entrepreneurial spaces into academic courses is recommended by researchers. Subsequent research endeavours may investigate the efficaciousness of particular methodologies and tactics in curriculum development that optimise the influence of said spaces on the creative and entrepreneurial inclinations of learners. Evaluating the results of creative teaching methods in maker spaces might provide educators with useful information.

Research ought to focus on issues of diversity and inclusivity in entrepreneurial environments. It is crucial to look into whether different student demographics (such as gender and socioeconomic status) benefit equally from these places and whether their accessibility is equitable. It would be extremely beneficial to conduct research on methods for motivating underrepresented populations to take up entrepreneurship in these settings.

Another intriguing direction is to investigate the function of interdisciplinary collaboration inside entrepreneurial environments. Subsequent research endeavours may explore the ways in which inter-

disciplinary student interactions impact creativity, ideation, and entrepreneurial inclination. Gaining knowledge of the dynamics of interdisciplinary cooperation in these settings may help to promote creativity.

Further investigation on the networks of mentorship and support that entrepreneurial spaces provide could be undertaken. It would be helpful to look into the effectiveness of networking opportunities, peer support networks, and mentoring programs in relation to students' aspirations and behaviours related to entrepreneurship. The optimization of mentorship and network growth can be guided by identifying best practices in these areas.

For the purpose of assessing how maker spaces and entrepreneurial spaces affect creativity and entrepreneurial ambitions, it is imperative to develop standardized measuring and assessment tools. To ensure the validity and reliability of these assessment instruments, future research might concentrate on improving them. This may result in a more dependable and substantial body of work on the subject.

A more comprehensive understanding of the effects of entrepreneurial spaces can be obtained through cooperative study involving several higher vocational colleges. Comparative research between different institutions can be used to find best practices and other elements that make these spaces effective, facilitating information exchange and well-informed decision-making.

Subsequent investigations ought to delve into the policy ramifications of integrating entrepreneurial areas within higher vocational colleges. Understanding how government regulations and funding contributed to the creation and viability of these venues will help determine how scalable and replicable successful models are.

Another line of inquiry is to comprehend the underlying behavioural and psychological characteristics of students in entrepreneurial environments. In order to gain a better grasp of the psychological aspects at work, future research can look into the motivation, risk tolerance, and decision-making processes of students participating in entrepreneurial activity in these settings.

Conclusion

In conclusion, creativity plays a complex mediating role in the significant influence that entrepreneurship spaces in higher vocational colleges have on students' aspirations to pursue entrepreneurship. The evaluation of studies in this study underscores the critical impact that these venues have in influencing students' perspectives on entrepreneurship. It also emphasizes the importance of creativity as a major method by which these environments affect the objectives and ways of thinking of entrepreneurs.

This study emphasizes how critical it is to support creativity in these entrepreneurial environments. It highlights that in order to fully realize the potential of these places to foster students' entrepreneurial ambitions, a creative environment along with experiential learning opportunities is essential. As a catalyst, creativity promotes creative problem-solving, idea development, and innovative thinking—all essential components of the entrepreneurial path. The formation of an entrepreneurial attitude is greatly aided by the creative environment found in maker spaces, as demonstrated by the studies included in this publication.

Higher vocational colleges continue to play a crucial role in fostering the next generation of entrepreneurs as the global economy changes and adapts to the opportunities and challenges of the twenty-first century. These establishments function as centres from which perspective business owners can obtain the tools, guidance, and innovative settings required to realize their goals. Teachers, lawmakers, and other institutions can better prepare students for the needs of a business environment that is changing quickly by comprehending the complex interactions that exist between entrepreneurship spaces, creativity, and students' willingness to take risks.

It is clear from this changing environment that entrepreneurship education must be flexible and progressive. Higher vocational colleges may play a proactive role in providing students with the necessary skills and mindset to effectively traverse the changing entrepreneurial landscape by acknowledging the many benefits

of maker spaces and other entrepreneurship environments. The results of this study further highlight the necessity of funding and supporting these spaces on a continuous basis in order to keep them at the forefront of encouraging students' entrepreneurial aspirations and making a positive impact on a society that values innovation and entrepreneurship.

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