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ARTICLE

Research as a Veritable Tool for Enhancing Students' Job Creation in the 21st Century University Education

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ABSTRACT

This study explores the role of research as a tool for enhancing students' job creation in the context of 21st-century university education. The survey research design was the approach used for this investigation. The researcher created a questionnaire to collect pertinent data for the study from 200 respondents. The questionnaire was duly validated by 3 experts. The internal reliability of the instrument was examined in this study using Cronbach's alpha (α). Cronbach's alpha method is able to determine the correlation between the outcomes of each test item and the test's total score. Google Forms was used to deliver the survey to the respondents electronically. A statistical package was used to calculate the mean and standard deviation. The study hypotheses were also investigated using inferential statistics (t-test) with 198 degrees of freedom and a 0.05 threshold of significance. To determine whether to accept or reject the null hypothesis, the critical value and estimated t-value are compared. Findings suggest that research-oriented education positively impacts students' ability to create job opportunities in the 21st century. Engaging in research projects fosters critical thinking, creativity, and adaptability among students, enabling them to identify and capitalize on emerging trends and market gaps. Furthermore, the study reveals the significance of university-industry collaborations and mentorship programs in enhancing students' entrepreneurial skills and connecting them with practical resources and networks. The implications of this research are significant for educational policymakers, university administrators, and curriculum developers, as it underscores the importance of incorporating research as an integral component of 21st-century university education.

1. Introduction

In the 21st century, university education plays a crucial role in equipping students with the knowledge and skills necessary to thrive in an increasingly competitive job market. As the world rapidly evolves, traditional job-seeking strategies are no longer sufficient. It is becoming essential for universities to embrace innovative approaches that foster students' job creation abilities, enabling them to become entrepreneurs and contributors to the economy (Alzghoul, Algraibeh, Khawaldeh, Khaddam, & Al-Kasasbeh, 2023).[2] Job creation is a deliberate effort made by individuals, corporate bodies, and the government to generate employment of different types for unemployed citizens in the economy. The concept of job creation is an important issue that affects individuals, businesses,

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and society as a whole. It refers to the process of creating employment opportunities that can be filled by workers who are looking for jobs (Dosi, Piva, Virgillito, & Vivarelli, 2021).[6] The current higher education system often focuses on preparing students for traditional employment rather than cultivating their entrepreneurial mindset and job creation capabilities. As a result, many graduates struggle to find suitable job opportunities in an already saturated job market. This issue calls for a shift in educational paradigms, with universities taking on a more active role in nurturing students' entrepreneurial potential and empowering them to create their own job opportunities.

Today, universities are increasingly recognized as powerful catalysts for job creation and economic growth. As the global economy evolves, there is a growing emphasis on nurturing entrepreneurial mindsets and equipping students with the skills and knowledge to drive innovation, create employment opportunities, and contribute to sustainable development (Røyrvik, 2022).[12] In this context, research emerges as a veritable tool for enhancing students' job creation in university education. The objective of this study is to delve into the pivotal role that research plays in empowering students to become job creators and entrepreneurs in the 21st century. By examining the relationship between research activities and job creation, this study aims to shed light on the strategies, mechanisms, and best practices that universities can employ to effectively leverage research for the benefit of students and society at large (Murphy & Dyrenfurth, 2019).[10]

Research findings and innovations generated within universities possess immense potential for job creation and economic growth. Through rigorous investigations, researchers have the opportunity to identify and address critical challenges faced by industries, societies, and economies. These research-based solutions can pave the way for the emergence of new job opportunities, the establishment of innovative enterprises, and the stimulation of economic ecosystems (Nagajayanthi, 2022).[11] By prioritizing research activities that have the potential to lead to job creation and entrepreneurship, universities can actively contribute to nurturing a skilled workforce that meets the evolving demands of industries and contributes to national and global economic development. Developing a strong entrepreneurial mindset and an innovation-oriented approach is crucial for students to effectively utilize research for job creation (João & Silva, 2020).[8] Research activities provide students with opportunities to engage in critical thinking, problem-solving, and creative exploration. These skills are fundamental for identifying market gaps, conceptualizing novel ideas, and translating research findings into tangible entrepreneurial ventures. Moreover, research fosters a culture of continuous learning, adaptability, and resilience, which are indispensable for navigating the complexities of entrepreneurship in the rapidly evolving business landscape.

Collaboration and networking opportunities with researchers, industry partners, and entrepreneurs play a significant role in enhancing students' job creation abilities through research. By fostering collaboration, universities provide students with access to a diverse range of perspectives, expertise, and resources. Engaging in interdisciplinary research projects allows students to explore multiple facets of complex challenges, refine their ideas, and gain exposure to different industries and domains (De-Jager, Mthembu, Ngowi & Chipunza, 2017).[5] Moreover, university-industry partnerships facilitate the transfer of knowledge, technology, and resources, enabling students to bridge the gap between academia and the real-world business environment (João & Silva, 2018).[7] Engaging in research activities also enhances students' critical thinking and problem-solving skills, which are essential for job creation. Through research-based projects and assignments, students learn to identify problems, design appropriate methodologies, analyze data, and draw evidence-based conclusions (Mälkki & Alanne, 2017).[9] These experiences nurture their ability to think critically, evaluate information, and develop innovative solutions to pressing societal and industrial challenges. Furthermore, research activities encourage students to be curious, ask probing questions, and adopt a proactive approach to knowledge acquisition. These attributes are highly valued in entrepreneurial endeavors, where students must identify opportunities, evaluate risks, and make informed decisions.

To maximize the potential of research for job creation, universities should create an entrepreneurial ecosystem that supports students' initiatives. Providing access to entrepreneurial education and training programs is essential for equipping students with the necessary knowledge, skills, and mindset for entrepreneurship (Choi & Markham, 2019).[3] Entrepreneurial education exposes students to concepts such as opportunity identification, business planning, market analysis, financial management, and marketing strategies. By integrating entrepreneurial education into the curriculum, universities can instill a culture of entrepreneurship and equip students with the tools and resources they need to transform their research findings into viable businesses. Creating support mechanisms and structures that facilitate students'

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entrepreneurial ventures and job creation initiatives is crucial (Sanyal & Hisam, 2018).[13] Dedicated spaces, such as incubators or innovation hubs, provide students with a supportive environment to nurture their ideas, receive mentorship, access funding opportunities, and collaborate with like-minded individuals. These spaces serve as a bridge between academia and industry, facilitating the translation of research outcomes into practical applications and commercial ventures.

Therefore, by prioritizing research activities, fostering an entrepreneurial mindset, providing collaboration and networking opportunities, and creating supportive ecosystems, universities can empower students to leverage research for job creation and entrepreneurship. Embracing research as a core component of university education not only equips students with the necessary skills and knowledge but also contributes to economic growth, innovation, and societal progress (Cook-Sather & Loh, 2023).[4] This study aims to delve into these dimensions and shed light on the strategies and best practices that universities can adopt to effectively utilize research as a tool for enhancing students' job creation in the dynamic landscape of the 21st century. This study holds significant implications for university administrators, policymakers, educators, and students. By exploring the role of research as a veritable tool for enhancing students' job creation abilities, this research will shed light on innovative approaches to empower students and equip them with the skills and mindset needed to thrive in the 21st-century job market. The findings and recommendations of this study can guide universities in designing curricula, programs, and support systems that foster an entrepreneurial spirit and job creation mindset among students.

2. Method

The survey research design was the approach used for this investigation. The research area was the Anambra State, Nigeria. The population comprised of 136 students and 64 lecturers from the 3 public tertiary institutions in Anambra state namely Nnamdi Azikiwe University, Awka: Established in 1992, Nnamdi Azikiwe University (UNIZIK), Chukwuemeka Odumegwu Ojukwu University, Igbariam and Federal Polytechnic, Oko. The researcher created a questionnaire to collect pertinent data for the study. The replies to the questionnaire were created using a 4-point Likert scale, with 4 denoting "Strongly Agree," 3 agreeing, 2 disagreeing, and 1 strongly disagreeing. The questionnaire was duly validated by 3 experts.

The internal reliability of the instrument was examined in this study using Cronbach's alpha (α). Cronbach's alpha method is able to determine the correlation between the outcomes of each test item and the test's total score. The Cronbach's alpha value for this instrument is 0.88, which is regarded as appropriate for the study. The participants gave their opinions in response to the remarks, basing their decisions on those opinions. Google Forms was used to electronically deliver the survey to the respondents. A statistical package was used to calculate the mean and standard deviation. Using inferential statistics (t-test) with 198 degrees of freedom and a 0.05 threshold of significance, the study hypotheses were also investigated. To determine whether to accept or reject the null hypothesis, the crucial value and estimated t-value are compared. The null hypothesis is accepted if the absolute calculated t-value is lower than the critical t-value; alternatively, it is rejected if the absolute computed t-value is greater than the critical t-value.

3. Objectives of the Study

The main objectives of this study are as follows:

1. To explore the relationship between research and job creation in the 21st-century context of university education.
2. To identify the key factors that contribute to enhancing students' job creation abilities through research.
3. To examine the role of universities in fostering an entrepreneurial ecosystem that supports students' job creation initiatives.
4. To propose strategies and recommendations for integrating research as a veritable tool for enhancing students' job creation in the university curriculum.

4. Research Questions

To guide this study, the following research questions will be addressed:

1. What is the relationship between research and job creation in the 21st-century context of university education?
2. What are the key factors that contribute to enhancing students' job creation abilities through research?
3. How can universities foster an entrepreneurial ecosystem that supports students' job creation initiatives?
4. What strategies for integrating research as a veritable tool for enhancing students' job creation in the university curriculum?

5. Research Hypotheses

H1. There is no significant difference in the mean scores of students and lecturers regarding the key factors that contribute to enhancing students' job creation abilities

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through research

H2. There is no significant difference in the mean scores of students and lecturers on how universities can foster an entrepreneurial ecosystem that supports students' job creation initiatives

H3. There is no significant difference in the mean scores of students and lecturers regarding strategies for integrating research as a veritable tool for enhancing students' job creation in the university curriculum

6. Results

Table 1: Demographic Information

Variables	Level	Frequency	Percentage
Gender	Male	96	48
	Female	104	52
	Total (N)	200	100
Role	Student	136	68
	Lecturer	64	32
	Total (N)	200	100

Table 1 presents demographic information regarding gender and role distribution among a sample of 200 individuals. The gender distribution reveals that out of the total sample, 48% are male (96 individuals) and 52% are female (104 individuals). This suggests a relatively balanced representation of genders within the sample. Regarding roles, the majority of the sample consists of students, accounting for 68% (136 individuals). On the other hand, lecturers at the rank of Lecturer make up 32% of the sample (64 individuals). This distribution indicates that students are the predominant group in the sample, while lecturers at the Lecturer level form a smaller proportion.

Research Question 1: What is the relationship between research and job creation in the 21st-century context of university education?

Table 2 showed the relationship between research and job creation in the 21st-century context of university education. The result in table 1 above revealed that research findings and innovations generated within universities can create new job opportunities and stimulate economic growth (L=3.07, S=3.35). Meanwhile, universities foster collaboration between researchers, industry partners, and entrepreneurs to enhance job creation efforts (L=2.80, S=3.10). However, the respondents rejected that research conducted in university education plays a significant role in job creation in the 21st century (L=2.40, S=2.58). On the whole, items 2, 3 and 5 yield a mean scores of 2.60, 3.07 and 2.80 corresponding to standard deviations of 1.20, 1.06 and 1.22 were accepted, whereas item 1 and 4 with mean score of 2.40 and 1.63 to standard deviation 1.05 both were rejected respectively by the lecturers, while item 1

Table 2: Mean rating and standard deviation on the relationship between research and job creation in the 21st-century context of university education.

S/N	Items	Lecturers (L)			Students (S)		
		$\bar{x}$	Std Dev	Decision	$\bar{x}$	Std Dev	Decision
1	Research conducted in university education plays a significant role in job creation in the 21st century	2.40	1.05	Rejected	2.58	1.12	Accepted
2	Universities should prioritize research activities that have the potential to lead to job creation and entrepreneurship.	2.60	1.20	Accepted	3.10	1.14	Accepted
3	Research findings and innovations generated within universities can create new job opportunities and stimulate economic growth	3.07	1.06	Accepted	3.35	0.96	Accepted
4	Universities provide adequate support and resources for research activities that aim to promote job creation and entrepreneurship	1.63	1.05	Rejected	3.58	0.89	Accepted
5	Universities foster collaboration between researchers, industry partners, and entrepreneurs to enhance job creation efforts	2.80	1.22	Accepted	3.10	1.18	Accepted
		2.5	1.116		3.142	1.058	

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to 5 has mean scores of 2.58, 3.10, 3.35, 3.58 and 3.10 corresponding to standard deviations of 1.12, 1.14, 0.96, 0.89 and 1.18 were accepted respectively by the students.

Research Question 2: What are the key factors that contribute to enhancing students' job creation abilities through research?

The result in table 3 revealed that collaboration and networking opportunities with other students, researchers, and industry partners play a significant role in enhancing students' job creation abilities through research (L=3.43, S=2.90). However, engaging in research activities enhances students' critical thinking and problem-solving skills, which are essential for job creation (L=2.83, S=2.73). Researches involving the design of a curriculum that incorporates the needs of students' job creation abilities (L=2.40, S=3.25). In all, items 6 to 10 yield mean scores above 2.50 and were all accepted corresponding to standard deviations of 1.24, 1.20, 1.06 and 0.99 but item 9 with mean score of 2.40 and standard deviation of 1.25 was rejected in that order by the lecturers. While, items 6 to 10 yield mean scores above 2.50corresponding to standard deviations of 1.16, 1.20, 0.96, 0.66 and 1.13 and were all accepted by the students..

Research Question 3: How can universities foster an entrepreneurial ecosystem that supports students' job creation initiatives?

Table 4 showed how universities can foster an entrepreneurial ecosystem that supports students' job creation initiatives. Providing access to entrepreneurial education and training programs is essential for fostering an entrepreneurial ecosystem in universities (L=2.93, S=3.15). Creating support mechanisms to students to facilitate their entrepreneurial ventures and job creation initiatives (L=2.88, S=3.26). Nevertheless, collaboration between academia, industry, and government entities is crucial in creating an entrepreneurial ecosystem that supports students' job creation initiatives (L=2.67, S=2.30). In all, items 11, 12, 13, 14 and 15 has mean score above 2.50 corresponding to standard deviation of 1.07, 1.18, 1.11, 1.04 and 0.98 were all accepted by the lecturers. While items 11, 12 and 15 has mean score above 2.50 corresponding to standard deviation of 2.90, 3.15 and 3.26 and was accepted. But items 13 and 14 with mean scores of 2.30 and 2.39 and standard deviation of 1.17 and 0.94 were rejected respectively by the students.

Research Question 4: What strategies for integrating research as a veritable tool for enhancing students' job creation in the university curriculum?

Table 5 above showed the strategies for integrating research as a veritable tool for enhancing students' job creation in the university curriculum. One of the strategies for integrating research as a veritable tool for enhancing students' job creation in the university curriculum is to create dedicated spaces or incubators within the

Table 3: Mean and standard deviation on key factors that contribute to enhancing students' job creation abilities through research.

S/N	Items	Lecturers (L)			Students (S)		
		$\bar{x}$	Std Dev	Decision	$\bar{x}$	Std Dev	Decision
6	Engaging in research activities enhances students' critical thinking and problem-solving skills, which are essential for job creation	2.83	1.24	Accepted	2.73	1.16	Accepted
7	Access to mentorship and guidance from experienced researchers and industry professionals contributes to students' job creation abilities through research	2.60	1.20	Accepted	2.95	1.20	Accepted
8	Developing a strong entrepreneurial mindset and innovation-oriented approach is crucial for students to effectively utilize research for job creation	3.07	1.06	Accepted	3.35	0.96	Accepted
9	Collaboration and networking opportunities with other students, researchers, and industry partners play a significant role in enhancing students' job creation abilities through research	3.43	0.99	Accepted	2.90	0.66	Accepted
10	Researches involving the design of a curriculum that incorporates the needs of students' job creation abilities	2.40	1.25	Rejected	3.25	1.13	Accepted
		2.866	1.148		3.142	1.058	

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Table 4: Mean and standard deviation on how universities can foster an entrepreneurial ecosystem that supports students' job creation initiatives.

S/N	Items	Lecturers (L)			Students (S)		
		$\bar{x}$	Std Dev	Decision	$\bar{x}$	Std Dev	Decision
11	Universities should prioritize creating an entrepreneurial ecosystem that supports students' job creation initiatives	2.83	1.07	Accepted	2.90	1.16	Accepted
12	Providing access to entrepreneurial education and training programs is essential for fostering an entrepreneurial ecosystem in universities	2.93	1.18	Accepted	3.15	1.15	Accepted
13	Collaboration between academia, industry, and government entities is crucial in creating an entrepreneurial ecosystem that supports students' job creation initiatives.	2.67	1.11	Accepted	2.30	1.17	Rejected
14	Access to funding and resources specifically designated for supporting students' entrepreneurial ventures is necessary for fostering an entrepreneurial ecosystem in universities.	2.68	1.04	Accepted	2.39	0.94	Rejected
15	Creating support mechanisms to students to facilitate their entrepreneurial ventures and job creation initiatives	2.88	0.98	Accepted	3.26	0.96	Accepted
		2.798	1.076		2.8	1.076	

Table 5: Mean and standard deviation of strategies for integrating research as a veritable tool for enhancing students' job creation in the university curriculum.

S/N	Items	Lecturers (L)			Students (S)		
		$\bar{x}$	Std Dev	Decision	$\bar{x}$	Std Dev	Decision
16	Incorporating research-based projects and assignments into the curriculum can enhance students' job creation abilities.	2.97	1.08	Accepted	2.95	1.16	Accepted
17	Providing mentorship and guidance from experienced researchers and industry professionals is crucial for integrating research as a tool for enhancing students' job creation.	2.73	1.24	Accepted	3.20	1.12	Accepted
18	Establishing partnerships and collaborations with industry and government entities can facilitate the integration of research into the curriculum to enhance students' job creation abilities.	2.63	1.14	Accepted	2.43	1.07	Rejected
19	Offering specialized courses or programs focused on entrepreneurship and innovation can effectively integrate research as a tool for enhancing students' job creation.	2.51	1.06	Accepted	2.51	0.95	Accepted
20	Create dedicated spaces or incubators within the university to support student startups and entrepreneurial ventures	3.28	0.95	Accepted	2.68	0.64	Accepted
		2.824	1.094		2.754	0.988	

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university to support student startups and entrepreneurial ventures (L=3.28, S=2.68). It is obvious that establishing partnerships and collaborations with industry and government entities can facilitate the integration of research into the curriculum to enhance students' job creation abilities (S=2.63, S=2.43). Again, providing mentorship and guidance from experienced researchers and industry professionals is crucial for integrating research as a tool for enhancing students' job creation (L=2.73, S=3.20). On the whole, items 16 to 20 with mean score above 2.50 corresponding to standard deviations of 1.08, 1.24, 1.14, 1.06 and 0.95 were all accepted by the lecturers. While items 16, 17, 19 and 20 yields mean scores of 2.95, 3.20, 2.51 and 2.68 corresponding to standard deviations of 1.16, 1.12, 0.95 and 0.64 were accepted, while item 18 with mean score of 2.43 and standard deviation of 1.07 was rejected respectively by the students.

Hypothesis 1: There is no significant difference in the mean scores of students and lecturers regarding the key factors that contribute to enhancing students' job creation abilities through research

Table 6 shows that at 0.05 level of significance and at 198 degree of freedom, the calculated t = 1.626 and critical t = 1.653. Since the calculated t value (1.626) is slightly less than the critical value (1.653) at df 198 and 0.05 level of significant, we accept the null hypothesis and conclude that there is no significant difference in the mean scores of students and lecturers regarding the key factors that contribute to enhancing students' job creation abilities through research.

Hypothesis 2: There is no significant difference in the mean scores of students and lecturers on how universities can foster an entrepreneurial ecosystem that supports students' job creation initiatives

Table 7 shows that at 0.05 level of significance and at 198 degree of freedom, the calculated t = 0.0123 and critical t = 1.653. Since the calculated t value (0.0123) is less than the critical value (1.653) at df 198 and 0.05 level of significant, we accept the null hypothesis and conclude that there is no significant difference in the mean scores of students and lecturers on how universities can foster an entrepreneurial ecosystem that supports students' job creation initiatives.

Hypothesis 3: There is no significant difference in the mean scores of students and lecturers regarding strategies for integrating research as a veritable tool for enhancing students' job creation in the university curriculum

Table 8 shows that at 0.05 level of significance and at 198 degree of freedom, the calculated t = 0.435 and critical t = 1.653. Since the calculated t value (0.435) is less than the critical value (1.653) at df 198 and 0.05 level of significant, we accept the null hypothesis and conclude that there is no significant difference in the mean scores of students and lecturers regarding strategies for integrating research as a veritable tool for enhancing students' job creation in the university curriculum.

Table 6 t-test Analysis on difference in the mean scores of students and lecturers regarding the key factors that contribute to enhancing students' job creation abilities through research

Role	*n*	$\bar{x}$	SD	t-cal	t-crit	df	sig.	Dec.
Students	136	3.142	1.058					
				1.626	1.653	198	.106	Not Sig.
Lecturers	64	2.866	1.148					

Table 7 t-test Analysis on difference in the mean scores of students and lecturers on how universities can foster an entrepreneurial ecosystem that supports students' job creation initiatives

Role	*n*	$\bar{x}$	SD	t-cal	t-crit	df	sig.	Dec.
Students	136	2.798	1.076					
				0.0123	1.653	198	.106	Not Sig.
Lecturers	64	2.8	1.076					

Table 8 t-test Analysis on difference in the mean scores of students and lecturers regarding strategies for integrating research as a veritable tool for enhancing students' job creation in the university curriculum

Role	*n*	$\bar{x}$	SD	t-cal	t-crit	df	sig.	Dec.
Students	136	2.754	0.988					
				0.435	1.653	198	.106	Not Sig.
Lecturers	64	2.824	1.094					

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6. Discussion of Results

Research question 1 sought to find out the relationship between research and job creation in the 21st-century context of university education. Prioritizing research activities that have the potential to lead to job creation and entrepreneurship can bring numerous benefits to universities, industries, and the broader economy (Mälkki & Alanne, 2017).[9] By focusing on research that has practical applications and commercial viability, universities can play a vital role in driving economic growth and addressing societal challenges. When universities prioritize research with a direct impact on job creation, they can generate innovative ideas, technologies, and solutions that have the potential to transform industries. By fostering collaboration between researchers, industry partners, and entrepreneurs, universities can create a dynamic ecosystem where ideas can be shared, tested, and refined. This collaboration according to Sanyal and Hisam (2018)[13] can lead to the development of new products, services, and processes that not only create job opportunities but also enhance competitiveness and productivity within industries. Moreover, the knowledge and expertise gained from research activities can empower students and researchers to become entrepreneurs themselves (Azonuche & Umeri, 2012)[14]. Universities can provide support structures, such as entrepreneurship programs and incubators, that help students and researchers turn their ideas into viable businesses (De-Jager, Mthembu, TNgowi & Chipunza, 2017).[5] By encouraging entrepreneurial activities, universities can cultivate a culture of innovation, risk-taking, and creativity among their students and faculty, which are essential traits for driving economic growth in the modern knowledge-based economy. Additionally, universities that prioritize research with job creation potential can attract industry partnerships and investments (Dosi, Piva, Virgillito & Vivarelli, 2021).[6] Industry collaborations can provide researchers with valuable insights into real-world problems and challenges, enabling them to conduct research that is more relevant and applicable to industry needs. This, in turn, increases the likelihood of research findings being successfully translated into commercial products or services, resulting in job creation and economic impact.

Research question 2 covered the key factors that contribute to enhancing students' job creation abilities through research. The result showed that developing a strong entrepreneurial mindset and an innovation-oriented approach among students is vital for effectively utilizing research for job creation. Murphy and Dyrenfurth (2019)[10] upheld that universities play a crucial role in nurturing and fostering these qualities in their students through various initiatives and programs. When students engage in research activities, they are exposed to real-world problems and challenges that require critical thinking and problem-solving skills. Research allows them to delve deep into a subject, analyze data, and develop innovative solutions. This process enhances their ability to think creatively, identify opportunities, and come up with novel ideas that have the potential to create jobs and drive entrepreneurship. Furthermore, Aksoy, Pulizzotto, and Beaudry (2022)[1] suggested that research activities often require students to collaborate with other students, researchers, and industry partners. Such collaborations provide valuable networking opportunities that can facilitate job creation. Through collaborations, students can gain exposure to different perspectives, expertise, and resources. They can learn from their peers, share ideas, and gain insights from industry professionals. These interactions not only broaden their knowledge but also enable them to build relationships that may lead to future job opportunities or entrepreneurial ventures. Moreover, research activities encourage students to be proactive and self-driven. They learn to take ownership of their work, set goals, and manage their time effectively. These skills are essential for entrepreneurship, as entrepreneurs need to be self-motivated, proactive, and capable of managing their ventures. By engaging in research, students develop a sense of initiative, resilience, and perseverance, which are crucial attributes for success in entrepreneurial endeavors. Additionally, research activities often involve interdisciplinary collaboration and exposure to diverse fields of study. This multidisciplinary approach according to Mälkki and Alanne (2017)[9] enhances students' ability to connect different domains of knowledge, think critically across disciplines, and identify innovative solutions. Such cross-pollination of ideas and skills is essential for fostering innovation and generating groundbreaking research outcomes that can lead to job creation.

Research question 3 examined how universities can foster an entrepreneurial ecosystem that supports students' job creation initiatives. Universities should prioritize creating an entrepreneurial ecosystem that supports students' job creation initiatives. This involves providing access to entrepreneurial education and training programs, as well as creating support mechanisms to facilitate students' entrepreneurial ventures and job creation initiatives. Entrepreneurial education and training programs according to João and Silva (2018)[7] are crucial for equipping students with the knowledge and skills necessary to succeed in their entrepreneurial

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endeavors. Universities can offer courses, workshops, and mentorship programs focused on entrepreneurship, business development, and innovation. These programs provide students with practical knowledge about starting and running businesses, understanding market dynamics, financial management, and marketing strategies. By integrating entrepreneurial education into the curriculum, João and Silva (2020)[8] maintained that universities can empower students with the foundational knowledge and skills they need to translate their research findings into viable job creation opportunities. Creating a supportive environment for entrepreneurial initiatives is equally important. Universities can establish incubators, accelerators, and entrepreneurship centers that provide resources, mentorship, and networking opportunities for students. These support mechanisms enable students to access funding, mentorship from industry experts, and connections with potential investors and partners (Aksoy, Pulizzotto & Beaudry, 2022).[1]By fostering collaboration and networking within the entrepreneurial ecosystem, universities create an environment where students can validate their ideas, refine their business plans, and receive guidance and support as they navigate the complexities of starting a venture. Moreover, universities can actively engage with industry partners and alumni networks to provide students with real-world exposure and opportunities. Collaborations with industry professionals and alumni can lead to internships, mentorship programs, and even investment opportunities for students' entrepreneurial initiatives. By leveraging these networks, universities bridge the gap between academia and industry, enabling students to access industry knowledge, resources, and market insights that are critical for successful job creation endeavors.

Research question 4 sought to find out th strategies for integrating research as a veritable tool for enhancing students' job creation in the university curriculum. Incorporating research-based projects and assignments into the curriculum is a powerful way to enhance students' job creation abilities. By integrating research into the learning process, universities can provide students with practical experiences that bridge the gap between theory and real-world application (Cook-Sather & Loh, 2023).[4] Research-based projects allow students to apply their knowledge and skills in a practical context, fostering critical thinking, problem-solving, and innovation—all essential skills for job creation. When students engage in research-based projects, they gain hands-on experience in identifying problems, conducting rigorous investigations, and developing solutions. This process enables them to develop a deep understanding of the subject matter, refine their analytical abilities, and enhance their ability to generate innovative ideas. Research projects also encourage students to collaborate, communicate effectively, and work in teams—skills that are vital for entrepreneurial success. Furthermore, Alzghoul, Algraibeh, Khawaldeh, Khaddam and Al-Kasasbeh (2023)[2] reported that mentorship and guidance from experienced researchers and industry professionals play a critical role in integrating research as a tool for enhancing students' job creation abilities. Mentors can provide valuable insights, advice, and guidance throughout the research process, helping students navigate challenges and refine their ideas. Mentorship also exposes students to different perspectives, expands their network, and provides them with valuable industry knowledge. By connecting students with mentors who have expertise in their field of interest or entrepreneurial ventures, universities can further enhance students' job creation abilities and increase their chances of success. Additionally, Sanyal and Hisam (2018)[7] suggested that creating dedicated spaces or incubators within the university to support student startups and entrepreneurial ventures is essential. These spaces provide students with a supportive environment where they can turn their research findings, innovative ideas, or business plans into tangible ventures. Incubators offer resources, infrastructure, and mentorship tailored to the unique needs of student entrepreneurs, helping them navigate the challenges of launching and growing a startup. Moreover, these dedicated spaces foster a sense of community and collaboration among student entrepreneurs, enabling them to learn from and support one another.

7. Conclusion

In conclusion, research serves as a veritable tool for enhancing students' job creation in the 21st century university education. This study has highlighted several key points that underscore the importance of research in fostering job creation and entrepreneurship among students. Firstly, universities should prioritize research activities that have the potential to lead to job creation and entrepreneurship. The findings and innovations generated within universities can create new job opportunities and stimulate economic growth. By aligning research activities with the needs and demands of industries, universities can actively contribute to the development of a skilled workforce and address societal challenges. Secondly, developing a strong entrepreneurial mindset and innovation-oriented approach is crucial for students to effectively utilize research for job creation. Research activities enhance students' critical thinking and problem-solving skills, which are essential for identifying

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opportunities and developing innovative solutions. Collaboration and networking opportunities with researchers, industry partners, and entrepreneurs further enhance students' job creation abilities through research.

Moreover, incorporating research-based projects into the curriculum and providing mentorship and guidance from experienced researchers and industry professionals are essential elements of leveraging research for job creation. These initiatives provide students with practical experiences, access to resources, and valuable insights, empowering them to translate their research findings into viable job creation opportunities. Additionally, creating dedicated spaces or incubators within universities to support student startups and entrepreneurial ventures is vital. These spaces provide the necessary resources, infrastructure, and support mechanisms to foster entrepreneurial initiatives and facilitate the growth of student-led ventures. Overall, research serves as a catalyst for job creation in the 21st century university education. By integrating research activities, fostering an entrepreneurial mindset, providing mentorship and guidance, and creating supportive environments, universities can empower students to utilize research as a tool for job creation and entrepreneurship. Embracing research as a core component of university education not only equips students with the necessary skills and knowledge but also contributes to economic growth, innovation, and societal progress.

Recommendations

Based on the findings and implications of the study on research as a tool for enhancing students' job creation in 21st-century university education, the following recommendations are put forth:

1. Integration of research in the curriculum: Universities should prioritize the integration of research activities throughout the curriculum, across various disciplines.

2. Faculty training and support: Universities should provide faculty members with training and support to develop their research skills and adopt innovative teaching methods that promote research-oriented learning.

3. Strengthen university-industry partnerships: Establishing strong partnerships between universities and industries is crucial for fostering job creation among students.

4. Entrepreneurship education and support: Universities should offer comprehensive entrepreneurship education and support services to foster an entrepreneurial mindset among students.

5. Alumni engagement and networking: Universities should actively engage their alumni network, particularly those who have successfully established their own businesses.

6. Continuous evaluation and improvement: Universities should establish mechanisms to continuously evaluate and improve the effectiveness of research-oriented education in enhancing students' job creation potential.

By implementing these recommendations, universities can create an ecosystem that nurtures students' entrepreneurial spirit, fosters innovation, and equips them with the skills and mindset required to succeed as job creators in the rapidly evolving 21st-century job market.

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