



Approaches to Integrating Entrepreneurial Education into School Curriculum

^{1*} Kofi Nkonkonya Mpuangnan, ¹Samantha Govender, ¹Hlengiwe Romualda Mhlongo

¹ University of Zululand, South Africa

Article Info

Keywords:

Education
Entrepreneurship
School curriculum
Pedagogical approaches
Integration

ABSTRACT

In recent years, many developing nations have been grappling with an uprising in unemployment rates, prompting a need for comprehensive solutions. Addressing this issue requires a multifaceted strategy, notably exposing students to entrepreneurship early in their education journey, setting the stage for their preparedness and forward-thinking mindset. Therefore, this study focuses on the incorporation of entrepreneurial teachings in school curricula, examining how to foster an entrepreneurial mindset among students and evaluating the effectiveness of pedagogical approaches in promoting entrepreneurship. To achieve this aim, a thorough systematic literature review was conducted, drawing on Human Capital Theory as its foundation. The search encompassed scholarly publications from major publishers like Sage, Taylor and Francis, Emirate, and Springer, spanning from 1965 to 2023. Focused on cultivating an entrepreneurial mindset in learners and enhancing entrepreneurship through pedagogical strategies, the research uncovered vital insights. Key findings highlighted that an entrepreneurial mindset can be nurtured through innovative classroom settings, fostering resilience, and inviting guest speakers. Additionally, educators play a pivotal role by employing hands-on learning, experiential activities, role-playing, and business simulation games to instill entrepreneurial knowledge. Recommendations stemming from this study emphasize the necessity for tailored training programs and workshops by the Ministry of Education. These initiatives aim to equip educators with the requisite competencies and perspectives, enabling them to effectively impart impactful entrepreneurial education

This is an open access article under the [CC-BY-SA 4.0](https://creativecommons.org/licenses/by-sa/4.0/)



*Corresponding Author:

Kofi Nkonkonya Mpuangnan

University of Zululand, South Africa

Corner Guldengracht &, 2 Cent Cir, Road, Richards Bay, 3900, South Africa

Email: nkonkonya@gmail.com

Submitted 7 Oct 2023; Accepted 18 May 2024; Published 30 Aug 2024

How to cite: Mpuangnan, K. N., Govender, S., & Mhlongo, H. R. (2024). Approaches to Integrating Entrepreneurial Education into School Curriculum. *Journal of Economics Education and Entrepreneurship*, 5(2), 119-138. <https://doi.org/10.20527/jee.v5i2.10360>

1. INTRODUCTION

In the past, entrepreneurship was predominantly studied within the realm of business studies, focusing on equipping individuals with the tools and expertise to excel in their enterprises.

Journal homepage: <https://ppjp.ulm.ac.id/journals/index.php/jee>
<https://doi.org/10.20527/jee.v5i2.10360>

Copyright © Authors, 2024, ISSN: 2746-5438 (Print) | 2745-729X (Online)

Recognizing the significance of interdisciplinary approaches to tackling challenges, there is now a call for a transformation in entrepreneurship education (Warhuus et al., 2017). In recent times, there has been a significant shift in the research focus towards entrepreneurship in education (Dick-Segoe et al., 2023). Through entrepreneurship, nations can effectively address pressing societal challenges by offering solutions, improving resource accessibility, and fostering inclusivity (Samwick, 2022). This is because entrepreneurial activities hold the potential to uplift marginalized communities and contribute to broader societal progress. Entrepreneurs often reinvest in their communities through diverse Corporate Social Responsibility (CSR) initiatives (Nieminen & Hytti, 2016). These initiatives encompass support for local causes, educational advancements, healthcare provisions, and infrastructural development. Their support significantly enhances the community's overall well-being and contributes to its growth and prosperity. Arruti & Paños-Castro (2020) agree that successful entrepreneurs generate wealth not only for themselves but also for their stakeholders. This wealth distribution in the society is often through their philanthropic contributions, tax contributions, and job creation and employability. This means entrepreneurs are attracted to redirecting wealth into the community thereby contributing to equitable distribution of resources and impacting positively on societal welfare.

This profound impact of entrepreneurship has traditionally been felt across all disciplines. This is largely due to the growing unemployment rate in the world, particularly in developing countries. This noticeable and worrisome pattern has caused economic hardship stifling the growth and development of the youth. The rise of economic hardship has also been a source of distress for parents who had invested substantial resources in educating their children, and nurturing dreams of economic upliftment for their families through secure employment. To effectively address this pressing issue of unemployment demands a comprehensive approach, with a crucial element being the integration of entrepreneurial education throughout educational settings (Sorana, 2023). This paradigm shift in education can equip individuals with the skills and mindset needed to navigate the evolving job market and potentially create their own opportunities, thus reshaping the path of socioeconomic progress. Justin et al. (2018) argue that entrepreneurial mindsets play a more prominent role in driving GDP per capita growth within high-income nations compared to economies categorized as middle or low-income. This affirms that cultivating the youth's mindset and approach towards entrepreneurship holds paramount importance. It entails nurturing qualities such as creativity, innovation, willingness to take risks, resilience, determination, and a proactive problem-solving attitude (Saadat, et al., 2022). This fosters a constructive perspective on failures, empowering individuals to acquire practical skills and capabilities for entrepreneurial endeavours.

Future entrepreneurs must be prepared to thrive in the competitive global market. Learners at school need to be equipped with entrepreneurial skills and mindsets from a young age (Mittal & Raghuvaram, 2021; Rodriguez, et al., 2020). However, little is said about the introduction of entrepreneurial intentions to learners within schools in this 21st century (Papendieck & Hughes, 2022; Strimel et al., 2019). This suggests that entrepreneurship is not sufficiently integrated into the standard school curriculum as the deficiency is hindered by inappropriate teaching methodologies employed by educators (Bosman, et al., 2023; Blaz Zupan, et al., 2018). Therefore, questions arise as to how an entrepreneurial mindset among learners can be promoted in school. And how far have pedagogical approaches improved entrepreneurship in schools? To provide appropriate answers to these questions, the researchers seek to conduct this study. Also, the study aims to provide teachers with strategies to impart knowledge, foster attitudes, and develop essential abilities for entrepreneurial success in schools. Learners must gain a foundational understanding of entrepreneurship, encompassing knowledge about business models, market analysis, financial management, marketing

strategies, and other fundamental aspects which are essential for initiating and managing a successful business (Maria, Lasse, & Hannes, 2022).

The study was guided by the principles of Human Capital Theory (HCT), which underscores the economic worth of human skills, knowledge, and capabilities as pivotal factors determining individual and societal success. This theory originated in the 1950s and 1960s through the works of economists Gary Becker and Theodore Schultz (Melton, 1965), highlighting the value of education, training, and health as investments in individuals. These investments are believed to enhance productivity, earnings, and overall economic development. The core principle of the HCT posits that individuals can augment their market value and contribute more effectively to the economy by investing in education and skill development (Gillies, 2017). Formal education, vocational training, on-the-job learning, and efforts to improve health are all viewed as investments in human capital, expected to yield returns in the form of higher wages, better job prospects, and improved living standards.

HCT argues for a shift in perspective, advocating that education and training should be viewed as investments rather than mere consumption (Fitzsimons, 2015). Individuals dedicate their time, effort, and resources to acquire knowledge and skills, foreseeing benefits in the future. Employers also invest in training their workforce, anticipating enhanced productivity and competitiveness. Sweetland (1996) adds that societies embracing HCT tend to prioritize policies and initiatives aimed at enhancing education systems, providing skill development opportunities, and improving healthcare. Governments, employers, and individuals are encouraged to invest in education and training programs to nurture a skilled and productive workforce. Nevertheless, critics contend that HCT may oversimplify the details of education and the labour market (Marginson, 2019). Criticisms also include methodological weaknesses, unequal access to education, and the limitations of reducing human potential to a purely economic perspective. Despite these criticisms, HCT remains a foundational concept in economics and policy, shaping discussions on education, workforce development, and economic growth (Gillies, 2017; Sweetland, 1996). Consequently, the researchers chose to employ this theory as the conceptual framework for the current study.

2. METHOD

This study was conducted by using a systematic literature review (SLR). Therefore, the researchers followed the SLR guidelines outlined by Keele et al. (2007) to attain the result. Such guidelines involve three stages including planning, conducting, and reporting. In the planning stage, the researchers thoroughly assessed the need for an SLR, meticulously formulating precise research questions and creating a carefully crafted review protocol. This protocol underwent a thorough development and critical evaluation to ensure its effectiveness. Transitioning to the second stage, the researchers meticulously executed the review by identifying pertinent research materials, implementing a rigorous study selection process, and conducting a thorough assessment of the chosen studies' quality. Additionally, data extraction and synthesis were carried out to effectively summarize and integrate the gathered information. In the final phase, the researchers focused on presenting the findings of the review. This stage involved the compilation and presentation of research outcomes derived from the systematic approach used throughout the entire process, culminating in a comprehensive and insightful analysis.

2.1 Review Planning Stage

During this stage, the researchers undertook crucial steps to prepare for the review. The process commenced by formulating research questions and crafting a comprehensive review protocol.

This protocol entailed organizing specific search terms into categories. The first category focused on instilling an entrepreneurial mindset in learners, encompassing search terms such as fostering an innovative classroom environment, emphasizing values like persistence and resilience, and promoting a proactive approach to problem-solving. The second category explored pedagogical strategies for enhancing entrepreneurship in educational settings, featuring search terms like hands-on learning and experiential activities, role-playing, business simulation games, engaging guest speakers and industry experts, and fostering creativity and innovation.

Moreover, the researchers thoughtfully curated a selection of journals from publishers, including Sage, Taylor & Francis, Emirate, and Springer, covering publications from 1965 to 2023. The choice of these publishers was predicated on their expansive coverage of scholarly literature, as recognized in prior studies (Li & Ma, 2019; Harzing & Alakangas, 2016; Burnham, 2006). In addition to delineating search parameters, the researchers established explicit selection criteria to guide their article selection process. The ensuing criteria are outlined below.

2.2 Inclusion Criteria

1. Empirical studies, including research and conceptual articles, contribute to the theme.
2. Publications that align with the primary theme of incorporating entrepreneurial education into the school curriculum, emphasizing strategies to infuse entrepreneurial thinking and skills into the learning environment.

2.3 Exclusion Criteria

1. Articles primarily centred on entrepreneurship outside the context of school education.
2. Studies not aligned with the central theme.
3. Publications from journals lack academic rigour or credibility.

The researchers carefully organized the review process using the outlined steps as a guide. Greater care was taken in selecting articles that aligned precisely with the predetermined research themes and sub-themes.

2.4 Conducting the Review

The researchers initially collected a pool of 183 articles. After eliminating 35 unrelated entries, they were left with 148 unique articles. A rigorous evaluation was then conducted, considering alignment with research questions, and assessing journal credibility. This process led to the exclusion of 51 articles which were focused on higher education resulting in a set of 97 articles. During the subsequent stage, a meticulous review of introductions and conclusions led to the identification of 29 duplicated articles which were consequently excluded from consideration. Ultimately, the researchers arrived at a final selection of 68 articles, detailed in Table 1.

Table 1: Articles Selected for the Study

Publishers	Articles Included	Articles Excluded			Total
		First Rejected Articles	Second Rejected Articles	Duplicated Articles	
Sage	19	8	11	8	46
Taylor & Francis	23	14	17	11	65
Emirate	15	18	14	6	53
Springer	11	13	9	4	37
Total	68	35	51	29	183

3. RESULTS AND DISCUSSION

3.1. Result

The results of this study are presented under two themes. The first theme is about promoting entrepreneurial mindset among learners while the second theme is pedagogical approaches to enhancing entrepreneurship in schools. The details of the findings are presented as follows.

3.1.1 Promoting Entrepreneurial Mindset among Learners

Promoting an entrepreneurial mindset urges individuals to approach situations with innovation, take calculated risks, and view challenges as opportunities for personal and professional growth (Daniele Battaglia, et al., 2022). This perspective encourages a proactive approach to problem-solving and cultivates a mindset that uncovers potential in every circumstance. This mentality is valuable not just for those aspiring to start their businesses but also for professionals in various domains, enabling them to thrive in a rapidly evolving and competitive job market. Instilling an entrepreneurial mindset in students involves prompting them to recognize problems or inefficiencies in their surroundings and brainstorm creative solutions (Ari Saptono et al., 2020). For instance, a group of students identifying a waste management issue in their school could propose a recycling program, showcasing entrepreneurial qualities such as identifying a market need and devising a viable solution. Figure 1 below illustrates the distribution of articles across different sub-themes that focus on nurturing an entrepreneurial mindset among school learners.

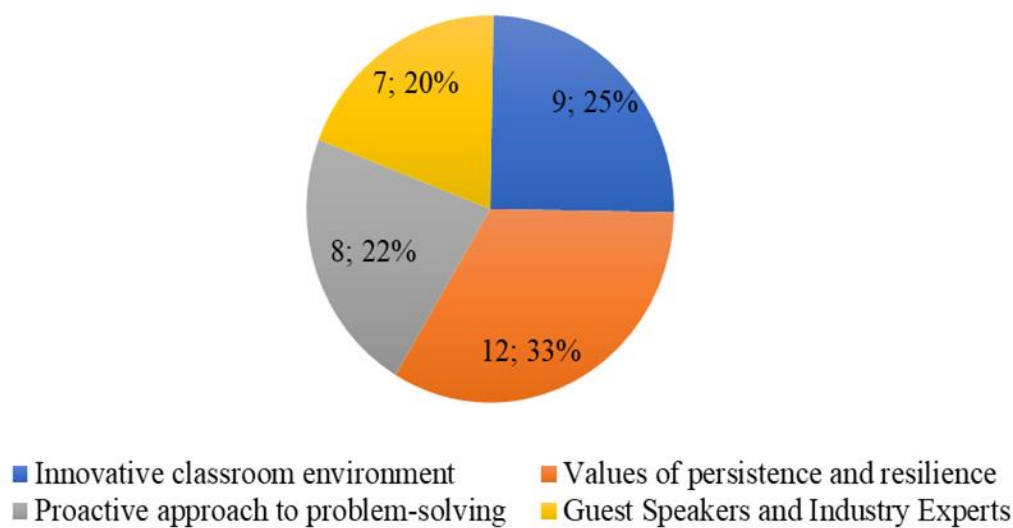


Figure 1: Approaches to Promoting Entrepreneurial Mindset among School Learners

3.1.2 Pedagogical Approaches to Enhancing Entrepreneurship in Schools

Promoting entrepreneurship education in schools is critical for arming learners with indispensable skills and mindsets necessary for fostering innovation, tackling challenges, and establishing their ventures (Bolzani & Luppi, 2021). These competencies empower them to excel in a fiercely competitive global economy and make meaningful contributions to society by pioneering innovative endeavours and embracing sustainable practices. Recognizing the pivotal role of instilling entrepreneurial aptitudes in learners, educators must adeptly convey knowledge and abilities using interactive, hands-on methods (Joensuu-Salo, et al., 2021; Balan, Maritz, & McKinlay, 2018). Figure 2 presents the allocation of articles across various sub-

themes, underscoring pedagogical strategies aimed at enriching entrepreneurship within educational settings.

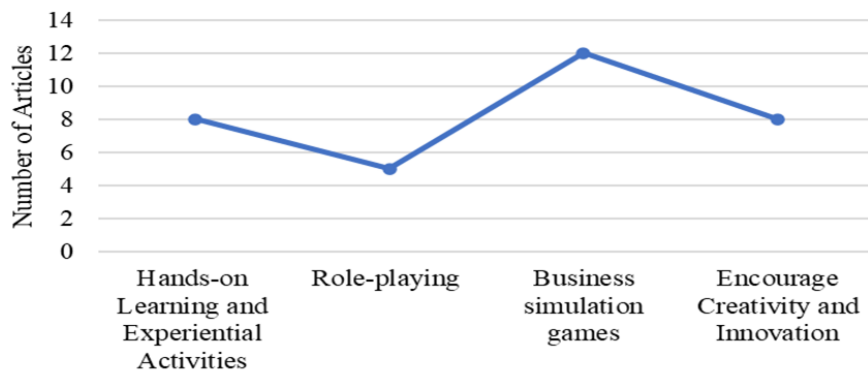


Figure 2: Pedagogical Approaches to Enhancing Entrepreneurial Education School

3.2. Discussion

The discussion of results was structured around two overarching themes. The first theme is about promoting an entrepreneurial mindset among students, while the subsequent theme encompassed diverse pedagogical approaches aimed at amplifying entrepreneurship within educational settings. Within these broad themes, several pertinent sub-themes surfaced and are elaborated upon as follows.

3.2.1 Promoting Entrepreneurial Mindset among Learners

The goal of this broad theme is to nurture a mindset that views obstacles as chances for growth, promotes ongoing learning, and enables students to generate and put into action their ideas, be it in business endeavours or in various aspects of life. The strategies that can be used to achieve this goal are elaborated as follows.

3.2.1. Ensuring Innovative Classroom Environment

Promoting an entrepreneurial mindset among learners can be facilitated through the creation of an innovative classroom environment, as noted in the work of French, Imms, and Mahat (2020). Building such an environment involves careful attention to several essential aspects. One of these critical elements involves nurturing a culture of curiosity and experimentation among students. This can be achieved by educators establishing an inclusive and open atmosphere in the classroom, where students feel comfortable expressing their thoughts and ideas without the fear of judgment. When students feel supported and secure, their natural curiosity is stimulated, leading them to ask questions, delve into diverse topics beyond the set curriculum, and experiment with various problem-solving approaches. Fatma and Banu (2022) concur that encouraging students to pose questions is vital in fostering their curiosity. When questions are welcomed and addressed constructively, students feel empowered to explore subjects that captivate their interest in greater depth. According to Elizabeth, Welsh, and Slack (2023), teachers can also direct students to investigate topics that align with their interests, enabling a personalized and captivating learning experience. For example, a science teacher might encourage students to create and conduct their experiments, thereby promoting a sense of ownership and creativity. This hands-on approach nurtures curiosity, improves critical thinking skills, and instils a genuine passion for learning.

Another approach to ensuring an innovative classroom is through integrating technology into teaching and learning (Wu et al., 2022). Technology offers a multitude of

opportunities to enrich the learning process, rendering it more interactive, captivating, and easily accessible (Jennifer, et al., 2020). Educators can harness a range of digital tools and platforms to facilitate collaborative learning, enabling students to collaborate with peers, exchange ideas, and collectively engage in projects. Also, the integration of technology empowers students to tap into a vast repository of knowledge, promoting self-driven research and self-guided learning (Wang, 2022). With the aid of the internet and digital platforms, students can explore diverse industries, market trends, and the success stories of entrepreneurs, which serve as inspiration for generating innovative ideas. For example, students can utilize online databases, attend webinars, and participate in virtual mentorship programs to deepen their understanding of entrepreneurial principles and practices. Additionally, resources such as 3D printers, programming languages, and design software provide students with the means to prototype and refine their concepts, encouraging hands-on experiential learning (Amegbanu, & Mpuangnan, 2023). Through these technological avenues, students can cultivate critical thinking, hone their problem-solving skills, and develop a proactive mindset essential for entrepreneurship.

In addition, fostering a culture of self-directed learning is crucial for nurturing innovation (Chen, et al., 2022). As students are encouraged to seize the opportunity to take charge of their learning experiences, they will be empowered to embrace responsibility for their education, establish goals, and explore their unique passions and interests (Chiu et al., 2023). In this regard, teachers play a pivotal role in guiding and supporting students. They guide learners through self-directed learning by setting achievable objectives and developing effective strategies to attain them. According to Ken-Zen (2020), self-directed learning instills essential qualities like initiative, critical thinking, and problem-solving abilities, which are foundational for cultivating an innovative mindset that transcends the boundaries of traditional classroom learning and extends into the broader world. The freedom to guide their learning empowers individuals to explore subjects that captivate their curiosity, stimulating creative and critical thinking. For example, envision a budding entrepreneur deeply invested in sustainable technology. Through self-directed learning, they can immerse themselves in areas such as renewable energy, gain knowledge about emerging technologies, and brainstorm inventive solutions, ultimately contributing to their journey towards innovation.

3.2.3 Instilling the Values of Persistence and Resilience

Fostering an entrepreneurial mindset through persistence entails creating an environment that values tenacity, embraces learning from setbacks, adapts to change, sets, and attains goals, initiates action, displays grit, and manages time efficiently (Saparuddin et al., 2021). These attributes empower learners to cultivate the necessary mindset for success in entrepreneurial endeavours and surmount challenges on their journey. Charlotte and Stephanie (2022) assert that a growth mindset nurtures resilience, adaptability, and a drive to innovate and enhance. In the face of obstacles, those with a growth mindset perceive them as opportunities for growth, adaptation, and eventual triumph. Imagine a budding entrepreneur whose initial startup faced failure. Instead of conceding defeat, they analyse the failures, seek feedback, acquire new skills, and apply these insights to their subsequent venture. This resilience and ability to bounce back stem from their belief in continuous improvement and the understanding that setbacks are steppingstones toward success.

Another significant role of educators in promoting resilience is to inspire learners to regard failures as valuable learning experiences and to persevere through setbacks (Costin et al., 2022). Guiding learners to establish clear, attainable objectives and steadily work towards them stands as a fundamental strategy. For example, a learner with aspirations to establish a social enterprise dedicated to providing educational resources to underserved communities

should be encouraged to review this ambitious objective into smaller, achievable tasks. through consistently progressing towards these objectives, they will eventually establish a successful nonprofit organization, illustrating the transformative potential of an entrepreneurial mindset nurtured through persistence. As they continue showcasing their success stories and underscoring the significance of persistence, ultimately the values and qualities for entrepreneurial success in the upcoming leaders of society will be enforced. Additionally, educators can acknowledge and praise students for their effort, strategy, and perseverance, shifting the focus from mere achievements and motivating students to take risks, experiment with innovative ideas, and perceive failures as valuable learning opportunities (Harima, Krocak, & Repnik, 2021).

3.2.4 Proactive Approach to Problem-Solving

Entrepreneurial thinking entails proactively identifying and addressing challenges or opportunities by being innovative and resourceful. Schools play a vital role in nurturing this proactive problem-solving approach in learners by fostering essential entrepreneurial traits and skills (Hui-Zhong & Hongzhi Yang, 2023). Schools are noted for encouraging collaboration and teamwork among learners. Warhuus et al. (2017) argue that entrepreneurs often collaborate with diverse teams to tackle complex challenges. In a school setting, promoting collaborative problem-solving allows students to appreciate various viewpoints and tap into collective creativity. Colleen et al. (2020) affirm that collaboration is pivotal in entrepreneurship, as success frequently hinges on forming effective partnerships and leveraging diverse skill sets. For instance, a learner adept in technology could collaborate with a peer skilled in marketing to create and promote a new app. The technologically inclined student might focus on coding and product development, while the marketing-savvy student handles market research, branding, and user acquisition strategies. This collaboration maximizes efficiency, ensuring both the product and its outreach maintain high quality. As noted by Ka Ho & Jin (2020), diverse backgrounds and ideas can lead to innovative solutions, expanding the potential impact of entrepreneurial endeavours.

Integrating entrepreneurship-related topics, activities, or projects into the curriculum is instrumental in cultivating an entrepreneurial mindset (Kaya-Capocci et al., 2022). This integration can involve subjects like business studies, economics, or even incorporating entrepreneurial concepts into science, arts, or social studies. For example, in business studies and economics classes, learners can learn to create business plans for hypothetical ventures, analyse market trends, conduct competitor research, and outline financial projections. In science classes, learners might engage in product innovation and development, exploring sustainable solutions to environmental challenges, such as devising eco-friendly products or services (Grooters et al., 2023). Likewise, in arts and humanities, learners can delve into the entrepreneurial aspects of creative industries, like graphic design, music, or filmmaking, learning about branding, intellectual property rights, marketing, and funding. These approaches infuse an entrepreneurial spirit, nurturing future leaders and change-makers who are driven to make a difference in the world.

Establishing clubs or groups focused on entrepreneurship within the school is another proactive approach to cultivating an entrepreneurial mindset and promoting business acumen among learners (Pittaway, 2011). These groups provide a platform for learners to engage in activities that enhance their understanding of entrepreneurship, encourage innovation, and develop essential business skills. According to Edwards (2001), one of the primary benefits of these entrepreneurship-focused clubs or groups is the opportunity for learners to organize workshops, seminars, and events related to entrepreneurship. For example, an entrepreneurship club might arrange a networking event where successful alumni who have started their

businesses share their journeys and offer advice to aspiring young entrepreneurs. This interaction can inspire and motivate students to pursue their entrepreneurial aspirations with confidence.

3.2.5 Guest Speakers and Industry Experts

Guest speakers and industry experts are invaluable assets for instilling an entrepreneurial mindset among learners. Inviting these resourceful individuals to schools offers a unique opportunity to impart real-world insights, experiences, and knowledge, enriching students' comprehension of entrepreneurship (Riebe et al., 2013). This engagement effectively connects theoretical learning with practical application, motivating and preparing the upcoming generation of entrepreneurs. Hearing firsthand stories of the challenges and triumphs in launching and managing a business inspires and emboldens students to pursue their entrepreneurial aspirations (Emblen-Perry, 2023). For example, a successful local entrepreneur could share their journey with learners, shedding light on their business inception, obstacles faced, and strategies employed for overcoming them. This personal account humanizes entrepreneurship, demystifying the process for students.

Moreover, guest speakers and industry experts can double as mentors, offering invaluable guidance and advice to learners venturing into entrepreneurship (Borden, 2017). Their mentorship aids learners in refining business ideas, crafting effective business plans, and understanding the nuances of their target markets (Manimala & Thomas, 2017). Through establishing mentorship programs, educators foster enduring relationships between learners and industry professionals, enhancing the learners' entrepreneurial skill set and boosting their confidence. These nurtured connections can evolve into lasting relationships, benefiting learners throughout their entrepreneurial journey through continuous advice, collaboration opportunities, and potential partnerships (Linton & Klinton, 2019).

Furthermore, guest speakers and industry experts enrich the educational experience by bringing real-world perspectives and practical insights into the classroom (Justin, 2022). They are often invited to facilitate interactive sessions and workshops, encouraging learners to actively engage, ask questions, and participate in meaningful discussions. For instance, a guest speaker might conduct a workshop on marketing strategies, prompting learners to engage in brainstorming sessions and formulate marketing plans for hypothetical products or services. This interactive approach cultivates critical thinking, problem-solving skills, and effective communication abilities (Ismail & Sawang, 2020). Their actionable advice significantly shapes learners' career paths by offering practical tips, career guidance, and suggestions for professional development. Bridging the gap between academic theory and practical application, this guidance helps students set achievable goals and comprehend the valued skills and qualities essential for success in their chosen fields.

3.2.6 Pedagogical Approaches to Enhancing Entrepreneurship in Schools

This broad thematic area embraces personalized teaching techniques, activities, and curriculum designs crafted to nurture creativity, critical thinking, problem-solving skills, and a proactive approach to innovation and business growth. To achieve this aim, the following approaches were found in the literature.

3.2.7 Hands-on Learning and Experiential Activities

The integration of experiential activities and practical learning into entrepreneurship education within schools offers a powerful means to deepen learners' comprehension and application of entrepreneurial principles and competencies (Woolfolk-Ruiz & Acosta-Alvarado, 2016). A

particularly effective method to achieve this is using simulated business ventures (Chernikova et al., 2020). Teachers can organize learners into groups and assign them a specific business idea or industry. Each group is then tasked with developing a comprehensive business plan, conducting thorough market research, formulating marketing strategies, and even simulating financial transactions. For instance, learners might engage in simulating the operation of a small café, making decisions regarding the menu, pricing strategies, and marketing approaches. This hands-on approach provides students with a practical understanding of the multifaceted decision-making processes inherent in real-world business scenarios.

Moreover, creating entrepreneurial challenges or competitions within the school environment fosters a competitive yet supportive atmosphere for learners (Caroline & Steven, 2020). These challenges prompt learners to generate and present their business concepts, including developing business plans, financial projections, and marketing strategies. Such events encourage learners to exhibit their innovative ideas, problem-solving abilities, and business acumen within a competitive yet encouraging framework. Aligning with Chan, Cheung, and Chan (2020), the competitive aspect motivates participants to strive for excellence and push their creative boundaries to craft inventive solutions. Additionally, the supportive environment established by these challenges provides a platform for learners to learn from one another, collaborate, and receive constructive feedback from mentors and judges. This dynamic approach fosters growth and improvement (Baanqud et al., 2020), promoting an entrepreneurial spirit, teamwork, resilience, and a sense of community and camaraderie within the school setting.

The implementation of miniature entrepreneurial projects equips learners with hands-on experiences in product development, marketing, and sales (Mark, 2007). This helps them to operate in teams, identify problems or opportunities, create products or services to address them, and subsequently construct marketing plans to promote their offerings. According to Grebitus and Bruhn (2011), miniature entrepreneurial projects are marketing plans that encompass critical elements such as market research, analysis of the target audience, branding strategies, promotional tactics, pricing models, and distribution channels. This hands-on learning approach allows learners to grasp fundamental aspects of product development and marketing while refining their teamwork, critical thinking, and problem-solving abilities. These experiences effectively prepare them for the challenges they will encounter in their professional lives. In this context, the teacher's role revolves around guiding, facilitating, supporting, and assessing the team-based learning process (Sanger, 2020), to ensure learners attain the intended learning outcomes and cultivate vital collaboration and problem-solving skills.

3.2.8 Role-Playing

Role-playing is a powerful pedagogical tool that can be effectively utilized by teachers to teach entrepreneurship in schools (Neck, et al., 2022). This approach allows learners to actively participate in immersive, real-life scenarios where they assume various roles, make decisions and witness the consequences of their actions (Brown & Vaughn, 2009). For instance, when exploring sustainable business ideas, a classroom might be transformed into a dynamic space where teams take on roles such as sustainable product developers, environmental activists, government regulators, and consumers (Driskell, et al., 2017). This collaborative environment enables learners to negotiate and innovate, aiming to design a product or service that aligns with economic viability and environmental responsibility. Through this hands-on exercise, learners comprehend the crucial role sustainability plays in entrepreneurship and learn to strike a balance between social, environmental, and economic considerations in their business decisions.

Furthermore, educators can design activities mirroring different stages of entrepreneurship, from idea generation to business implementation and growth (Kirkley, 2017).

For example, learners can be organized into teams and assigned distinct roles like founders, investors, marketers, and product developers. Each team would be responsible for conceiving a business idea, formulating a comprehensive business plan, and presenting it to "investors" (peers or teachers) for potential funding. The implementation phase can encompass prototyping, pitching to "investors" (classmates or teachers), and adjusting strategies based on feedback received. In simulating growth and sustainability, learners may engage in scaling strategies, financial management simulations, and adaptive decision-making exercises. These activities simulate the challenges and successes experienced while managing a growing business, allowing students to develop practical entrepreneurial skills and a deeper understanding of the entrepreneurial process and mindset, as emphasized by Joensuu-Salo, et al., (2021).

3.2.9 Business Simulation Games

Business simulation games serve as dynamic and immersive educational platforms, effectively cultivating entrepreneurship skills among learners within a scholastic setting. As evidenced by Zulfiqar et al. (2019), these interactive tools provide learners with practical, hands-on experiences, enabling a comprehensive grasp of fundamental business concepts and strategies. Illustrative examples of such games, as outlined by Fox, Pittaway, and Uzuegbunam (2018), include RimWorld, Skylines, Farm Simulator Series, and Transport Tycoon Deluxe (Fox, Pittaway, & Uzuegbunam, 2018). These games simulate real-world business scenarios, allowing students to make decisions, analyse outcomes, and learn from their experiences in a risk-free environment. The details of the games are as follows.

Rim World, a strategic simulation game released in 2018, plunges players into the role of managing a group of stranded survivors on an unfamiliar alien planet (Tynan, 2018). The fundamental objective revolves around establishing and maintaining a functional colony by skillfully overseeing resource management, constructing, and expanding structures, conducting research, and ensuring the well-being of the colonists. The challenges within the game span environmental hazards, encounters with wildlife, and conflicts with hostile factions. Importantly, the game dynamically generates events and narratives, presenting moral dilemmas and unexpected circumstances, demanding strategic decision-making and adaptability from the player. Harnessing the immersive environment of RimWorld, educators can utilize this game as a valuable tool for teaching entrepreneurship in schools (John et al., 2020). Placing learners in the shoes of the stranded colonists, the game necessitates the establishment of a colony, meticulous resource management, and adept navigation of challenges. This opens a unique opportunity for educators to integrate RimWorld into the curriculum, allowing learners to play the game and subsequently analyse their gameplay from an entrepreneurial perspective. For example, learners may be assigned tasks within the game that mirror the process of developing and implementing a business plan. They must grapple with decisions concerning resource allocation, risk assessment, and workforce management to sustain and grow their virtual colony. The game becomes a canvas where they can apply entrepreneurial principles such as opportunity recognition, innovation, risk management, and adaptability in real-time. Moreover, learners can engage in discussions and reflections, sharing insights into the challenges they faced, the successes they achieved, and the entrepreneurial strategies they applied during their gameplay. This exercise not only makes learning engaging and interactive but also provides a practical understanding of entrepreneurship through the lens of a captivating virtual world.

Skylines, a city-building simulation game released in 2015, offers a unique platform for players to immerse themselves in the role of city planners, engaging in critical decision-making processes regarding urban development, resource allocation, and economic management (Colossal, 2015). From initially designating a plot of land, players strategically plan and enhance the city's infrastructure while zoning areas for residential, commercial, and industrial

purposes. Remarkably, the principles embedded within this game resonate with the domain of entrepreneurship, offering valuable lessons for students seeking to comprehend the multifaceted facets of business operations (Bradley, 2023). Drawing parallels to entrepreneurship, "Skylines" becomes an effective tool to introduce learners to the fundamental concept of resource management (Bradley, 2023). Through the experiences gained from this game, learners can grasp the art of allocating scarce resources efficiently to optimize output and profitability within their virtual city, mirroring the challenges faced when initiating and managing a business venture (Yang, 2012). For instance, they can draw correlations between managing finances, employees, and assets in the game and the real-world requirements of starting and sustaining a business. The dynamics of balancing expenses and revenue within the game directly translate to an understanding of the financial intricacies inherent in running a business. Moreover, "Skylines" can effectively simulate real-world entrepreneurial challenges, such as risk management and decision-making (Bradley, 2023). Learners encounter scenarios in the game where they must make crucial decisions like investing in new infrastructure, finding the right balance between residential and commercial areas, and dealing with natural disasters. These decisions closely mirror the choices entrepreneurs make in their pursuit of business growth, highlighting the significance of evaluating risks and benefits. Engaging in discussions and reflections on these simulated scenarios enables students to cultivate critical thinking and strategic planning skills, essential for success in both the virtual world of "Skylines" and the real world of entrepreneurship.

The Farm Simulator Series, launched in 2008, has gained significant popularity as a video game offering a virtual farming experience. Players assume the role of a virtual farmer, tasked with overseeing and expanding their agricultural domain (Laurens, 2021). The game encompasses a range of activities, including planting and harvesting crops, tending to livestock, handling finances, and operating a variety of farm machinery. Commencing with a modest farm, players progressively cultivate their land, invest in equipment, and sell produce to generate profits. Capitalizing on this platform for educational purposes presents a valuable opportunity to impart practical knowledge to students, covering entrepreneurship, financial management, strategic decision-making, and resource allocation. The Farm Simulator Series can be employed by educators to introduce learners to the essentials of entrepreneurship (Vlachopoulos, & Makri, 2017). Learners may explore fundamental concepts, including commencing and running a business, managing resources, responding to market demands, and strategically expanding their virtual farm into a prosperous enterprise. They may further gain insights into pivotal aspects of entrepreneurship, such as planning, budgeting, and setting objectives to foster sustainable growth. Teachers can design assignments that involve learners playing the game and setting specific goals, such as increasing profits by a designated percentage or expanding their farm's operations within a given timeframe. In this interactive approach, learners are required to analyse market trends, manage their budgets, decide on investments in crops or livestock, and formulate optimal strategies to attain their objectives. This hands-on experience enables learners to comprehend the obstacles and benefits of entrepreneurship within a simulated, risk-free environment.

Transport Tycoon Deluxe, a simulation game crafted by Chris Sawyer in 1994 (Bennett, 1995), stands as a timeless masterpiece in the gaming world. The primary objective within this virtual world is to construct and oversee a thriving transportation field (Ncube, 2010). At the outset, players select a prime headquarters location and commence establishing extensive transportation networks utilizing an array of modes, including roads, railways, ships, and aeroplanes. The aim is to efficiently transport goods and passengers, yielding profits to bolster infrastructure and enhance services. Critical strategies encompass financial management, route optimization, technological investment, and adaptability to dynamic market demands. The

game's essence lies in harmonizing costs, ensuring a dependable transport system, and skillfully outmaneuvering competitors to ascend and foster a lucrative transportation domain. Beyond its gaming allure, Transport Tycoon Deluxe also serves as an educational tool, offering a platform for budding entrepreneurs to grasp fundamental business concepts (Cohen, 2005). Educators can harness this game to guide students in comprehending business planning, judicious resource allocation, and astute market analysis. By immersing in the game's world, learners can create a comprehensive business plan, delineating their goals, strategies, and target demographics. This inventive exercise galvanizes critical thinking, enabling students to navigate the multifaceted realms of initiating and managing a business. Furthermore, integrating classroom discussions and assignments rooted in the game amplifies the learning experience. Teachers can compose group dialogues where learners dissect their strategies, achievements, and setbacks within the game. Augmenting this with reflective essays that prompt learners to correlate their in-game experiences with entrepreneurial tenets enhances their capacity for introspection. These pedagogical activities cultivate a culture of reflection, encouraging learners to discern patterns, adapt strategies, and embrace a growth-oriented mindset in both the game and real-life entrepreneurial endeavours.

3.2.10 Encourage Creativity and Innovation

Emphasizing creativity and innovation within the framework of entrepreneurial education in schools has the potential to profoundly enrich the learning journey for learners, equipping them with invaluable skills essential for navigating the contemporary world (Imam et al., 2021). Central to this transformative process are teachers, who serve as catalysts in cultivating creativity and innovation among learners by fostering an environment conducive to experimentation, critical thinking, problem-solving, and an entrepreneurial mindset (Ayob, Hussain, & Majid, 2013). With the incorporation of inventive teaching methods and strategies, educators can effectively captivate learners with entrepreneurial concepts (Astuti, Waluya & Asikin, 2020). Rather than resorting to conventional lectures, teachers should develop interactive workshops, simulations, and role-playing activities that challenge learners to think outside the box and devise innovative solutions. For instance, learners might be tasked with conceiving a sustainable and ingenious remedy to diminish plastic waste within their community. Through group work, brainstorming sessions, market research, and the development of comprehensive business plans, learners will be encouraged to infuse creativity and innovation into addressing pressing environmental concerns (Benson, Gregory & Chau, 2022).

The integration of project-based learning (PBL) offers learners an avenue to put entrepreneurial theories and principles into practical, hands-on application (Almulla, 2020). Within a project-based learning setting, learners can be empowered to take charge of their projects (Meng et al., 2023). They establish objectives, strategize, execute plans, and evaluate their progress, instilling a sense of responsibility and accountability—qualities paramount for aspiring entrepreneurs. Morrison et al. (2021) suggest that teachers can design projects requiring learners to initiate and oversee a fictional business, necessitating decisions encompassing marketing, finance, operations, and strategy. The role of the teacher is to guide learners in structuring and developing their projects, providing insights into methodologies, research, and problem-solving approaches (Chia-Chi & Li, 2021). This interactive approach kindles creativity and innovation, allowing learners to experiment with diverse methodologies and derive valuable lessons from both their triumphs and setbacks.

4. CONCLUSION

Integrating entrepreneurial education into the school curriculum is an essential and transformative step in equipping the youth with the skills and mindset needed to thrive in an ever-evolving global economy. Emphasizing pedagogical strategies like project-based learning provides learners with hands-on experiences, encouraging them to think critically, collaborate, and innovate. Experiential learning allows learners to directly engage with entrepreneurial concepts, fostering practical knowledge and adaptability. Furthermore, expert initiatives enable mentorship and guidance from professionals, providing invaluable insights into the entrepreneurial world. Business simulation games and role-play create immersive environments where learners can apply theoretical knowledge in real-world scenarios, honing their decision-making and strategic thinking abilities. Empowering teachers with the necessary competencies and insights will enable them to effectively deliver impactful entrepreneurial education, thereby furthering the principles of the HCT and preparing the youth for a prosperous and progressive future.

It can further be established that by infusing entrepreneurial skills and knowledge early stage, learners can develop a proactive approach, enabling them to identify opportunities, navigate challenges, and pursue innovative solutions. This proactive outlook encourages resilience in the face of setbacks, cultivating a mindset that views failures as learning experiences and motivators for improvement. Moreover, nurturing traits like innovation and adept problem-solving enhance their ability to address societal issues and contribute positively to the community. Ultimately, this study will amplify opportunities for personal advancement and instil a sense of responsibility and determination to address societal challenges, contributing to a more prosperous and progressive world. In this context, it can be recommended that the Ministry of Education should develop tailored training programs and workshops aimed at empowering educators with the essential competencies and insights to deliver impactful entrepreneurial education.

REFERENCES

- Almulla, M. A. (2020). The Effectiveness of the Project-Based Learning (PBL) Approach as a Way to Engage Students in Learning. *SAGE Open*, 10(3). <https://doi.org/10.1177/2158244020938702>
- Amegbanu, V. A., and Mpuangnan, K. N. (2023). Factors affecting teaching creativity in colleges of education in Ghana. *African Educational Research Journal*, 11(1): 49-55.
- Andrew, A. Samwick (2022). The economics of social entrepreneurship, *The Journal of Economic Education*, 53:2, 176-180, DOI: 10.1080/00220485.2022.2038329
- Ari Saptono, Agus Wibowo, Bagus Shandy Narmaditya, Rr Ponco Dewi Karyaningsih & Heri Yanto | May Cheng (Reviewing editor) (2020). Does entrepreneurial education matter for Indonesian students' entrepreneurial preparation: The mediating role of entrepreneurial mindset and knowledge, *Cogent Education*, 7:1, DOI: 10.1080/2331186X.2020.1836728
- Arruti, A. and Paños-Castro, J. (2020). International entrepreneurship education for pre-service teachers: a longitudinal study, *Education + Training*, Vol. 62 No. 7/8, pp. 825-841. <https://doi.org/10.1108/ET-04-2020-0098>
- Astuti, A., Waluya, S. B., & Asikin, M. (2020). The important of creative thinking ability in elementary school students for 4.0 era. *International Journal of Educational Management and Innovation*, 1(1), 91-98. <https://doi.org/https://doi.org/10.12928/ijemi.v1i1.1512>

- Ayob, A., Hussain, A., & Majid, R. A. (2013). A review of research on creative teachers in higher education. *International Education Studies*, 6(6), 8–14. <https://doi.org/https://doi.org/10.5539/ies.v6n6p8>
- Baanqud, N.S., Al-Samarraie, H., Alzahrani, A.I. et al. (2020). Engagement in cloud-supported collaborative learning and student knowledge construction: a modeling study. *Int J Educ Technol High Educ* 17, 56 (2020). <https://doi.org/10.1186/s41239-020-00232-z>
- Balan, P., Maritz, A. and McKinlay, M. (2018). A structured method for innovating in entrepreneurship pedagogies, *Education + Training*, Vol. 60 No. 7/8, pp. 819-840. <https://doi.org/10.1108/ET-05-2017-0064>
- Bennett, John (1995). "Transport Tycoon". *Computer and Video Games*. No. 158. pp. 84–85.
- Benson, Gregory E., Chau, Ngan N. (2022). University-Industry Collaboration: Enhancing Students' Business Acumen and Aptitude through Competitive SCM Challenges. *Industry and Higher Education*, v36 n3 p344-356.
- Blaz, Zupan, Franc Cankar, Stanka Setnikar Cankar (2018). The development of an entrepreneurial mindset in primary education. *European Journal of Education, Research, Development and Policy*. Available at <https://doi.org/10.1111/ejed.12293>
- Bradley, Bereitschaft (2023). Commercial city building games as pedagogical tools: what have we learned?, *Journal of Geography in Higher Education*, 47:2, 161-187, DOI: 10.1080/03098265.2021.2007524
- Bolzani, D. and Luppi, E. (2021). Assessing entrepreneurial competences: insights from a business model challenge, *Education + Training*, Vol. 63 No. 2, pp. 214-238. <https://doi.org/10.1108/ET-04-2020-0072>
- Borden, J (2017). Incorporating guest speakers into the classroom experience. <https://www.kuder.com/blog/career-counseling-coaching/incorporating-guest-speakers-into-the-classroom-experience/>.
- Bosman, L., Kotla, B., Cuesta, C., Duhan, N. and Oladepo, T. (2023). The role of information literacy in promoting “discovery” to cultivate the entrepreneurial mindset", *Journal of International Education in Business*, Vol. 16 No. 1, pp. 56-69. <https://doi.org/10.1108/JIEB-02-2022-0015>
- Brown, S., & Vaughn, C. (2009). *Play: How it shapes the brain, opens the imagination, and invigorates the soul*. Penguin Books.
- Caroline, E.W. Glackin and Steven E. Phelan. (2020). Improving entrepreneurial competencies in the classroom: an extension and in-study replication. *New England Journal of Entrepreneurship* Vol. 23 No. 2, 2020 pp. 79-96. DOI 10.1108/NEJE-04-2020-0005
- Chan, F., Cheung, J.L., Chan, E.M.H. (2020). The Impact of Competition-Based Learning on Enhancing Students' Motivation, Engagement and Professionalism: A Case Study of Fashion Design Undergraduates in Hong Kong. In: Hong, C., Ma, W. (eds) *Applied Degree Education and the Future of Work*. Lecture Notes in Educational Technology. Springer, Singapore. https://doi.org/10.1007/978-981-15-3142-2_16
- Charlotte, Meierdirk & Stephanie Fleischer (2022). Exploring the mindset and resilience of student teachers, *Teacher Development*, 26:2, 263-278, DOI: 10.1080/13664530.2022.2048687
- Chen, CH., Chen, KZ. & Tsai, HF (2022). Did Self-Directed Learning Curriculum Guidelines Change Taiwanese High-School Students' Self-Directed Learning Readiness?. *Asia-Pacific Edu Res* 31, 409–426 (2022). <https://doi.org/10.1007/s40299-021-00582-w>

- Chernikova, O., Heitzmann, N., Stadler, M., Holzberger, D., Seidel, T., & Fischer, F. (2020). Simulation-Based Learning in Higher Education: A Meta-Analysis. *Review of Educational Research*, 90(4), 499–541. <https://doi.org/10.3102/0034654320933544>
- Chia-Chi, Wang, Li Zhao (Reviewing editor) (2021). The process of implementing problem-based learning in a teacher education programme: an exploratory case study, *Cogent Education*, 8:1, DOI: 10.1080/2331186X.2021.1996870
- Chiu, T.K.F., Ismailov, M., Zhou, X. et al. (2023). Using Self-Determination Theory to Explain How Community-Based Learning Fosters Student Interest and Identity in Integrated STEM Education. *Int J of Sci and Math Educ* 21 (Suppl 1), 109–130 <https://doi.org/10.1007/s10763-023-10382-x>
- Cohen, P. (2005). Lemonade Tycoon 2. *Macworld*, 22(5), 45.
- Colleen, C. Robb, David Rahn & Kevin Buffardi (2020). Bridging the gap: A model for interdisciplinary collaboration between entrepreneurship and software engineering students, *Journal of Education for Business*, 95:5, 321-330, DOI: 10.1080/08832323.2019.1644275
- Colossal, Order (2015). *Cities: Skylines* [Video game]. Paradox Interactive.
- Costin, Yvonne, O'Brien, Michael P., Hynes, Briga (2022). Entrepreneurial Education: Maker or Breaker in Developing Students' Entrepreneurial Confidence, Aptitude and Self-Efficacy? *Industry and Higher Education*, v36 n3 p267-278
- Daniele, Battaglia, Valentina Cucino, Emilio Paolucci & Andrea Piccaluga (2022). Fostering the development of the entrepreneurial university: how PhD students create new ventures and are involved in technology transfer activities, *Studies in Higher Education*, 47:5, 1010-1022, DOI: 10.1080/03075079.2022.2055325
- Dick-Segoe, C., Lee K. Y., Boakye A.S., Mpuangnan K. N., Asare-Nuamah P., & Dankwaah A., D. (2023). Facilitators of tertiary students' entrepreneurial intentions: Insights for Lesotho's national entrepreneurship policy. *Heliyon- Esevier*, 9 (2023). <https://doi.org/10.1016/j.heliyon.2023.e17511>
- Driskell, T., Driskell, J. E., Burke, C. S., & Salas, E. (2017). Team Roles: A Review and Integration. *Small Group Research*, 48(4), 482–511. <https://doi.org/10.1177/1046496417711529>
- Edwards, L-J. (2001). Are e-clubs the answer to entrepreneurial learning? WEI Working Paper series 17.
- Elizabeth, T. Welsh & Mary Eisele Slack (2023) A tale of two team formation methods: Innovative ways to form student teams, *Journal of Education for Business*, 98:2, 77-83, DOI: 10.1080/08832323.2022.2031087
- Emblen-Perry, K. (2023). Guest Speakers: An Opportunity to Create Shared Value?. In: Leal Filho, W., Lange Salvia, A., Pallant, E., Choate, B., Pearce, K. (eds) *Educating the Sustainability Leaders of the Future*. World Sustainability Series. Springer, Cham. https://doi.org/10.1007/978-3-031-22856-8_11
- Fatma, Dogan & Banu Yucel-Toy (2022). Students' question asking process: a model based on the perceptions of elementary school students and teachers, *Asia Pacific Journal of Education*, 42:4, 786-801, DOI: 10.1080/02188791.2021.1873104
- Fitzsimons, P. (2015). Human Capital Theory and Education. In: Peters, M. (eds) *Encyclopedia of Educational Philosophy and Theory*. Springer, Singapore. https://doi.org/10.1007/978-981-287-532-7_331-1
- Fox, J., Pittaway, L., & Uzuegbunam, I. (2018). Simulations in Entrepreneurship Education: Serious Games and Learning Through Play. *Entrepreneurship Education and Pedagogy*, 1(1), 61–89. <https://doi.org/10.1177/2515127417737285>

- French, R., Imms, W., Mahat, M (2020). Case Studies on the Transition from Traditional Classrooms to Innovative Learning Environments: Emerging Strategies for Success. *Improving Schools*, v23 n2 p175-189
- Grebitus, C., & Bruhn, M. (2011). A Way to More Effective Marketing Strategies: Analyzing Dimensionality of Cognitive Structures Quantitatively. *SAGE Open*, 1(2). <https://doi.org/10.1177/2158244011418380>
- Gillies, D. (2017). Human Capital Theory in Education. In: Peters, M.A. (eds) *Encyclopedia of Educational Philosophy and Theory*. Springer, Singapore. https://doi.org/10.1007/978-981-287-588-4_254
- Grooters, Saskia, Zaal, Emma, Gerkema, Menno (2023). Beyond Entrepreneurship, Raising Broad Academic Professionals: Work-Based Learning in Science from the Employer's Perspective. *Industry and Higher Education*, v37 n4 p512-523.
- Harima, A., Krocak, A. and Repnik, M. (2021). Role ambiguity in entrepreneurship education: expectation gaps between educators and students in venture creation courses, *Education + Training*, Vol. 63 No. 9, pp. 1309-1325. <https://doi.org/10.1108/ET-07-2020-0204>
- Hui-Zhong, Shen & Hongzhi Yang (2023). Educational entrepreneurship in Australian community languages schools: An analysis of ethnic principals' experience and practice, *Cogent Education*, 9:1, DOI: 10.1080/2331186X.2022.2090187
- Imam Machali, Agus Wibowo, Ali Murfi & Bagus Shandy Narmaditya | Luís Tinoca (Reviewing editor) (2021). From teachers to students creativity? the mediating role of entrepreneurial education, *Cogent Education*, 8:1, DOI: 10.1080/2331186X.2021.1943151
- Ismail, A.B., Sawang, S. (2020). Entrepreneurship Education, Pedagogy and Delivery. In: Sawang, S. (eds) *Entrepreneurship Education. Contributions to Management Science*. Springer, Cham. https://doi.org/10.1007/978-3-030-48802-4_1
- Jennifer, M. Krause, Kason O'Neil & Emily Jones (2020). Technology in Physical Education Teacher Education: A Call to Action, *Quest*, 72:3, 241-259, DOI: 10.1080/00336297.2019.1685553
- Joensuu-Salo, S., Peltonen, K., Hämäläinen, M., Oikkonen, E., & Raappana, A. (2021). Entrepreneurial teachers do make a difference – Or do they? *Industry and Higher Education*, 35(4), 536–546. <https://doi.org/10.1177/0950422220983236>
- John, T. Dalton & Andrew J. Logan (2020). Using the movie *Joy* to teach innovation and entrepreneurship, *The Journal of Economic Education*, 51:3-4, 287-296, DOI: 10.1080/00220485.2020.1804507
- Justin, Robertson (2022). Making the Most of Guest Experts: Breakout Rooms, Interviews, and Student Discussants, *Journal of Political Science Education*, 18:3, 362-378, DOI: 10.1080/15512169.2022.2081170
- Justin, Doran, Nóirín McCarthy & Marie O'Connor Christian Nsiah (Reviewing Editor) (2018). The role of entrepreneurship in stimulating economic growth in developed and developing countries, *Cogent Economics & Finance*, 6:1, DOI: 10.1080/23322039.2018.1442093
- Ka, Ho Mok & Jin Jiang (2020). Towards corporatized collaborative governance: the multiple networks model and entrepreneurial universities in Hong Kong, *Studies in Higher Education*, 45:10, 2110-2120, DOI: 10.1080/03075079.2020.1823647
- Kaya-Capocci, S., McCormack, O., Erduran, S. and Birdthistle, N. (2022). "Exploring the impact of positing entrepreneurship in nature of science: initial science teachers' perspectives", *Education + Training*, Vol. 64 No. 7, pp. 996-1017. <https://doi.org/10.1108/ET-05-2021-0180>

- Ken-Zen, Chen (2020) Coaching College Students' Self-Directed Online Learning Skills, Change: The Magazine of Higher Learning, 52:6, 48-56, DOI: 10.1080/00091383.2020.1839338
- Kirkley, W.W. (2017). "Cultivating entrepreneurial behaviour: entrepreneurship education in secondary schools", Asia Pacific Journal of Innovation and Entrepreneurship, Vol. 11 No. 1, pp. 17-37. <https://doi.org/10.1108/APJIE-04-2017-018>
- Papendieck, A., & Hughes, J. E. (2022). Critical innovators: How teachers and entrepreneurs position themselves as technology innovators in schools. Contemporary Issues in Technology and Teacher Education, 22(3). <https://citejournal.org/volume-22/issue-3-22/general/critical-innovators-how-teachers-and-entrepreneurs-position-themselves-as-technology-innovators-in-schools>
- Pittaway, L., Rodriguez-Falcon, E., Aiyegbayo, O., & King, A. (2011). The role of entrepreneurship clubs and societies in entrepreneurial learning. International Small Business Journal, 29(1), 37–57. <https://doi.org/10.1177/0266242610369876>
- Laurens, Klerkx (2021). Digital and virtual spaces as sites of extension and advisory services research: social media, gaming, and digitally integrated and augmented advice, The Journal of Agricultural Education and Extension, 27:3, 277-286, DOI: 10.1080/1389224X.2021.1934998
- Linton, G., Klinton, M. (2019). University entrepreneurship education: a design thinking approach to learning. J Innov Entrep 8(3). <https://doi.org/10.1186/s13731-018-0098-z>
- Manimala, M.J., Thomas, P. (2017). Entrepreneurship Education: Innovations and Best Practices. In: Manimala, M., Thomas, P. (eds) Entrepreneurship Education. Springer, Singapore. https://doi.org/10.1007/978-981-10-3319-3_1
- Maria, Elo, Lasse Torkkeli & Hannes Velt (2022). Matching International Business Teaching with the UN Sustainable Development Goals: Introducing Bi-directional Reflective Learning, Journal of Teaching in International Business, 33:4, 247-270, DOI: 10.1080/08975930.2022.2137277
- Mark Stevenson (2007). Embedding Hands-On Experience with ERP Systems into University Courses: Aligning Academic and Industry Needs, Innovation in Teaching and Learning in Information and Computer Sciences, 6:1, 1-11, DOI: 10.11120/ital.2007.06010004
- Melton, R.B (1965). Schultz's Theory of "Human Capital. The Southwestern Social Science Quarterly, Vol. 46, No. 3, (DECEMBER 1965), pp. 264-272. <https://www.jstor.org/stable/42880285>
- Meng, N., Dong, Y., Roehrs, D. et al. (2023). Tackle implementation challenges in project-based learning: a survey study of PBL e-learning platforms. Education Tech Research Dev 71, 1179–1207. <https://doi.org/10.1007/s11423-023-10202-7>
- Mittal, P., Raghuvaran, S. (2021). Entrepreneurship education and employability skills: the mediating role of e-learning courses. Entrep Educ 4, 153–167. <https://doi.org/10.1007/s41959-021-00048-6>
- Morrison, J., Frost, J., Gotch, C. et al. (2021). Teachers' Role in Students' Learning at a Project-Based STEM High School: Implications for Teacher Education. Int J of Sci and Math Educ 19, 1103–1123 (2021). <https://doi.org/10.1007/s10763-020-10108-3>
- Ncube, L. B. (2010). A Simulation of Lean Manufacturing: The Lean Lemonade Tycoon 2. Simulation & Gaming, 41(4), 568-586. <https://doi.org/10.1177/1046878109334336>
- Neck, H., Grossman, E., Winkel, D., Stamp, J. (2022). The Elusive Role of Play in Entrepreneurship Education. In: Larios-Hernandez, G.J., Walmsley, A., Lopez-Castro,

- I. (eds) *Theorising Undergraduate Entrepreneurship Education*. Palgrave Macmillan, Cham. https://doi.org/10.1007/978-3-030-87865-8_5
- Nieminen, L. and Hytti, U. (2016). Commitment to an entrepreneurship training programme for self-employed entrepreneurs, and learning from participation, *Education + Training*, Vol. 58 No. 7/8, pp. 715-732. <https://doi.org/10.1108/ET-02-2016-0036>
- Riebe, L., Sibson, R., Roepen, D., & Meakins, K. (2013). Impact of Industry Guest Speakers on Business Students' Perceptions of Employability Skills Development. *Industry and Higher Education*, 27(1), 55-66. <https://doi.org/10.5367/ihe.2013.0140>
- Rodriguez, Sophia; Lieber, Hannah (2020). Relationship between Entrepreneurship Education, Entrepreneurial Mindset, and Career Readiness in Secondary Students. *Journal of Experiential Education*, v43 n3 p277-298.
- Saadat, S., Aliakbari, A., Alizadeh Majd, A. and Bell, R. (2022), "The effect of entrepreneurship education on graduate students' entrepreneurial alertness and the mediating role of entrepreneurial mindset", *Education + Training*, Vol. 64 No. 7, pp. 892-909. <https://doi.org/10.1108/ET-06-2021-0231>
- Sanger, C.S. (2020). Inclusive Pedagogy and Universal Design Approaches for Diverse Learning Environments. In: Sanger, C., Gleason, N. (eds) *Diversity and Inclusion in Global Higher Education*. Palgrave Macmillan, Singapore. https://doi.org/10.1007/978-981-15-1628-3_2
- Saparuddin, Mukhtar, Ludi Wishnu Wardana, Agus Wibowo & Bagus Shandy Narmaditya | May Cheng (Reviewing editor) (2021). Does entrepreneurship education and culture promote students' entrepreneurial intention? The mediating role of entrepreneurial mindset, *Cogent Education*, 8:1, DOI: 10.1080/2331186X.2021.1918849
- Simon, Marginson (2019). Limitations of human capital theory, *Studies in Higher Education*, 44:2, 287-301, DOI: 10.1080/03075079.2017.1359823
- Sorana Vatavu, Madalin Dogaru, Nicoleta-Claudia Moldovan & Oana-Ramona Lobont (2023). The impact of entrepreneurship on economic development through government policies and citizens' attitudes, *Economic Research-Ekonomska Istraživanja*, 35:1, 1604-1617, DOI: 10.1080/1331677X.2021.1985566
- Strimel, Greg J., Kim, Eunhye, Bosman, Lisa (2019). Informed Design through the Integration of Entrepreneurial Thinking in Secondary Engineering Programs. *Journal of STEM Education: Innovations and Research*, v19 n5 p32-39.
- Sweetland, S. R. (1996). Human Capital Theory: Foundations of a Field of Inquiry. *Review of Educational Research*, 66(3), 341-359. <https://doi.org/10.3102/00346543066003341>
- Tynan, Sylvester (2018). *RimWorld* [Video game]. Ludeon Studios.
- Vlachopoulos, D., & Makri, A. (2017). The effect of games and simulations on higher education: A systematic literature review. *International Journal of Educational Technology in Higher Education*, 14, 22. <https://doi.org/10.1186/s41239-017-0062-1>
- Wang, A.Y. (2022). Understanding levels of technology integration: A TPACK scale for EFL teachers to promote 21st-century learning. *Educ Inf Technol* 27, 9935–9952. <https://doi.org/10.1007/s10639-022-11033-4>
- Warhuus, J.P., Tanggaard, L., Robinson, S. and Ernø, S.M. (2017). From I to We: collaboration in entrepreneurship education and learning?, *Education + Training*, Vol. 59 No. 3, pp. 234-249. <https://doi.org/10.1108/ET-08-2015-0077>
- Woolfolk-Ruiz, D.E., Acosta-Alvarado, M. (2016). Experiential Activities: A Tool to Increase Entrepreneurial Skills. In: Peris-Ortiz, M., Gómez, J., Vélez-Torres, F., Rueda-Armengot, C. (eds) *Education Tools for Entrepreneurship*. Innovation, Technology,

-
- and Knowledge Management. Springer, Cham. https://doi.org/10.1007/978-3-319-24657-4_12
- Wu, D., Zhou, C., Liang, X. et al. (2022). Integrating technology into teaching: Factors influencing rural teachers' innovative behavior. *Educ Inf Technol* 27, 5325–5348 (2022). <https://doi.org/10.1007/s10639-021-10815-6>
- Yang, Y.-T. C. (2012). Building virtual cities, inspiring intelligent citizens: Digital games for developing students' problem solving and learning motivation. *Computers & Education*, 59(2), 365–377. <https://doi.org/10.1016/j.compedu.2012.01.012>
- Zulfiqar, S., Sarwar, B., Aziz, S., Ejaz Chandia, K., & Khan, M. K. (2019). An Analysis of Influence of Business Simulation Games on Business School Students' Attitude and Intention Toward Entrepreneurial Activities. *Journal of Educational Computing Research*, 57(1), 106–130. <https://doi.org/10.1177/0735633117746746>