

Building a Sustainable Workforce through Skill Development: A Conceptual Exploration

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Abstract

Skill development is crucial for a sustainable workforce, as it ensures that the workforce can adapt to enhance productivity and efficiency, promoting economic expansion while reducing resource usage. Skill development fosters innovation and creativity, encouraging critical thinking and creative problem-solving. Sustainable activities promote eco-friendly practices, resource preservation, and waste minimization, reducing environmental impact. A skilled workforce can handle economic fluctuations and uncertainties, ensuring competitiveness in the labor market and workforce long-term viability. The objective of this conceptual review is to reexamine the existing body of literature pertaining to the development of skills in relation to sustainable workforce development, and to examine potential avenues for future study in this field. The researchers utilized VOSviewer software to do a Systematic Literature Review (SLR) and conduct keyword co-occurrence analysis. This analysis aimed to identify the specific areas that require attention from researchers. To assure the quality of the input for this conceptual paper, articles have been sourced from the Scopus database. Potential avenues for future research have been outlined in relation to the research deficiencies discovered in this endeavor. This research has discovered several gaps in knowledge, empirical evidence, contextual understanding, and methodology

Keywords: Skill development, Sustainable workforce development, Systematic Literature Review, Future Research Directions

Introduction

The contemporary labour market is commonly distinguished by dynamic shifts in work circumstances, encompassing Self-employment has become increasingly popular, particularly among young people who have a strong inclination towards working as self-employed individuals when asked about their preferences. Furthermore, contemporary employment practices need individuals exhibiting skills, including but not limited to risk-taking, proactive and inventive approaches, networking, and capitalizing on opportunities. Furthermore, the COVID-19 pandemic has caused a significant disruption in the economy and job market and has had a profound effect on work practices (Karaca-Atik et al., 2023). The labour market has evolved, necessitating modern employees to possess skills such as innovation, creativity, problem-solving, teamwork, time management, and communication. These skills are essential for effective collaboration with diverse backgrounds and are referred to as 21st-century skills. These skills are crucial for students to assimilate into both professional and personal spheres after graduation. They are expected to enhance employability in the dynamic work landscape and facilitate the establishment of enduring professional trajectories. As employers allocate reduced funds towards employee training and development, universities are tasked with equipping the workforce to meet labour market demands. Therefore, it is essential for higher education graduates, particularly those in social sciences, to acquire these skills during their academic programs. These skills are expected to enhance students' employability in the dynamic work landscape and facilitate the establishment of enduring professional trajectories. These initiatives align with Sustainable Development Goals (SDGs), such as SDG 4 (quality education), SDG 8 (decent work and economic growth), SDG 9 (industry, innovation, and infrastructure), and SDG 11 (sustainable cities and communities). Overall, skill development programs are essential for a sustainable workforce that can drive economic growth, foster creativity, and address global issues while ensuring social inclusivity and environmental responsibility. (Karaca-Atik et al., 2023)

Understanding the relationship between skill development and sustainable workforce development is crucial in today's rapidly changing labor market. A well-developed workforce that is equipped with the necessary skills can contribute to long-term sustainability in economic and social dimensions. Existing literature offers diverse approaches to examining this relationship, which highlights its complexity and the need for further investigation.

This conceptual paper aims to address the research problem by exploring the prevailing literature on skill development and sustainable workforce development and identifying future research opportunities in this critical area.

Literature Review

Skill development

DeSeCo, a project initiated by the OECD in 1997, identified three sets of 21st-century skills: interactive tool usage, interaction within a diverse group, and autonomous action. Other international entities, such as the European Union (EU) and the United Nations Educational, Scientific and Cultural Organisation (UNESCO), have also released their frameworks. The EU framework focuses on essential skills for continuous learning, while UNESCO focuses on ICT proficiency to equip teachers with the ability to use ICT in the education system. (Karaca-Atik et al., 2023). The discussion on smart technology diffusion emphasizes skills, but it is linked to a reductionist presumption that focuses on the enhancement of digital competencies through training, which is seen as the direct relationship between skill enhancement, technology acceptance, and usage. (Gerli et al., 2022).

The notion of the Circular Economy (CE) has experienced significant growth in the 21st century, emerging as a crucial driver of sustainability initiatives. Due to the impact of company decisions on both environmental circumstances and consumer tastes and habits, the private sector is acknowledged as a crucial driver for the overall transition to a circular economy in society. (Koska & Erdem, 2023). Merely addressing identified skill gaps may not be adequate for achieving optimal performance in a circular company model. It is imperative to effectively leverage the skills present inside an organisation. The successful application of skills is contingent upon the establishment and maintenance of processes, organisational structures, and technology as integral micro-foundations (Straub et al., 2023)

Sustainable Workforce Development

Karaca-Atik et al., 2023 as cited by De Vos et al. (2020) created a conceptual framework for sustainable careers. This model comprises three frequently interconnected elements: i) the individual (as the primary career agent), ii) the context in which the individual operates (including personal, organisational, and national factors), and iii) time, which encompasses a significant duration encompassing the past, present, and future. The comprehensiveness of the model lies in its focus on individuals as the primary agents in shaping their careers, its recognition of the involvement of various stakeholders in ensuring career sustainability, and its emphasis on adopting a long-term outlook to comprehend sustainable careers.

Career sustainability is a concept that originates and evolves at the individual level, influenced by several individual and contextual elements that evolve over time (Karaca-Atik et al., 2023 as cited by de Vos et al., 2020)

Data Presentation and Analysis

A structured literature review was conducted to comprehend the available research on the relationship between skill development and workforce sustainability. Major academic databases such as Scopus, Web of Science, and Google Scholar were used with combinations of keywords like "skill development," "workforce sustainability," and "human capital development." The search parameters included publications from peer-reviewed journal articles, conference proceedings, and high-impact reports, starting from 2000 up to 2023.

The selected literature is wide-ranging, spanning regions, with a strong emphasis on studies emanating from North America, Europe, and Asia, each with its unique economic and cultural context. Such temporal and regional diversity ensures that comprehensive knowledge concerning global trends in skill development and workforce sustainability is secured. These works include conceptual papers, empirical studies, and systematic reviews that combine to give a holistic view of the subject. The data collected from the Scopus database was analysed using VOSviewer software (version 1.6.19) and Keyword co-occurrence analysis, as stated in Dogra, P., & Priyashantha, K. G. (2023). Two clusters of keywords have been created using VOSviewer. The various colours used to represent clusters show the connections between the important words inside each cluster.

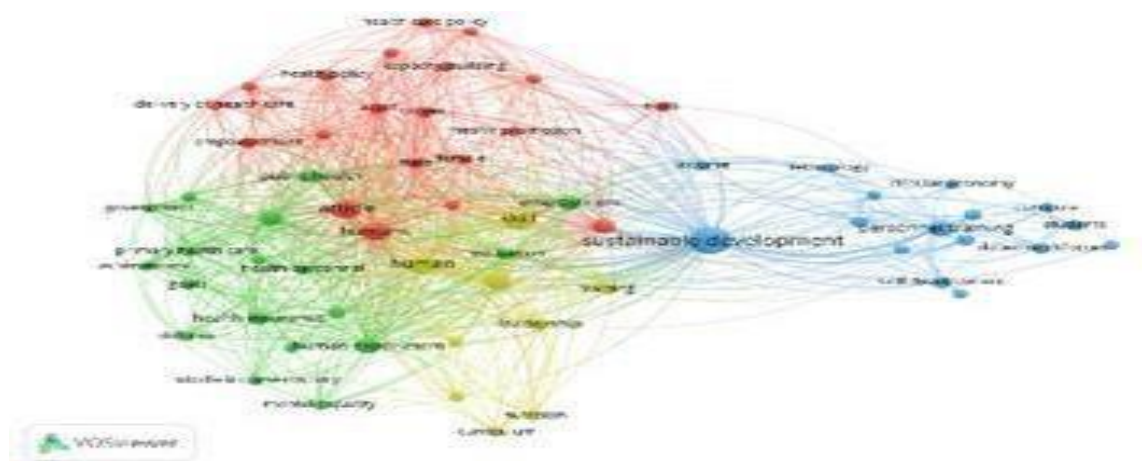


Figure 1. Keyword co-occurrence network visualization
Source: Created by the author via VOS viewer output

The density visualization map shows that the keywords in the yellow and green regions have not been well investigated and hence require additional research. It also indicates a great deal of ignorance on these particular terms, which means there are many opportunities to study in this area. On the other hand, if the keywords are located in a red area, it means that a significant quantity of study has already been done in that specific field and that knowledge is easily accessible (Dogra, P., & Priyashantha, K. G., 2023)

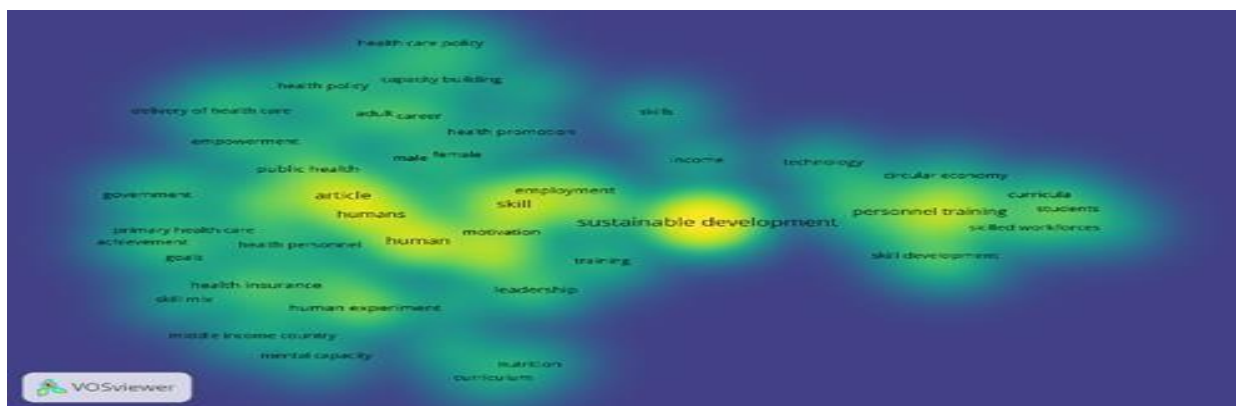


Figure 02: Density Visualization Map of Keywords
Source: Created by the author via VOSviewer output

Further data analysis has been performed using Scopus database and figure 3 illustrates that a few numbers of articles have been published related to this area.

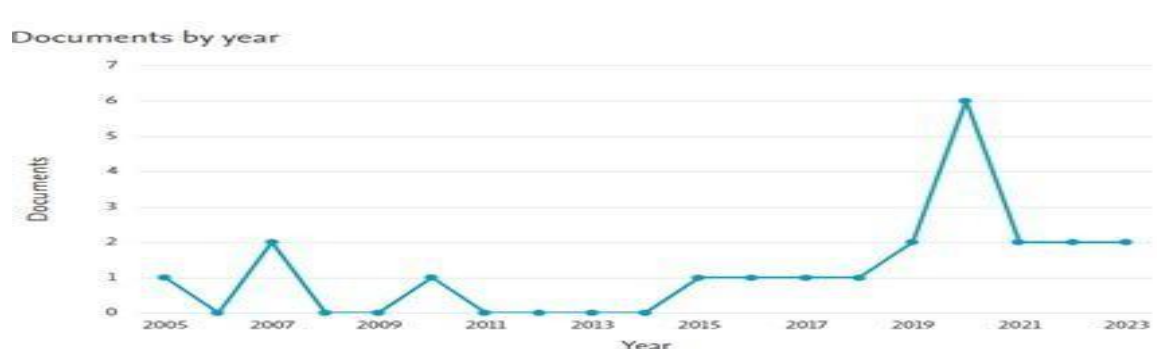


Figure 3. Article Publication Trend
Source: Scopus Database

Figure 4 illustrates that there is a significant contextual gap in the research conducted in this field since only 6 countries have contributed.

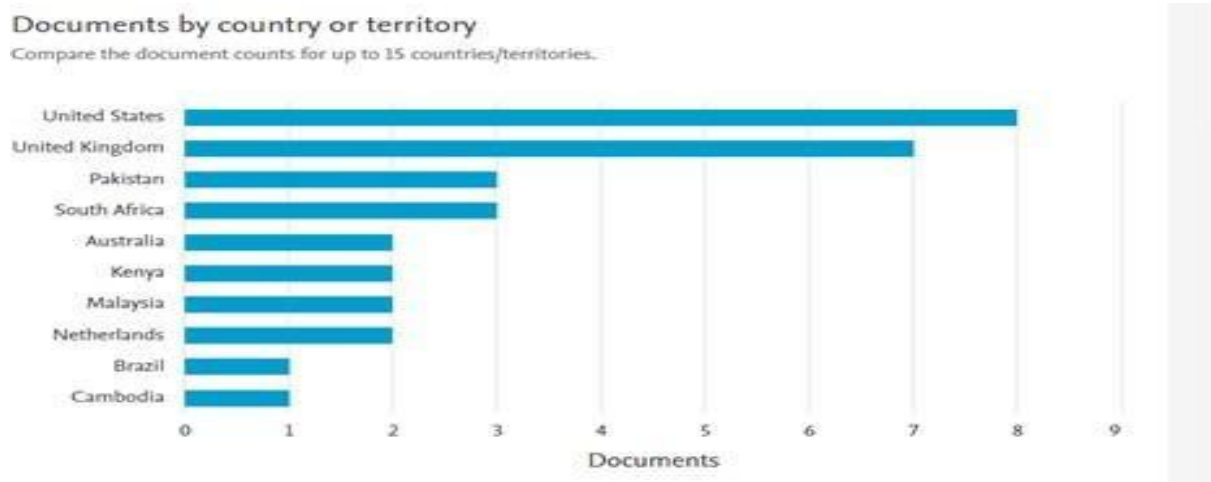


Figure 4. Country wise article publication

Source: Scopus Database

Figure 5 illustrates that there is a less percentage of journal articles related to the **skill development and sustainable workforce development** compared to the percentage of conference papers published in this area.

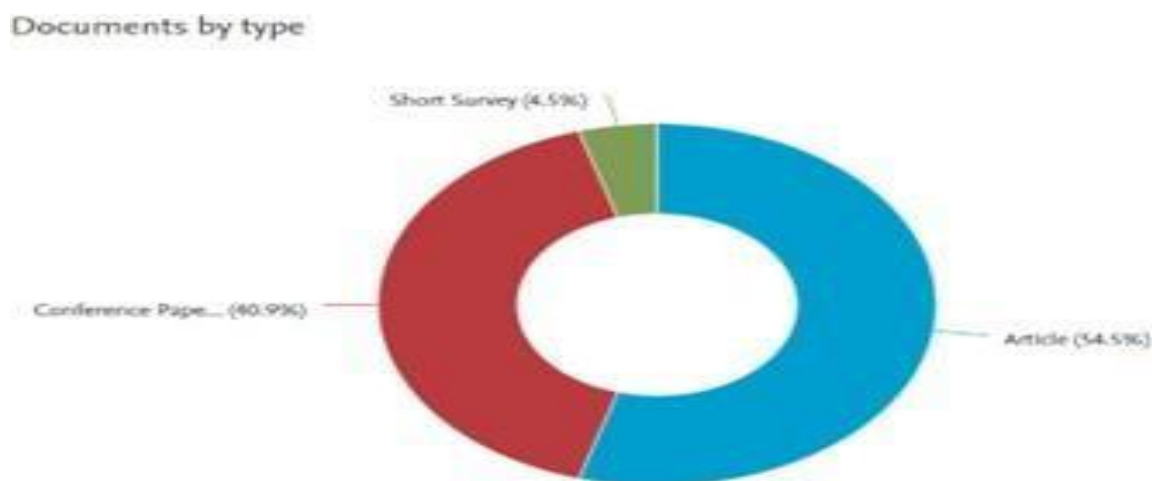


Figure 5. Article Publication by document type

Source: Scopus Database

Research Findings and Analysis

Some Major Research Gaps and Future Research

Directions Contextual Gap

The field of skill development and sustainable workforce development has a notable research gap. Given the burgeoning nature of sustainable workforce development, there is a dearth of research undertaken in this domain, and the extent of worldwide coverage on this subject is also exceedingly restricted. Further investigation can be undertaken to gain a comprehensive understanding of the matter within diverse demographic and geographical settings, with a specific focus on Sri Lanka. Also, Analyze the methods by which these skills can be efficiently instructed in higher education environments in order to enhance the readiness of social sciences students for the challenging job market. A thorough review on the identification of crucial 21st-century abilities for the sustainable career development of graduates in the field of social sciences.

Knowledge Gap

There is a lack of understanding in research on skill development and sustainable workforce development. To fully comprehend the subject at hand, it is imperative to establish a complete framework.

Research examining the viewpoints of individuals who have completed their education, employers, and legislators. Nevertheless, no papers meeting all the criteria were found that offered the viewpoint of policymakers. As a result, the findings are limited to the viewpoints of individuals who have completed their education and work in the field (Karaca-Atik et al., 2023). Future research should need to explore the impact of various 21st-century abilities, including the ones highlighted in this study, such as communication and problem-solving skills, on the long-term career sustainability of social sciences graduates (Karaca-Atik et al., 2023).

Moreover, the endeavor to enhance worker engagement and enhance work schedule adaptability may entail implementing varying rotation frequencies and varying durations of working days for different workers, taking into account their specific expertise, age, and physical constraints. Subsequent inquiries will ultimately explore the impact of various learning curve forms and training expenses to expedite the learning process in diverse occupations. (Battini et al., 2022)

A methodological vacuum exists within the realm of research pertaining to skill development and sustainable workforce development. Only a small number of studies have employed both qualitative and quantitative methodologies. This study does not encompass all segments of vulnerable children that are susceptible to dropping out, thus necessitating additional research on a broader scope. There is a need for extensive research endeavors that concentrate on certain economic sectors and work situations, encompassing many stakeholders within the organization such as supervisors, co-workers, and individual ageing workers. These studies should incorporate economic assessments in order to experimentally test our theories. This would help to gather evidence for the development of customized policy and practice recommendations. Furthermore, this study specifically examined tertiary preventative methods that proved ineffective in certain circumstances. Therefore, it is recommended that future studies investigate the primary and secondary strategies for preventing long-term organizational policies and addressing unmet needs in order to establish a supportive work environment that can accommodate the expected ageing of the workforce. This will contribute to extending the working life and promoting skill development. (Rinsky-Halivni et al., 2022).

Empirical research on skill development and sustainable workforce development lacks sufficient coverage. The investigation and empirical examination of the effects of skill development and sustainable workforce development can be undertaken. Establishing precise objectives pertaining to the work setting in which the careers of social sciences graduates progress, as well as the challenges and requirements they encounter during their career advancement, can serve as a crucial initial step in examining the skills that are closely associated with each criterion outcome associated with the long-term viability of social sciences graduates' careers. (Karaca-Atik et al., 2023). At the same time, the responses of employees to skill development initiatives may differ depending on their age and gender. This presents a valuable opportunity to examine the correlation between employees' age and gender and their inclination towards skill development activities. (Karaca-Atik et al., 2023)

The present studies offer an in-depth and all-encompassing conceptualization of the interconnections between psychological factors, the acquisition of skills, and the adoption of smart technology. Further investigation is required to discover the magnitude of these associations and to determine how the impact of specific elements differs in various geographical and sectoral settings. Moreover, it is imperative to conduct additional research on the influence of socio-economic characteristics, such as the age of individuals who do not utilize technology, the scale of their organizations, or the intricacy of the technology, in order to have a comprehensive understanding of their potential effects on the associations between psychological aspects and skills. (Gerli et al., 2022)

Conclusion

Skill development has gained a lot of traction nowadays on sustainable workforce development. More research is needed to investigate the relationship between skill development and sustainable workforce development. A few research has been conducted in this area and there is research gaps exist in the field such as knowledge gaps, contextual gas, empirical gaps and methodological gaps. There is a huge potential to conduct research in Sri Lankan context since skill development and sustainable workforce development as it would be beneficial to country strive towards digitalization and economic recovery.

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