Skill-Based Education and its Impact on Lifelong Learning and Career Advancement

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Abstract: The inadequate integration of skill-based education into lifelong learning pathways presents a significant obstacle to career advancement and adaptability in today's rapidly evolving job market. This study examined the central role of skill-based education and its influence on the development of lifelong learning and career advancement. In the contemporary period characterised by rapid progress in technology and economy, it is essential for people to consistently learn and use developing talents. This study evaluated the impact of skill-based education programmes on people' ability to adapt, develop, and advance in their professional endeavours. The research used a quantitative research design, with a sample of 50 participants, mostly composed of students and educators. Participants were administered a self-structured questionnaire to collect primary quantitative data, which was then analysed using correlation and regression analysis. The statistical software SPSS by IBM was utilised for data analysis. The sampling technique used in this investigation was convenience sampling. The study results found positive correlation between Skill based education and Technological and Economic advancement (p = 0.000). The study found Skill based education positively contribute the lifelong Learning. To better appreciate the value of skill-based education programmes in fostering lifelong learning and career advancement in a variety of settings, it would be helpful to do more research into a selection of these programmes and the sectors and areas in which they have had the most impact.

Keywords Skill Based Education, Technological and Economic Advancement & Career Advancement, skill-based learning etc.

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I. INTRODUCTION

In today's increasingly competitive job market, graduates need to diferentiate themselves in order to get employment. Employers are picky about who they bring in to fill open positions in their companies, and they generally consider the graduates of higher education institutions to be suitably qualified for the jobs that they are hired to do. Consequently, Academic institutions assume an important role in the facilitation and comprehension of abilities that align with the requirements of several industries, so expanding the job prospects available to graduates (McMurray et al., 2016). Outstanding academic performance is just one factor in determining a graduate's marketability; other factors include their acquisition of skills and qualities valued by employers.

Students grow via practice and actual use of acquired skills in skill-based learning. Reading, writing, speaking, and the development of literacy are only some of the abilities that may be taught and learned via frequent exposure to real-world examples and demonstrations (Gomathi & Rajamani, 2018).Instilling the new skill while simultaneously arousing a realization of its portability from one area of interest to another, a skill-based education guarantees the learner's proficiency, flexibility, and, by extension, total worth (Özdemir et al., 2023).

Literacy, ethical decision making, and effective communication are more important than ever as a result of the globalization of education and the workplace. This focus on skill-based learning may be partially attributed to the pervasive nature of technology in the modern day. This kind of education is helpful for everyone involved, from students and instructors to workers and business owners (Dinelti Fitria et al., 2023).

Since skill-based learning is flexible and has a track record of improving student competency in any job, it is used in a wide range of professions and disciplines. By effectively using a skill-based learning strategy, one may improve personally and professionally and achieve long-term objectives. By honing these abilities, one may increase selfassurance, increase work satisfaction, and become more adaptable (Sam Campanella, 2023).

In this age of relentless innovation and economic dynamism, it is no longer sufficient to rely solely on

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conventional academic credentials to secure a fulfilling and prosperous career. The capacity to adjust, develop, and attain novel proficiencies along an individual's vocational trajectory has emerged as not just a prized attribute, but an imperative need (Balwit et al., 2021). Education that focuses on practical skills may help students succeed in a fast evolving global workforce by filling the gap between academic theory and the practical needs of employers (Rainie & Anderson, 2017).

The value of a well-rounded education that emphasises practical skills is paramount in the dynamic and unpredictable economy and rapidly developing technologies of the twentyfirst century. In light of this, the study set out to investigate the function of skill-based education and its significant impact on two fundamental facets of an individual's life: lifelong learning and career advancement. This study aims to aid educators, policymakers, and students by exploring the complexities of skill development, its relationship to technological and economic advancement, and its contributions to lifelong learning. Individuals may be better prepared to succeed in a world marked by perpetual change if we recognise the importance of skill-based education, encouraging a mindset of lifelong learning and paving the way for successful professional development. The ultimate purpose of this research is to shed light on the transformative potential of skill-based education and to firmly plant it as an integral part of today's workplace.

II. LITERATURE REVIEW

(Lobo, 2022) looked at many variables that affect whether or not students utilise Google Meet as a virtual classroom. In addition, the research used the Technology Acceptance Model as a theoretical framework to assess the efficacy of Google Meet in enabling the teaching of skillbased concepts. The statistical approach of PLS-SEM was used to gather data from a sample of 250 Bachelor of Physical Education students, 42.0% of whom were female and 58.0% of whom were male, using SmartPLS4. The findings reveal a favourable and statistically significant relationship between how consumers perceive the product's ease of use and its usefulness. Students' behavioural intentions to utilise are also strongly related to their perceptions of how easy and helpful the tool will be to use. In addition, there is a link between the impact of behavioural intention to use on the extent to which the videoconferencing platform is actually used.

Undergraduates in a Business Education Programme had the efficacy of a collaborative project-based learning paradigm assessed (Rupavijetra et al., 2022). The study was conducted with the hope of enhancing their professional and entrepreneurial prospects. The research proved the efficacy of using group projects to teach students about business and help them develop the abilities they'll need to start their own companies. The majority of students said they were satisfied or very satisfied with the collaborative project-based learning they had participated in, and many said they had improved in many different ways as a result. Highest levels of student satisfaction were found for project-based learning (90%), and for the ability to obtain knowledge and experience while undertaking self-employed programmes (95%). In their study, (Huang & Baker, 2021) looked at the possibility of individuals in entry-level hospitality and tourism roles making skill-based career transfers across industries. There is a lack of literature on the challenges of changing careers in the hotel and tourist industry. With both theoretical and practical consequences, the research suggests that hospitality and tourist personnel improve their technological abilities to raise their employability.

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The pedagogical and professional abilities of vocational instructors were analysed (Eka Tuah et al., 2021), since they are a crucial part of the modern educational system. The research indicates that the majority of vocational educators place a high value on their professional competence, while rating their pedagogical skill as poor. The findings of this research highlight the relevance of psychological methods to enhancing vocational instructors' professional competence and show the need of retraining to increase pedagogical ability.

The cognitive ability, pre-academic skills, behavioural patterns, health, and social-emotional consequences of children were studied in a study by (Joo et al., 2020). Studies evaluating ECE programmes in the United States between 1960 and 2007 were included in the meta-analysis. There is hope for improving children's cognitive capacity, preacademic abilities, behaviour, health, social-emotional development, and readiness for formal education via the combination of parental participation and a curriculum focused on developing particular skills within ECE courses. No significant differences in results were detected for ECE programmes with and without extra teacher professional development. Further study is required to establish critical success elements and possible barriers to children's school preparation in ECE programmes, although the research does emphasise the need of well-designed parent programmes and academically oriented curriculum for improved ECE results.

The evaluation of the difficulties brought on by Industry 4.0 (Flores et al., 2020) highlights the need of taking a comprehensive approach to addressing these difficulties in training and education programmes. Current programmes tend to concentrate more on technology or subjects than on developing participants' skill sets. The research presented a person-centred model that takes into account different skill levels, demographics, and potential ecosystem states.

To enhance the standard of education in response to the challenges posed by globalisation and Industry 4.0, (Nurtanto et al., 2019) used a PBL approach to integrate the teaching of the internal combustion engine with instruction in reading, writing, and problem-solving skills. Two cycles of classroom action research involving 34 students showed significant gains in several areas: literacy movement implementation (19.1%), student behaviour (14.8%), and curriculum competence (11.3%) all benefited from an emphasis on character values. These results point to the need of such cutting-edge methods in engineering education if we are to successfully meet the problems of today.

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(Ali & Marwan, 2019) investigated the progression of career management abilities within the framework of WBL in the realm of higher education. The study employs a qualitative research approach, including document analysis and expert interviews as means of data collecting. The document analysis involves examining relevant documents related to WBL, while the expert interviews include engaging with individuals who possess expertise in WBL from diverse backgrounds. The twenty components of career management competence discovered in this study may be broken down into the following three categories: learning and job exploration, career development, and self-management.

Improving web-based information retrieval outcomes via the use of outcome-based approaches in e-learning systems was explored (Gomathi & Rajamani, 2018). In order to enhance the effectiveness of competency-based e-learning, researchers focused their attention on the use of fuzzy knowledge models. Fuzzy membership functions and rules are used to articulate fuzzy knowledge, and the study proposes a collection of flexible courses and syllabi for students.

This research by (Mahmood et al., 2018) intended to add to the current body of literature by investigating the function of career competences as a mediator between the learning environment and the employment outcomes of graduates from TVET programmes in developing nations. Data from TVET alums in self-employment or other fields of work were obtained using known metrics from the literature to test the hypotheses put forward in this study. Using a stratified sampling method, we were able to reach out to around 500 participants. Positive correlations between a practice-based curriculum and several measures of professional achievement were found. The inclusion of an inquiry-based curriculum, as the second component of the learning environment, has been shown to have a favourable impact on employment

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performance. This is achieved by facilitating career modification and control, as well as enhancing communication and networking abilities.

Career competence development among vocational students has been studied (Zakaria et al., 2018) as a way to address the skills gap in the labour market. It highlights the learning source, assessment, explicit goals, task burden, and the learning community as aspects that contribute to a successful CBT setting.

III. METHODOLOGY

Using a sample of 50 participants and quantitative research approach, this study mostly included students as well as educators. A self-structured questionnaire was used to administer the data collection process, allowing for the gathering of primary quantitative data. Using IBM's SPSS software, the acquired data were then submitted to statistical analysis, especially using correlation and regression analysis methods. Convenience sampling was used in the study to choose the participants for this inquiry since it was appropriate given the parameters and scope of the study.

This research is based on the data of fifty people. The sample size of the study is small, but it is planned in such a way that statistical analysis can be conducted. The statistical power of the study will greatly increase with a larger sample size.

The information gathered from the questionnaires was analysed with the help of SPSS (Rahman & Muktadir, 2021). SPSS is widely used for statistical analysis and has many potential applications. This software is used to compute frequencies, percentages, and inferential statistics in order to make sense of the survey data.

IV. RESULT & DISCUSSION

Correlations Analysis

		Table 1 Correlation				
		Skill Based Education	Technological and Economic Advancement			
Skill Based Education	Pearson Correlation	1	.618**			
	Sig. (2-tailed)		.000			
	Ν	50	50			
Technological and	Pearson Correlation	.618**	1			
Economic	Sig. (2-tailed)	.000				
Advancement	Ν	50	50			
**. Correlation is significant at the 0.01 level (2-tailed).						

In this table show that strong positive correlation between "Skill-Based Education" and "Technological and Economic Advancement." With a Pearson correlation coefficient of approximately 0.618, it indicates that as levels of skill-based education increase, there is a corresponding increase in technological and economic advancement. The significance level (Sig.) of .000 underscores the robustness of this relationship, signifying that this correlation is highly unlikely to have occurred by chance.

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		Ν	Marginal Percentage			
Lifelong Learning	Strongly Disagree	5	10.0%			
	Disagree		22.0%			
	Neutral	11	22.0%			
	Agree	7	14.0%			
	Strongly Agree	16	32.0%			
Valid		50	100.0%			
Missing		0				
	Total	50				

Table 2 Case Processing Summary

This table provides information regarding lifelong learning based on the responses of fifty participants. 32% of respondents strongly concur with the concept, 22% disagree, and the same 22% are neutral. In addition, 14% concurred, indicating some support for lifelong learning. This

information provides valuable insight into the distribution of respondents' perspectives, with a notable emphasis on strong agreement and a large proportion of respondents remaining neutral or expressing disagreement regarding the concept of lifelong learning.

Table 3 Model Fitting information

Model	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	79.527			
Final	34.378	45.149	1	.000

For statistical reasons, data from the table may be used to fit a model. The "Intercept Only" model has a -2 log likelihood of 79.527, which indicates how well it matches the data. Contrarily, the "Final" model has a far lower -2 log likelihood of 34.378, suggesting that it significantly better matches the data. The "Final" model is statistically superior than the "Intercept Only" model, as shown by the chi-square value of 45.149 with 1 degree of freedom. The "Final" model seems to be a better match for the data, according to the pvalue (Sig.) for the chi-square test, which is very low at.000.

	Chi-Square	df	Sig.
Pearson	16.965	15	.321
Deviance	17.139	15	.311

This table offers a comparative analysis of goodness-offit using Pearson's chi-square and Deviance, two different statistical tests, to assess how well a model fits the data that have been observed. Both tests provide chi-square values of 16.965 and 17.139, respectively, with degrees of freedom (df) equal to 15. The significance level (Sig.) associated with both tests is relatively high, with values of 0.321 for Pearson's chisquare and 0.311 for Deviance. These results suggest that the model being tested does not significantly deviate from the expected values, as indicated by the lack of statistical significance. In other words, there is no strong evidence to reject the null hypothesis, indicating a reasonable fit between the model and the observed data.

Table 5	Pseudo	R-Square
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Cox and Snell	.595
Nagelkerke	.624
McFadden	.294

In this table presents three different pseudo R-Square values for a statistical model. Cox and Snell's pseudo R-squared is 0.595, suggesting a moderate degree of goodness-of-fit to the data. This means that the model explains around 59.5% of the variance. The Nagelkerke pseudo R-Square implies a significantly better fit, accounting for around 62.4% of the variance, with a value of 0.624. The McFadden pseudo

R-Square value of 0.294, on the other hand, indicates a much worse fit, accounting for just 29.4 percent of the variance. Logistic regression and other statistical modelling techniques often make use of pseudo R-Square values, with higher values indicating a better fit and a greater ability to explain variation in the dependant variable.

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Table o Falanielei Estimates								
							95% Confidence Interval	
							Lower	
		Estimate	Std. Error	Wald	df	Sig.	Bound	Upper Bound
Threshold	[Lifelong Learning = 1.00]	051	.589	.007	1	.931	-1.205	1.104
	[Lifelong Learning = 2.00]	1.752	.539	10.561	1	.001	.696	2.809
	[Lifelong Learning = 3.00]	3.610	.798	20.449	1	.000	2.046	5.175
	[Lifelong Learning = 4.00]	5.186	1.050	24.411	1	.000	3.129	7.243
Location	Skill Based Education	1.351	.262	26.544	1	.000	.837	1.865

Table 6 Parameter Estimates

This table shows a parameter estimate for a statistical analysis that focuses on two variables. For the "threshold" variable, which is divided into different levels of "lifelong learning" (ranging from 1.00 to 4.00), the estimates reveal the effect of each level on the outcome. Specifically, as the level of "lifelong learning" increases, there is a significant positive effect with estimates of 1.752, 3.610, and 5.186 for levels 2.00, 3.00, and 4.00, respectively, compared to the reference level 1.00. These differences are statistically significant with low p-values (p < 0.001). The "location" variable, especially "skills-based education" has a substantial positive effect with an estimate of 1.351, and this effect is also statistically significant (p < 0.001). Standard errors, Wald statistics, degrees of freedom, and confidence intervals are provided for each estimate, providing insight into the precision and reliability of the parameter estimates.

V. CONCLUSION AND FUTURE WORK

As a result of this study, it is clear that skill-based education is more important than ever in today's society, which is characterised by fast technological and economic revolutions. Skill-based education was shown to have a considerable positive link with technical and economic progress, and its contribution to lifelong learning was highlighted. The research emphasises the urgent necessity for such programmes in the present environment by shedding light on the far-reaching effect of skill-based education on people' adaptability, skill development, and career advancement. We need to learn more about the long-term effects of specialised skill-based education programmes in different fields. Findings from this study provide a foundation for learning how skill-based education equips people to adapt to and succeed in a dynamic, complex, and competitive global economy.

Future research should focus on long-term impact through education, sector-specific analysis, comparative studies, global perspectives, qualitative research, policy implications, and online learning platforms, improving our understanding and implementation of skill-based education for lifelong learning and career advancement.

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