

Effects of Academic, Vocational, and Integrated Education on Graduate Employment Outcomes

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Abstract. This study investigates the link between different higher education models – academic, vocational and integrated education – and the employment outcomes of university graduates. It synthesises empirical evidence on graduate employment rates and employment quality, as well as skills learned, from a systematic literature review of studies published between 2015 and 2025 across multiple national contexts. The review finds support for a closer alignment of long-term career outcomes with general cognitive and analytical skills developed through academic education models, although this is less clear for early labour market entry. Strong early employment outcomes are often associated with vocational education models due to its focus on the skills required by particular occupations, but this may also limit occupational mobility if skills are narrowly specialised. Integrated education seems to draw from both models with more stable early employment outcomes and the development of adaptive and transferable skills. Integrated education is more likely to support both early employment outcomes and sustained career development. They should be interpreted considering the large variation in labour market institutions and higher education systems across countries.

1. Introduction

With the rapid development of higher education systems in the global world, the expectations of the system in aiding graduate employment and economic growth are also increasing. It is on this background that the high rate of technological advancement and economic redesign are affecting the demands in the labor market where it is the role of universities to provide graduates with all requisite skills needed to effectively secure jobs. At the same time, educational diversity undermines the assumptions of the traditionalism which claimed that educational one or two is more effective in promoting employment among students as compared to other paths. Although academic, vocational and integrated education models co-exist in most national systems, there are great differences in terms of curriculum design, skills orientations and the relationship with the labor market.

In the recent years, the relationship between education and employment call to more and more scholarly and policy interest. The academic education is linked to the growth of the theoretical knowledge, critical thinking and intellectual development in the long-term,

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whereas the vocational education is aimed at giving students the abilities to cope with concrete professions based on practical and job-oriented training. These opposing orientations have given rise to the continuous arguments on whether or not academically oriented programmes adequately prepare graduates to enter the labour market and whether or not vocational paths can facilitate longer term career development than the first pressures of the employment contract. With the evolving nature of labour markets in both structure and qualification needs, the idea that has always been viewed as the two worlds; that is, the academic and vocational spheres of education has been subject to growing questioning. Employers no longer care simply about the subject level knowledge, but also how the graduates can use their newly gained knowledge in a real work environment and their adaptability to change in the workplace environment. Many countries in their higher education systems have over the past few years shifted closer to the intersection of academic and vocationally oriented learning in a bid to attain a better fit between graduate skills and the requirements of the labour market. Although limited studies on the effect of academic and vocational education have been carried out independently, there is a relative lack of studies that analyze these models in comparison to integrated methods of common employment outcomes.

The paper investigates the correlation between academic, vocational and integrated methods of higher education and enrollment rates of universities at the employment level. It is based on a literature review published since 2015 and ends in 2025, it is a comparison of how these models correspond to the rate of employment, quality of jobs and the quality of professional skills development in various national contexts. By studying these pathways simultaneously, one will be in a position to go beyond mere comparisons and be in a better position to comprehend how education can impact early job experiences and career growth in the long term.

2. Research methodology

This paper has chosen a qualitative approach of analytical review where literature will be utilized to critically examine how academic education, vocational education and integrated educational model administers effect on employment of university graduates. It is also the subject of the literature review that is very suitable as one can synthesize and compare empirical results and theoretical claims of various nationalities and education systems without involving primary data gathering.

The sources of literary information used to carry out this research include review papers, official documents concerning government policies, general publications in the education field, and some case studies. The literature period of time initially will be starting in 2015 and up to 2025, and there will be a specific focus on the latest studies published five years prior.

In order to offer quality and relevance, this paper used clear selection criteria in reviewing the literature. The sample was selected based on the criterion of including the studies that represented different national and higher education settings so as to reflect the variety in education systems and labour market formats. The review takes into consideration the studies that use quantitative, qualitative and mixed methods and takes into account the evidence that gives both consistent and conflicting results about the relationship in terms of education models and employment outcomes. This will enable the analysis to provide a more critical and balanced review of the available literature.

The inclusion and exclusion criteria used in the screening process were clear. One, such studies had to be placed in the context of a higher education tertiary level and second, on formal, vocational, or integrated models of education. Second, they should specifically focus on graduate employment outcomes, such as the employment rates, the quality of jobs and

skills development. In addition, academic criterion was applied to only include the studies that have a well-developed research design and had some empirical evidence or theoretical support. The studies were sifted out in case they did not have the methodological clarity, adequate empirical or theoretical evidence, or they were concentrated on secondary education or a problem irrelevant to graduate employment. After the screening, the final analysis selection criteria settled at 15 articles. A comparative analysis of the chosen studies was subsequently done. We mostly concentrated our attention on analyzing the differences in the rate of employment, employment quality, and outcome of skills acquisition by comparing the academic, vocational, and integrated education models.

3. Result

Based on a systematic review of the literature available, this section can summarise literature on the role played by various educational models in improving the employment rates and quality of graduates of universities as well as in nurturing the professional skills of graduates of academic, vocational and integrated education.

3.1 Academic education

The literature suggests that academic-focused education is mainly related to growth of cognitive skill and future- career opportunities, especially in research and education-oriented jobs [1]. Nevertheless, a number of studies also show that academic education might not be as helpful in inculcating immediate job specific, which can influence the job matching and transfer of graduates into the labor market [2, 3].

On the question of employment rates, other researchers point to the graduates of academically oriented majors as having an upper hand in the employment which demands advanced level of analysis and development at long term basis. Nonetheless, there is a mixed outcome of employment rates provided by current research. Although certain studies report that academic education is not necessarily effective in terms of leading to prominent immediate jobs, particularly in practice based labor markets, others report that its effect depends on the field of study and the country [4]. On the whole, these results indicate the inconsistency of effects of academic education on graduate employment and its dependence on the context.

Concerning the quality of employment, the potential benefit of the academic education graduates in the development medium-term and long-term can be presented as a significant one. Studies indicate that students who majored in an academic oriented course are more likely to be employed in research, teaching and learning or other jobs that demand high levels of knowledge. Moreover, the academic education is linked in the literature with higher earnings growth in mid-career and career progression to research, managerial or strategic decision-making positions [5, 6]. Academic education has been linked to increased flexibility in the work environment and introduction of more employment opportunities. Its major contribution is its ability to promote analytical thinking and critical thinking as well as developing theoretical frameworks [7]. Though these competencies do not necessarily relate to the job-related activities, they are often associated with higher-level problem-solving and future career-related adaptability. It implies endogenous conflict in the academic minded courses between profound theoretical training and immediate labour market preparedness.

3.2 Vocational education

Vocational education enhances skills acquisition that is in practical and occupation-specific training with the learning activities often being highly integrated with employment environment and workplace settings.

Concerning the rates of employment, a large amount of literature indicates that vocational education programme graduates are likely to have higher initial rates of employment than their academically oriented trail peers. In vocational education where the education is highly linked with the labour market, graduates tend to transition to jobs far easier, especially in the technical, manufacturing and applied service industries [8]. Consequently, vocational graduates do not normally take so much time to find their first employment after graduation.

The quality of employment among the graduates of vocational education seems complicated and it changes according to the stages of career. Despite the fact that vocational education graduates usually gain more predictable jobs and fairly competitive starting salaries, the literature shows that their chances of wage advancement and promotion are usually prohibited in the intermediate career phases compared to their academically educated counterparts. Vocational graduates in the labor market have been found to experience limited occupational mobility and in sectors where the significance of highly specialised skills are less valued in the long term [6].

With respect to the development of professional skills, it is stated across the literature that vocational education is a superior approach to developing practical skills, technical expertise in particular jobs, and general workplace preparedness. Such competencies are strongly correlated with the urgent work needs and are often linked to a good first job performance and successful job adaptation [6]. Microsocially, vocational education is also often linked to more effective professional socialisation, which contributes to the early acquisition of occupation roles by graduates.

3.3 Integrated education

The integrated education model is not merely a combination of academic and vocational courses, but an educational model that basically focused on instilling in students an overall career flexibility and work integrated learning capacity in the students. This model combines the general education courses, the professional theory courses, and the real projects and internships, not in stages [9, 10].

In terms of the employment rates, the studies show that the graduates of this model normally experience more secure employment results [6]. Research has had an impact on revealing that the curriculum of this model, provided by way of internships and project-based education, can contribute to enhancing school-work preparation among graduates by lessening the skills-employer disconnect among graduates [11].

According to the reports, the literature indicates that integrated education correlates with a more stable and flexible career with respect to employment quality in the medium- long term. Research studies indicate that graduates with integrated programmes do not only have job-relevant practical skills, but also a good theoretical background, which facilitates better job matching and wider career development prospects in the long run [12, 13]. Combining theory and practice, the integrated education model greatly assists in curbing the limitations of purely academic or strictly vocational courses. Integrated education can in this respect be viewed as a strategic compromise. Integrated education focuses both on the relative lack of immediate employability frequently viewed as one of the effects of academic routes and, at the same time, it reduces the barriers to mobility in the long term of more vocation-specific paths.

4. Discussion

In this study, it was established that theory and practical training should be employed together in enhancing the skill development. The research is an analysis of the relationship between various higher education models in relation to the employment outcomes of university graduates, based on systematic review of previous studies. The results have shown that educational models have different but complementary impressions on employment outcomes of graduates. Precisely, academic educational has close connections with the long-term career success of an individual; the development and enhancement of analytical and cognitive abilities. Nevertheless, it has a relatively low level of the direct assistance in the sphere of employment, which presupposes that its influence on short-term employment outcomes is lower. Vocational education provides students with practical skills in accordance with the demands of the modern labour market but is too occupationally specific that it leaves career mobility restricted. Integrated education assists the children to take on more adaptable and stable career pathways by incorporating the elements of both types. The various differences of the three models of education indicate that not only does educational attainment influences the employment results but also the way in which these models combine theoretical and the acquisition of practical skills.

The paper also explains the distinction of employment outcomes of these three education types relying on the pertinent education and employment theories. According to the human capital view, academic education, vocational and integrated education paths have specific outcomes in terms of employment outcomes as they develop varying types of human capitals [7]. Academic education helps to promote career prospects in the long term, as it develops general and transferable skills, such as analytical reasoning and cognitive skills [6]. These abilities are particularly treasured in occupations in the sphere of knowledge, research and management, problem-solving and flexibility as well as life-long learning play one of the central roles in professional activity. Nonetheless, since this form of human capital is only associated with particular job actions in a relatively weak way, its direct role in initial job matching is also rather restricted [6]. On the contrary, occupation-specific human capital is mainly cultivated in vocational education. It increases employment rate in the beginning by alleviating the lack of skills when entering the labor market, and has a positive effect on short-term employability. However, its limited adaptability to the changing qualification requirements and increased labor mobility can be difficult to achieve returns in the dynamic labor markets over time [1]. Integrated education develops hybrid human capital comprising of general cognitive skills and job-specific competencies which play a role in more stable employment in early career. As such, integrated education has higher chances of creating equal employment outcomes, which sustains employment and career flexibility in the long run [9, 12].

The occupational socialization theory also supports how the educational environment affects the behavior of the graduates in employment and career orientation [14]. Students in academic institutions are better placed to develop abstract and research based mode of thinking and give strong emphasis to career planning in long term. Vocational education routes are more likely to develop a task oriented nature among students, and thus, they pay more attention to the short term employment prospects and flexibility to actual employment prospects. Moreover, this theory of competency-based education underlines that work-integrated learning can be used to encourage the joint upbringing of the particular professional skills and academic transferable abilities [12]. A relative stability of the competitive advantage as seen in the shifts of the graduates of integrated education programmes can be explained by such a balanced approach to competency development.

The results of the research are grounded on the existing literature and add to the information on the correlation between educational models and employment outcomes

among graduates. According to this literature, vocational education is positively related to better initial employment, as it is more closely aligned with labour needs, whereas academic education is associated with the advances towards further career growth through the development of general and transferable skills [6, 7, 15].

Nonetheless, there are certain critical subtleties of findings. As much as there are studies that suggest that academically oriented education can be linked to low rates of initial employment, this trend does not necessarily apply in every situation. Academic programmes can actually facilitate relatively easy occupational shifts in research-based areas and knowledge-driven areas. This implies that high-level education graduates (academic-educated) are greatly influenced by disciplinary features and national labour market institutions on the labour market performance. The same trend can be followed in the case of vocational education. Although vocational pathways may be linked with good occupational earnings at the beginning of careers, such advantages are normally monopolized in those jobs with comparatively less dynamic skills needs. However, in the long-term perspective, a completely data-centric focus on a set of vocational skills may complicate the adaptation of graduates to the evolving conditions of the labour market, restricting not only work mobility but also wage growth [1, 6].

Other past studies have had a tendency of studying the academic and vocational education separately. Conversely, the present study unites academic and vocational and integrated education models with one analytical model, employing similar employment outcomes indicators. In this way, it is an example of how the general cognitive ability, which is coupled with occupation-related skills, undermines the traditional dichotomy of academic and occupation-related education as competing or mutually exclusive courses. This study understands integrative education as a complementary strategy to these other models, therefore, it provides a more complex view of how diversified education pathways could support not only short-term employability but also long-term career in the labour market.

5. Conclusion

This paper will seek to examine the linkage between the various education models (academic, vocational education models, integrated education models) and attainment of employment outcomes of college graduates. Its literature based analysis was a systematic review of the chosen literature, which was published in 2015 to 2025 and compared the impacts of these models on the student employment, quality of employment and development of skills in various national settings.

The findings demonstrate that the patterns of employment outcomes are different depending on the model of education. Academic education promotes career development in the long-term perspective, primarily, developing the general cognitive and analytical skills, though its immediate contribution to the initial job matching can be relatively low. The vocational education is frequently linked with better first employment results due to close association with the labour market requirements. Nevertheless, due to its emphasis on the narrowly committed occupational expertise, it can restrict longer-term career mobility and earnings campaign. What seems to represent both approaches to their benefit is integrated education, which would somewhat broadcast the weaknesses of either academic or vocational routes. As such, it is beneficial in terms of both maintaining the early-career employment that is more stable as well as fostering transferable skills, leading to long-term adaptation and career mobility. Theoretically these results can be offered with the help of human capital theory and occupational socialization theory. Integrated education combines general cognitive development and workplace-oriented skill going beyond a rigid separation between academic and vocational careers.

These results can be reflected in the higher education policy and curriculum design. The results highlight the possible worth of integrated educational models, including incorporating work-integrated learning models, internships, and reflective learning in academic programs. Generally, the observations point to the shortcomings of dichotomous systems of education and emphasize the importance of more open curriculum systems that integrate theoretical knowledge and interactivity. The major problem is whether the potential is realisable or not based on the conditions under which policy environments make it possible to have universities and employers collaborate towards the ability of graduates to have long term employment and adaptation opportunities.

Being a literature review, its findings are restricted by the existing studies and it could not prove causal association between educational models and the employment outcomes. Secondly, even though the identified literature represents a variety of national churches, the fact that some of the findings can be generalized because of the variation of the national workforce and institutional setting might be restricted. The future research will build on the current study by carrying out longitudinal investigational research to ascertain the effectiveness of various educational models on the job performance of graduates. Moreover, cross-national comparative research can also address more questions about the interaction of national institutions of the labor market and education system in making or defining the relationship between education model and graduate employment.

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