



Original Article (Qualitative)

Designing a modular curriculum model for education skills training courses with a meta-synthesis approach

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Abstract

The aim of this research is to design a modular curriculum model for education skills training courses with a meta-synthesis approach. This research is applicable in terms of its purpose, and analytical-descriptive in terms of its research method, using the meta-synthesis qualitative research method. The meta-synthesis method was carried out using the seven steps of Sandelowski and Barroso (2007). The statistical population of the research includes all articles in reputable domestic and foreign databases during the years 2009-2024 and 2019-2025, of which 40 articles were selected based on the research criteria. The main and secondary factors of the model were extracted using the content analysis method. Based on the results of the meta-synthesis, the factors of the modular curriculum model for vocational education courses include 23 sub-categories and 6 main categories, which are: agility, effectiveness measurement, technological industry-oriented education with job support, high-quality entrepreneur-oriented education, flexible and technological education system, and smart education system. The findings indicated that modular education had been considered as an efficient method in various studies, and researchers had suggested that this approach should be used more.

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Extended abstract

Introduction

In recent years, rapid technological developments and changes in the labor market have led to a fundamental revision of education systems. According to research of McKinsey (2024), by 2025, about 50% of existing jobs will require completely new skills. This reveals the need to move towards flexible education systems such as the modular system. According to the OECD (2024) definition, a modular education system has the following characteristics:

Division of content into independent learning units, continuous and independent evaluation of each module, the possibility of combining modules based on the learner's needs, and flexibility in time and space. Modular education, as a modern method in the teaching and learning process, gives students the opportunity to complete their learning process in stages and with an emphasis on each module (Pitorini et al., 2024). By dividing the content into small and independent units, this system allows students to progress at their own pace and acquire the necessary skills. Researches have shown that this type of education can help increase students' motivation and deeper learning (Boud & Falchikov, 2006). One of the basic tasks of educational systems in different countries is to prepare young people to enter the labor market (Gunawan et al., 2024); and in many cases, these systems are responsible for teaching essential skills. Accordingly, training a specialized and efficient human resource and its optimal utilization has been the focus of planners. These systems prepare individuals to take up jobs and economic activities or increase their efficiency in performing tasks. Also, the low level of skills has caused the proponents of vocational and classical education to be in conflict with each other. The high speed of technological changes and labor market expectations of skilled labor, along with the intensification of the necessity of vocational training in the form of on-the-job training, have greatly strengthened this conflict (Sari & Rakhmawati, 2025).

One of the new methods in education is the modular education approach, known as one of the most flexible and practical methods for achieving an efficient workforce in society. Emphasis on modular education allows the education system to respond quickly and effectively to educational needs and introduce the individual to his or her chosen job in a more competent manner. This leads to the injection of specialized work-related skills (Oksila et al., 2025). In upstream documents such as the general policies announced by the Supreme Leader, the Fundamental Transformation Document in Education, the National Curriculum of the Islamic Republic of Iran, and the Comprehensive Scientific Map of the country, there are tasks that promote and strengthen a skilled and efficient work culture in line with the needs of the current and future labor market, and consider the education and training of specialized and experienced human resources as one of the determining factors in the growth and development of countries, and place it on the path to achieving sustainable development, which has always been one of the greatest ideals of human societies.

The main question is: "What characteristics should an optimal model of modular education with the place of modular education methods in the education and training skills training course have and how can it be validated"?



Theoretical Framework

Curriculum

Curriculum is a formal or informal process through which a learner, under the supervision of a school, acquires information and perceives how to understand it, learns skills, and changes attitudes and values. A curriculum is a general program related to educational content provided to students by schools so that learners can develop the necessary competencies and prepare for entry into specific technical and professional fields (Rezazadeh et al., 2023).

Modular education

Modular education is a set of educational content or activities that can create a specific and independent skill and ability in the learner (independent of other job and professional skills) and at the same time, along with other modules, lead to a degree of education. These modules, depending on the need, independently or in combination with each other, create capabilities in them that are appropriate for the learners' job needs and prepare them to assume specific job and professional responsibilities (Chaharbashloo & Abbasi, 2013).

Oladele et al. (2025) in their study evaluated an integrated curriculum model for developing 21st century entrepreneurial skills. The results of the study show that integrating entrepreneurship education into teacher training programs provides significant opportunities to equip students with the skills necessary to succeed in a competitive and innovation-based world. By adopting this model, teachers can play a pivotal role in cultivating entrepreneurial mindsets and capabilities in the next generation.

Khoshnoodi et al. (2025) examined the design of a curriculum based on entrepreneurial thinking (case study: secondary schools in Western Gilan province). The research findings show the impact of factors, appropriate educational resources, experts and entrepreneurs, encouraging creative thinking and innovation, providing practical opportunities, regular evaluation and feedback, developing communication and collaboration skills, teaching time and resource management, problem-solving ability, teaching technical and specialized skills, and encouraging critical thinking.

Research Methodology

This research is applicable in terms of its purpose, and analytical-descriptive in terms of its research method, which uses a meta-synthesis qualitative research method. The meta-synthesis method was carried out using the seven steps of Sandelowski and Barroso (2007). The statistical population of the study includes all articles in reputable domestic and foreign databases during the years 2009-2024 and 2019-2025, of which 40 articles were selected based on the research criteria. The main and sub-factors of the pattern were extracted using the content analysis method.

Research findings

Based on the results of meta-synthesis, the factors of the modular curriculum pattern for education and training skills courses include 23 sub-categories and 6 main categories, which are agility, effectiveness measurement, technological industry-oriented education with job support, high-quality entrepreneur-oriented education, flexible and technological education system, and smart education system. The findings indicated that modular education had been

considered as an efficient method in various studies, and researchers had suggested that this approach be used more.

Conclusion

The present study aimed to design a modular curriculum model for education and training skills courses with a meta-synthesis approach. The results of this study are consistent with the results of Oladele et al. (2025), Khoshnoodi et al. (2025), Ajid et al. (2025), Houshmandja et al. (2025), Maulisa et al. (2024), Pitorini et al. (2024), Rezvanfar et al. (2024), Rahpeyma et al. (2024), Mohammadi Naeini & Fatholah Gandomi (2024), Asadian et al. (2023), Khalil et al. (2023), and TRAJANO et al. (2023). Rezvanfar et al. (2024) in their research identified 17 main themes in designing the modular curriculum, which indicates attention to real educational needs and validation of these models.

Considering the results of the research, the following suggestion is made:

Given that the results showed that the components and indicators of the modular curriculum for education and training skills courses include 17 themes, it is suggested that by taking these components seriously, officials and stakeholders try to work more on the weaknesses to achieve better results and develop them so that the modular curriculum for education and training skills courses can be implemented in the most desirable way.