

Designing a Localized Model for the Work and Technology Curriculum in Lower Secondary Education of Fars Province: A Qualitative Study

*Hamzeh Rahpeyma¹., Seyed Ahmad Hashemi*²
Abbas Gholtash³.*

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Abstract

This study aimed to identify the components of a curriculum model for Work and Technology in the lower secondary education of Fars Province. Considering the necessity of curriculum localization and its adaptation to regional needs and conditions, this qualitative research was conducted using a thematic analysis approach. Participants included 20 faculty members from reputable universities, selected through purposive non-random sampling. Data were collected via interviews and analyzed in three coding stages: basic, organizing, and global themes. The findings revealed that the Work and Technology curriculum model is structured around four main components: Objectives, Content, Teaching Methods, and Assessment, further detailed into sixteen sub-components across four dimensions. These components can serve as a suitable model for revising and enhancing the Work and Technology curriculum in Fars Province.

Keywords: Curriculum, work and technology curriculum, localization model.

¹ - PH.d student in Department of Educational Sciences, La.C., Islamic AzadUniversity, Lamerd, Iran.

² - Department of Educational Sciences, La.C., Islamic AzadUniversity, Lamerd, Iran . * Corresponding author:
hmd_hashemi@yahoo.com

³ - Department of Educational Sciences, Shi.C., Islamic AzadUniversity, Shiraz, Iran.

Introduction

In recent decades, education in work and technology has garnered widespread attention worldwide. Its role in economic growth, job creation, improving the quality of educational services, and increasing school participation in developing practical skills has been increasingly emphasized (Lakius, 2022). Work and technology education is not merely the transmission of technical skills, but rather a systematic and purposeful process aimed at nurturing creative, entrepreneurial individuals capable of identifying and utilizing opportunities. This form of education fosters positive attitudes toward work, technology, and innovation, laying the groundwork for cultivating a generation capable of playing an effective and constructive role in society (Linan, 2023; Zabihi & Maghddasi, 2022).

In the theoretical domain, numerous researchers have explored the role of work and technology education in developing individual and social skills. According to Tino (2019), the goals and outcomes of this education are deeply intertwined, with a primary focus on cultivating an entrepreneurial mindset among youth (Gibb, 2020). Heinonen and Akola (2020) argue that the main objective is to integrate personal traits and competencies with professional behaviors, thereby creating the conditions necessary for creativity and self-reliance. From this perspective, fostering a culture of work and technology and developing entrepreneurs is considered a key requirement for sustainable development. Schools can cultivate such attitudes, preparing students to participate effectively in society and help promote a culture of entrepreneurship (Abd Hamid, 2021).

Societies that have established dynamic and reciprocal interactions between educational institutions and their social environments have demonstrated greater success in innovation and economic growth. The role of education in the cultural, social, economic, and political development of such societies is undeniable. In this context, graduates' ability to enter the labor market depends on the skills and competencies they acquire during their education. A lack of alignment between educational content and actual labor market needs is one of the main reasons behind graduates' weak employability (Borkhani et al., 2020). Thus, revisiting the educational system and emphasizing skills-based training is imperative.

In Iran, despite the importance of work and technology education at basic levels of schooling, the main burden of this type of training rests on universities and technical-vocational schools. At other educational levels—especially in secondary schools—there is still insufficient attention paid to work and technology education (Hashemi, 2018). Introducing work and technology education into schools offers a valuable opportunity to shape students' entrepreneurial mindsets and prepare them for future job markets (Nadri et al., 2021).

The work and technology curriculum, by nature, should adopt a multidisciplinary and dynamic approach capable of responding to learners' diverse needs. It should reflect the complexities of science as well as individual differences in talent, motivation, and identity (Lukszky, 2019). At the international level, the growing global inclination toward technical and vocational education underscores the vital role this field plays in addressing employment crises and developing human skills (Sharif et al., 2020). The technical and vocational education system in Iran continues to face challenges in its design, implementation, and effectiveness. To move toward a learning-oriented and empowered society, it is essential to

redesign this system with a renewed perspective. Utilizing the successful experiences of developed countries can significantly contribute to the revision of the country's educational structures (Abdolkhani, 2020). Comparative studies of vocational and technical education systems worldwide indicate that aligning these systems with social, technological, and labor market developments is an inevitable necessity (Mohammadi Gheshlagh, 2022).

Accordingly, the present study aims to identify the components of the **Work and Technology Curriculum Model** for secondary education in **Fars Province**, with the goal of improving the quality of education and aligning it with the requirements of the regional labor market by focusing on local needs and contexts.

Research question

What are the components of the Work and Technology curriculum model for secondary education in Fars Province?

Research method

This study is applied in terms of purpose and qualitative in terms of approach. It follows an exploratory design, and data were collected using a descriptive method. The data analysis was conducted using thematic analysis.

Participants in this research were considered experts, consisting of university faculty members. A purposive non-random sampling method was used, and the sample size was set at 20 participants. The number of participants was determined based on the principle of theoretical saturation, meaning that sampling continued until the data became repetitive and no new information was obtained.

For data analysis, the study employed the Attride-Stirling thematic framework. Given that the primary goal of this research was to achieve consensus among experts and specialists in the field, the Delphi technique was utilized for data collection.

The data analysis process was carried out in three stages:

Basic themes: Extraction of initial concepts from expert opinions.

Organizing themes: Categorization and grouping of related themes.

Global themes: Identification of overarching and integrative patterns.

Although the initial phase of the research had high content validity due to the active participation of managers and teachers in developing the curriculum model components, to further enhance precision and content validity, the revised questionnaires were distributed among mentor teachers, consultants, and several subject-matter experts. After applying their suggested revisions, the final version of the questionnaire was prepared and implemented.

Finally, the indices derived from the preliminary data—based on theoretical foundations and previous research—were further interpreted and analyzed by the researcher. The entire analysis process and research stages were subsequently reviewed and approved by academic supervisors and advisors.

Findings

In this study, interviews were conducted with a group of 20 academic experts, all of whom were university faculty members.

The frequency and percentage of participants, as well as their personal and professional characteristics — including academic rank, relevant administrative experience, field of study, and professional background — are presented in Table 1.

Table 1. Personal and professional characteristics of interview participants (all holding a Ph.D. degree)

No.	Position	Academic Degree	Field of Study	Relevant Experience	Professional
1	University Member	Faculty Ph.D.	Educational Psychology	20 years	
2	University Member	Faculty Ph.D.	Educational Psychology	32 years	
3	University Member	Faculty Ph.D.	Sociology	22 years	
4	University Member	Faculty Ph.D.	Curriculum Planning	28 years	
5	University Member	Faculty Ph.D.	Curriculum Planning	15 years	
6	University Member	Faculty Ph.D.	Curriculum Planning	14 years	
7	University Member	Faculty Ph.D.	Curriculum Planning	18 years	
8	University Member	Faculty Ph.D.	Educational Management	30 years	
9	University Member	Faculty Ph.D.	Curriculum Planning	11 years	
10	University Member	Faculty Ph.D.	Curriculum Planning	13 years	
11	University Member	Faculty Ph.D.	Curriculum Planning	17 years	
12	University Member	Faculty Ph.D.	Educational Management	23 years	
13	University Member	Faculty Ph.D.	Educational Management	20 years	
14	University Member	Faculty Ph.D.	Educational Management	22 years	
15	University Member	Faculty Ph.D.	Educational Management	19 years	
16	University Member	Faculty Ph.D.	Curriculum Planning	24 years	
17	University Member	Faculty Ph.D.	Curriculum Planning	25 years	
18	University Member	Faculty Ph.D.	Curriculum Planning	28 years	

19	University Member	Faculty	Ph.D.	Curriculum Planning	29 years
20	University Member	Faculty	Ph.D.	Educational Management	33 years

The research data were analyzed using the thematic analysis method based on the Attride–Sterling framework. In this section, the frequency and percentage of themes related to each basic theme are presented in tables, categorized according to the interviewee groups (Table 2).

Table 2. Extracted Themes from Interviews

Dimension	Interview Code / Author	Extracted Paragraph / Participant Response	Basic Themes
Objectives	M1	Learning quality is a process through which the direction and orientation of the educational system are determined.	Guiding the educational system
	M1	Experience, as a mental awareness of the present state, is influenced by previous information and learning; therefore, it is not merely knowledge.	Knowledge
	M2	The work and technology curriculum, whether formal or informal, helps students acquire information, learn comprehension, gain new skills, and reassess their value perspectives based on school needs assessment and supervision.	Attention to concepts; Needs assessment; Knowledge acquisition; Skill acquisition
	M2	The learner's behavior is formed uniquely through personal thinking and innovation.	Learner behavior
	M3	Family, school, and community support help students achieve self-fulfillment and identity, fostering independence, competence, and motivation.	Sense of independence; Competence; Motivation
	M3	Organizing content and strengthening self-awareness foster mental development in learners.	Learners' mental ability
	M4	The work and technology curriculum involves organizing activities and allocating proper learning time.	Activity organization; Learning time
	M4	The curriculum seeks to create positive behavioral changes and assess progress in knowledge development.	Knowledge development; Positive behavioral change
	M5	The work and technology curriculum is a comprehensive program designed to enhance	Creativity; Student ability

		student creativity and capability.	
Content	M6	Teaching strategies and materials are effective only when learners are motivated and content is clear.	Clarity; Interest in science
	M6	Work and technology serve as a means to achieve ideals, goals, and efficiency.	Ideals; achievement; Efficiency Goal
	M7	Learner's individual traits relate to learning outcomes and stimulate creativity.	Learner traits; Creativity
	M7	The curriculum actively engages learners in knowledge growth and scientific activities.	Knowledge; Activeness
	M8	Work and technology include planning goals and expected outcomes while providing experiences and learning opportunities fostering creativity.	Learning experiences; Learning opportunities; Potential abilities
	M8	The content comprises knowledge (facts, explanations, principles, definitions), skills and processes (curiosity, systematic observation, data interpretation, research design, experimentation, communication), and values (beliefs about right/wrong and interest in science).	Knowledge; Systematic observation; Values; Interest in science
	M9	Scientific topics, through applying concepts in familiar contexts, strengthen professional and practical abilities.	Professional knowledge; Functional ability
	M9	Proper personal skills, effective interaction, and self-direction enhance learning meaning and academic efficiency.	Interaction & self-direction; Meaning-making; Performance improvement
	M10	Creativity and innovation enable learners to actively explore principles and concepts, leading to deep understanding and knowledge transfer.	Creativity; Discovery of principles; Concepts and facts
	M11	Teaching methods serve as tools to enhance knowledge and skills in the learning environment.	Ability; Learning environment
Teaching Methods	M11	Acquired skills build confidence and responsibility.	Confidence
	M12	Values include beliefs distinguishing good/bad and effective/ineffective actions.	Efficiency
	M13	Teaching methods and instructional materials	Instructional

		guide the learning process effectively.	materials; Proper guidance
M13		The curriculum focuses on effective teaching methods to foster meaningful learning and job-related skills.	Appropriate teaching; Effective learning; Job skills
M13		The curriculum directly results in positive behavioral changes in learners.	Behavioral change
M14		Group and cooperative activities enhance participation and progress.	Teamwork; Participation
M14		During learning, students engage through collaboration and active participation.	Learning process; Cooperation
M14		Scientific concepts in familiar contexts promote meaningful learning and respect for others.	Respect for others; Learning
M15		Work and technology accelerate learning through group participation.	Learning process; Group activities
M15		Learning the structure of work and technology teaches students to value regulations.	Rule observance
M15		Students experience greater responsibility through practical learning.	Responsibility
Evaluation	M16	In the evaluation process, strengthening learning increases student accuracy.	Learning reinforcement; Accuracy
	M17	Educational planning is viewed as organizing and optimizing activities and motivations for academic progress.	Organization; Activity improvement; Learning motivation
	M17	Evaluation is a conscious process aimed at improving job skills and future performance.	Goals; Skill enhancement
	M18	Through learning, students develop enthusiasm for education.	Academic enthusiasm
	M18	Analyzing learning theories in work and technology leads to a deeper understanding of the subject.	Learning
	M19	The curriculum emphasizes responsibility and evaluation.	Responsibility; Evaluation
	M19	A key factor in effective curricula is precise planning and continuous quality improvement.	Quality improvement; Success; Effectiveness; Accurate planning

M20	Evaluation provides immediate feedback for both teacher and student.	Immediate feedback
M20	Each curriculum inherently includes self-regulation elements.	Self-regulation

In the process of reviewing documents and literature, including theoretical foundations and prior research, key concepts and ideas related to the components of objectives, content, teaching methods, and evaluation were identified and systematically noted. Based on theoretical and scientific foundations, these concepts were conceptually aligned and standardized. Ultimately, a total of 160 concepts were extracted. Through subsequent analyses and evaluations conducted by the researcher, 55 main themes were identified, each encompassing several sub-themes.

These analyses led to the development of a preliminary model outlining the curriculum components for Work and Technology education at the secondary school level in Fars Province. The model was organized and classified into four principal components—objectives, content, teaching methods, and evaluation—whose schematic representation is presented in Figure (1).

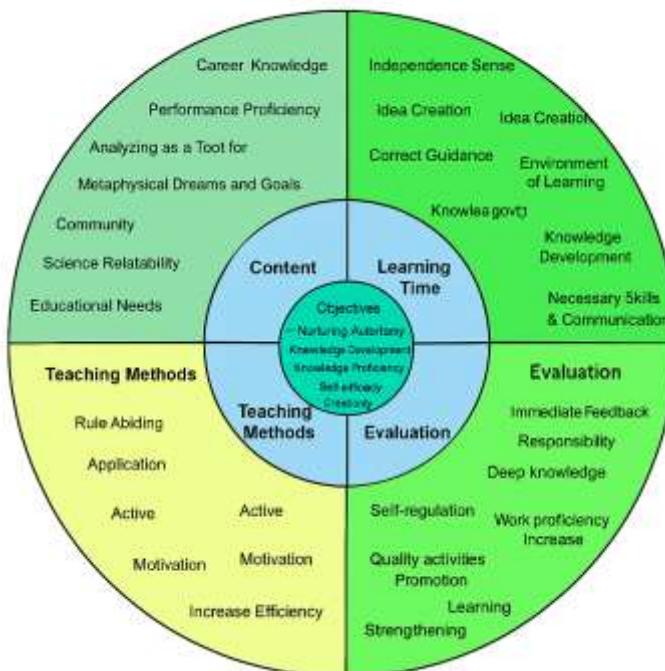


Figure 1. The Preliminary Conceptual Model of the Curriculum Components for Work and Technology Education at the Secondary School Level in Fars Province

After identifying and organizing the themes, these concepts were grouped into a more comprehensive framework known as global themes. Based on the classification conducted by the researcher, these themes were divided into four main dimensions and sixteen components, including Objectives (4 components), Content (4 components), Teaching Methods (4 components), and Evaluation (4 components) (Table 3).

According to the results derived from the analysis of components related to the knowledge required by school principals and teachers regarding educational objectives, the components "Guiding the educational system," "Needs assessment," "Learners' mental ability," and "Learning time" ranked highest, receiving full consensus (100%) among participants.

Similarly, within the Content dimension, the components "Learner characteristics," "Meaningful learning," "Curiosity," and "Functional ability" received the highest levels of agreement among respondents.

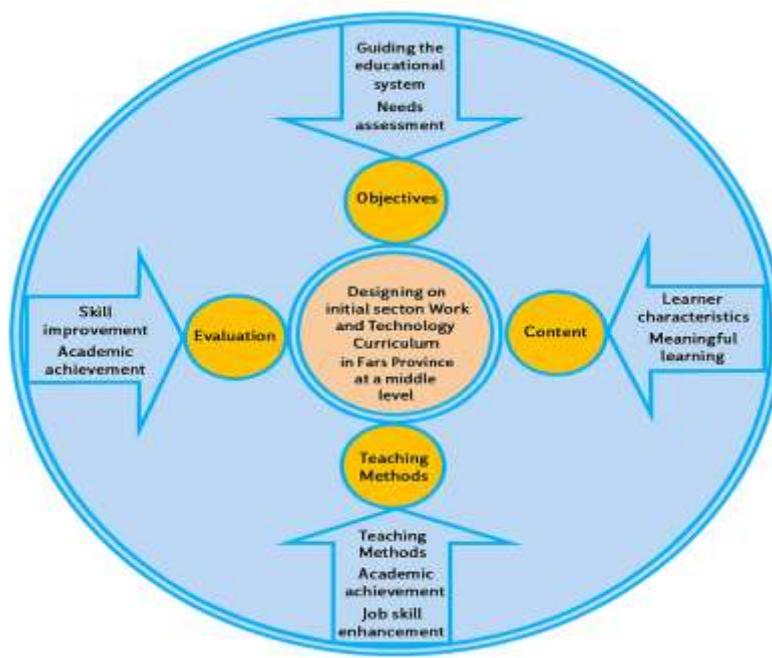
In the analysis of components related to Teaching Methods and Evaluation, results indicated that within the Teaching Methods dimension, "Problem-solving approach," "Project-based unit," "Small group activities," and "Demonstration method" received the greatest emphasis from participants.

In the Evaluation dimension, the components "Skill improvement," "Academic achievement," "Job skill enhancement," and "Communication skill development" received the highest positive ratings.

Table 3. Key Components of the Curriculum Model for Work and Technology Education at the Secondary School Level

Table 3. Curriculum Model for Work and Technology Education at the Secondary School Level

Curriculum Dimension	Key Components
Objectives	Guiding the educational system Needs assessment Learners' mental ability Learning time
Content	Learner characteristics Meaningful learning Curiosity Functional ability
Teaching Methods	Problem-solving approach Project-based unit Small group activities Demonstration method
Evaluation	Skill improvement Academic achievement Job skill enhancement Communication skill development



Discussion and Conclusion

The purpose of the present study was to identify the components of the curriculum model for Work and Technology Education at the secondary school level in Fars Province. Based on the findings of the qualitative section and the overall designed model, four main components were identified: objectives, content, teaching methods, and evaluation.

In various studies—including those by Ezzati (2023), Hashemi and Abdolrazagh (2020), Sharif et al. (2020), Hamzeh Beigi and Maghsoudi (2004), Kesley et al. (2020), Abutalebi (2022), Kotolauzaf (2022), Kovier (2017), and Willis (2019)—the component of objectives and its related indicators have been emphasized. This component can be explained as follows: curriculum objectives play a key role due to their direct relationship with the realization of educational and training goals. To achieve these objectives, it is essential to ensure alignment and continuous communication between parents at home and teachers and administrators at school.

Furthermore, studies by Mohammadi Ghoshlagh (2022), Hashemi (2016), Talei Bafghi (2020), Hashimoto (2022), Hashemi and Omidi (2019), Panahi (2020), and William (2019) have examined the content component and its indicators. Content, as a specific academic discipline, includes the production of instructional materials for the curriculum. This process has its own theoretical foundations, research methodologies, issues, and specific techniques. William states that “content production represents the distinctive knowledge of the curriculum, as its main purpose is to understand and improve education.” Content development involves the psychological study of everyday problems. Teaching and education have been addressed in the process of these studies, during which principles, models, theories, educational practices, and instructional methods are examined.

In the studies by Ghaanei Rad (2023), David (2019), Akbari (2020), Hashemi (2019), Ghaderi Gask and Jamali (2021), the *teaching method* component and its indicators have been discussed. Teaching methods refer to the behaviors that teachers can employ to establish effective communication with students and to foster positive behaviors in them. Such communication may occur through speech, facial expressions, gestures, or other communicative tools. Teaching methods hold particular importance, as they play a vital role in collaboration with curriculum planners for designing localized curriculum models that continuously evolve.

Studies by Khajeh Behjani (2023), Bigom Haerizadeh (2004), Sadler and Good (2019), Hashemi (2012), Masalobia (2019), Aminzadeh et al. (2020), Zamani (2021), Abbasi Sisakht (2020), and Novidi and Barzegar (2022) have addressed the *evaluation* component and its indicators. Human-related issues and topics are rapidly changing, and since students are the most impressionable group, evaluation serves as a tool for developing teaching and learning capacities within the curriculum, thus contributing to a deeper understanding of issues in designing localized curriculum models.

As the identified curriculum components were obtained through surveys rather than direct observation or detailed behavioral descriptions, the validity of the findings is limited by the research methods and instruments used, as well as by the quality and quantity of the data provided by respondents. Furthermore, because the collected data are based on the current situation and conditions, the identified components may not precisely correspond to future educational needs.

Finally, it is recommended that teachers encourage students to share their experiences on various issues. To this end, class hours should be allocated for the exchange of students' experiences and opinions. Teachers should strive to cultivate curiosity, patience, honesty, and tolerance among students by raising questions about current social issues. Teachers should also adopt simplicity as a guiding principle in their own lives and convey this value to their

students. Moreover, teachers need to plan instructional strategies that actively involve students in the ongoing transformation of education. The use of innovative educational approaches and the study of students' needs are prerequisites for this endeavor.

Teaching and education have been examined in these studies through principles, models, theories, pedagogical actions, and practical teaching methods.

Research by Ghaanei Rad (2023), David (2019), Akbari (2020), Hashemi (2019), and Ghaderi Gask & Jamali (2021) referred to the **teaching method** component and its indicators. Teaching methods refer to the behaviors teachers use to communicate effectively with students and foster positive behaviors in them. This communication can occur through speech, facial expressions, gestures, or other means. Teaching methods are especially important because they play a key role, in collaboration with curriculum planners, in designing localized curriculum models that are continually evolving.

Studies by Khajeh Behjani (2023), Bigom Haerizadeh (2004), Sadler & Good (2019), Hashemi (2012), Masalobia (2019), Aminzadeh et al. (2020), Zamani (2021), Abbasi Sisakht (2020), and Novidi & Barzegar (2022) have discussed the **evaluation** component and its indicators. Since human-related issues change rapidly—and students are among the most affected—evaluation serves as a tool for developing teaching and learning capacities within the curriculum, helping achieve a deeper understanding of issues in designing localized curriculum models.

Because the identified curriculum components were derived from surveys rather than direct observation or behavioral descriptions, the validity of these findings is limited by the research methods, tools used, and the quality of data provided by respondents. Moreover, as the collected data reflect current conditions, these components may not fully correspond to future educational needs.

Finally, it is recommended that teachers encourage students to share their experiences on various topics. Class hours should be allocated for exchanging students' opinions and experiences. Teachers should foster curiosity, patience, honesty, and tolerance by raising questions about contemporary social issues. They should also adopt simplicity as a guiding value and model it for students. In addition, teachers should design instructional approaches that engage students in the ongoing transformation of education. Using innovative teaching methods and studying students' needs are prerequisites for achieving this goal.

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