



Designing A Model of Learning School in Secondary Schools

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Abstract

The research was applied in terms of purpose, exploratory mix in terms of classification type, in terms of nature in the qualitative dimension of the foundation data and in the quantitative dimension of cross-sectional survey. Participants in the qualitative section were 18 professors of educational sciences who were selected by purposive sampling. The statistical population in the quantitative part was all secondary school teachers in Hamadan province (3431 people) who were selected by cluster random sampling of 413 people. The assessment tool was a semi-structured interview in the qualitative part and a researcher-made questionnaire in the quantitative part. The research questionnaire consists of 12 components and 82 items whose Cronbach's alpha coefficient was calculated to be 0.98. The face and content validity of the questionnaire was confirmed by experts. Data analysis method was selected in qualitative part, open-axis-selective coding and in quantitative part, confirmatory factor analysis was selected using smart PLS 3 software. The findings of the qualitative section include 12 components, including: network productive learning, development of competencies of teachers and school staff, improvement of overall quality in school, development of knowledge management in school, learner maturity, school maturity, group factors, organizational factors, capabilities Individual and sustainable development. The results of confirmatory factor analysis indicated a good fit of the model. The results of the research can help the senior managers of the educational system in establishing learning schools.

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Introduction and problem statement

The environment around organizations has become more dynamic than before and has caused organizations to seek answers to these dynamics and organizations to move in order to succeed and survive in such an environment must move towards flexibility and change and improve their organizational performance (Feghhe Sheikhi & Qahramani, 2019). But it requires a change of old and traditional thoughts and ideas in order to move in the direction of technological development. Everyone must prepare for this period of globalization. Creativity of creative human resources, improvement and improvement of their ability and skills to solve real life problems, are issues that should be considered by educational systems (Susanti, Susilowibowo & Hardini, 2020). Educational organizations with traditional structures do not have the power and flexibility to adapt to the peripheral changes caused by globalization and its complexities, so they have to restructure and equip themselves with tools to be able to cope with global developments to gain (Ameri & Abdoli, 2020). For this reason, in order to not lag behind the competition, educational organizations must engage in a continuous process of change so that they can, while standing up to organizational issues, take advantage of the complex and changing environment opportunities to reduce weaknesses and strengthen organizational capabilities to use. One of the important areas of change in educational organizations is their transformation into learning organizations. Because learning special skills simultaneously effectively and efficiently has a significant effect on results (Yasmin & Budi, 2019). Humans acquire most of their abilities through learning, and through learning they develop intellectually, and mental abilities become actual (Dehaqin & Hejaz, 2020). It is said that people who stop learning stop life. This is especially true in organizations, especially the education organization and its affiliated schools, which are considered to be the most basic and fundamental institutions of any society (Ameri & Abdoli, 2020). The school and its environment

can help shape students' beliefs about their future. For this reason, increasing the positive characteristics of schools can be a way to promote positive progress and a brighter future perspective through paths such as good teacher-student relationships and academic motivation and achievement (Alm, Laftman, Sandahl & Modin, 2020). The reason for the importance of learning for organizations can be summarized in one simple reason: In the development of organizations, increasing knowledge leads to increased impact. However, we must be careful not to think of such a simple cause. Because there is a big "black box" between knowledge and influence. This black box is nothing but organizational learning and change, which is itself the result of complex interactions between the factors involved in the learning process: A) Knowledge leads to organizational learning. B) Learning leads to organizational change. C) Change leads to organizational impact (Yanguas, 2021, p. 5). Bhaskara and Filimona believe that organizational learning is a summary of what organizations learn at different levels (Bhaskara & Filimonau, 2021). Organizational learning is a tool for maintaining and transferring knowledge within the organization. It can be said that maintaining and transferring knowledge within the organization strengthens the organization as a whole (Nicolletti, Lutti, Souza & Pagotto, 2019). Learning organizations continually create and reinforce the learning process within themselves (Altınay, Dagli, & Altınay, 2016: 664). In order to become and move towards learning organizations, we first need to accept change and align the organization with research findings. The learning organization is formed by completing theories related to organizational learning and learning. A learning organization is an organization in which members develop themselves to achieve goals. They contribute to organizational learning by creating structures and strategies. This organization has the skills and ability to create, acquire and transfer knowledge, and its behavior reflects new knowledge and perspectives. A learning organization is an organization in which individuals learn collectively and are constantly

changing themselves in order to better collect, manage and use information with the aim of organizational success (Miqhani,2020). Schools as an example of a learning organization are a set of organizational actions such as knowledge acquisition, information distribution, information interpretation and memory that consciously or unconsciously affect the positive development of the organization (Gilani Nia, Ranko & Gilde, 2013). The learning organization, led by the learning schools, is enhanced by management efforts, but without the cooperation and support of qualified members, it will never be able to exist. Masher (2021) argues that they have a clear overview at all levels of the organization that the top leaders are responsible for positioning and development, people are constantly developing their capacity to achieve the results they expect, there is a thinking Extensive and new and collective aspirations are nurtured. Where people learn to see everything together. Their logic is based on the principle that in a situation of rapid change, only a flexible, adaptable and constructive organization will excel. Therefore, it must find ways to increase the capacity of employees to learn and commit to it at all stages. Therefore, it can be expected that they are a learning organization that can create and develop individual capacities, mindsets, shared aspirations and continuous learning to change the organization as well as achieve highly competitive results. The capacity of individuals to create a sustainable learning system to change and adapt the organization to changing environmental conditions (Masher, 2021). A school as a learning organization has a common goal that gives it a sense of direction and acts as a motivating force for continuous action to achieve individual and collective goals of the school. Having a shared vision is more the result of the process than the starting point, and it is a process that involves all staff, students, parents and other stakeholders. In a school as a learning organization, all employees are fully engaged in identifying their professional learning goals and priorities with the school's goals and students' learning needs, as defined in the school development plan. According to the few and

similar researches that have been done in this field, it can be said that learning schools adapt to scientific changes and developments and have a flexible organizational structure, are interested in team and participatory affairs, and in the field of acquiring knowledge, distributing information, interpreting information and using it are very sensitive. Learning school means a school that accurately identifies the strengths and weaknesses of the school by assessing the needs and continuous monitoring of changes in the surrounding environment and continuous and dynamic communication with this environment, strengthens strengths and reduces weaknesses. It promotes innovation, innovation and creativity as the dominant culture in the school and continuously strives to increase the competencies, abilities and skills of students, teachers, staff and members of the community. Supports the creation of open space for experimentation, learning new skills and ideas, joint decision-making, team thinking, developing knowledge management in school, and creating equal learning opportunities for all, anytime and anywhere. The learner school tries to use all its capacities to attract material and financial resources in the school in accordance with the changes of science and technology, to prepare the school infrastructure and to provide the ground for the growth of staff and individuals of the society, cultural, political and social development. And brings economics to society as a gift. Examples of similar research are listed below:

Garbenis & Palujanskienė (2021) concluded in a study that the learning organization is the basis for the development of personality and increase the emotional intelligence of employees, and since today's schools coexist with an environment that is constantly changing, modern schools should Use new experiences and extensive facilities to become learning organizations, which in turn requires management knowledge based on an innovative approach.

Naseri, Shahrakipour & Yadegari (2021) in a study entitled "Development and fitting of the optimal model of learning organization from the

perspective of organizational structure supporting learning in education with emphasis on knowledge management, concluded that the optimal model of learning organization in education" It consists of two comprehensive themes: knowledge management and organizational structure that supports learning.

Ameri & Abdoli (2020) in a study examined learning organizations and its effect on organizational performance and organizational innovation and concluded that organizations need to focus on continuous learning and use it to improve their performance to be a key element. To facilitate individual, team and organizational learning. Organizational learning can also be considered as a key asset in order to gain a competitive advantage within organizations.

Wolhuter & Van der Walt (2020) in a study in South African schools, they examined the most important factors influencing the process of transforming schools into a learning organization, the learning-teaching process, as well as the most important factors of disorder in the learning-teaching process in schools, According to their findings, these factors include: factors related to the learner (Age or stages of physiological development of students) , Factors related to the teacher (The level of teacher competence, the degree to which the teacher is a role model for learners and the teacher-learner relationship), School-related factors (School management, school leadership, school infrastructure), class size (the ratio of student to teacher) , Organizational atmosphere and organizational culture in the school , Factors related to the education system (concentration, budget), Factors related to parents and factors related to society (parental behavior style in the family and society, the amount of family stress and parent-school relationships and the philosophy of family life). They also found that irregularities in the teaching-learning process of students may be due to problems related to their hormonal disorders in adulthood, which are more serious in high school students than in elementary school students.

Fadai, Khorshidi & Abbasi (2018) In a study, they found that the components of learning organization in primary schools in Tehran include

19 items, which are individual capabilities, mental patterns, group learning, communication skills, knowledge sharing, shared vision, organizational culture, organizational structure, atmosphere Organizational, organizational values, organizational evaluation, leadership, systems thinking, knowledge audit and content audit, program and manpower audit and environmental culture, laws and regulations, technology, economic and political factors.

Ahmadi (2018) A research project concluded that in order to reach learning schools, principals should try to reach capacities that individuals alone cannot achieve by forming group meetings in the context of the organization. For this reason, it is necessary for principals to create a systematic way of thinking in schools so that members pay attention to the relationships between the components instead of looking at things and processes separately, and focus on issues and problems in the school as opposed to teachers projecting external factors. And others have attributed the search within the school organization and its inadequate system design.

Hatamian, Zeinabadi, Abdollahi & Abbasian (2018) In a study entitled: Prerequisites and Consequences of the Professional Vocational Learning Society showed that the dimensions related to the antecedents of this approach in primary schools include: educational leadership, organizational culture, participatory learning, organizational structure and dimensions related to its consequences including: improving teacher performance quality The feeling of belonging to a job and school is a feeling of being satisfied with a job and school. A review of the findings shows that elementary schools can be transformed into a learning environment.

Kools & Stoll (2016) What will make the school a learning organization during a research? They found that the characteristics of the school as a learning organization include seven inclusive and pragmatic dimensions: 1) sharing a central vision for all learning 2) creating and supporting continuous learning opportunities for all employees 3) promoting team learning and collaboration among employees; 4) Create a culture of inquiry, innovation and exploration 5)

Create systems for knowledge exchange; 6) Learning from the external environment 7) Modeling and leading growing learning.

Soulaiman, Mahbob & Sannusi (2015) In his research, concluded that employees consider the learning organization as a strategy to improve organizational performance.

Sahin (2013) In a study entitled: Predicting variables supporting and inhibiting organizational learning in Ankara secondary schools; Qualitatively identified these factors and identified the factors that were supportive and inhibitory. Among these factors, the most important and effective culture and structure and learning methods were introduced.

Today, the importance and role of education in organizations, especially educational organizations, is not only not covered, but is increasing day by day and is growing and improving, and all their goals and missions, on the one hand, turn raw people into artisan, creative, self-aware, growing people. On the other hand, it meets the individual human needs of society in the cultural, social and economic sectors. On the other hand, schools as learning organizations and one of the most effective processes of empowering teachers to help them learn on the spot, overcome the fear of change, Promotes creativity and critical thinking and renews mental presuppositions (Sarkararani, Shibata & Matuba, 2007). The learner school is a concept in a dynamic organizational space that can be a strategy for organizational success. The learner school describes the organization as an integrated system and is always changing because the members of the organization experience the individual and group learning process based on the learning culture. The learning process in schools occurs when members of the organization experience the process of understanding new concepts, which in turn leads to more abilities and experience to realize these concepts (technical knowledge) and thus change or improve the performance of the organization. But despite the fact that the issue of learning schools has become an important and accepted issue in education, the study of past research shows that the various models offered in the field of learning schools are

based on the model of "Peter Senge" learning organization. They have been in non-educational organizations or have been done in such a way that the learning organization has been examined as a variable in relation to other variables and in none of the presented models, factors, dimensions and knowledge required for The model of learning schools has not been presented comprehensively and completely, and researchers have provided less indigenous and comprehensive models according to the cultural, political, social and economic fields of the country. Therefore, in this study, while paying attention to the cultural, political, social and economic characteristics of our country, a complete and comprehensive model of learning schools for use in the country's schools has been presented. In this regard, the present study seeks to answer the main question that what are the characteristics of the model of learning schools in secondary schools in Hamadan province?

Research questions

1- What are the main factors and indicators of the model of learning schools in the secondary schools of Hamadan province?

2- Does the model of learning schools in the secondary schools of Hamadan province have the necessary validity based on the identified criteria?

Research method

The research is applied in terms of purpose and in terms of the executive strategy of this research, it is of the type of consecutive exploratory strategy according to its combined approach. In terms of the nature and type of study, in the qualitative dimension, it is of the foundation data type and in the quantitative dimension, it is of the cross-sectional survey type. Statistical population in the qualitative section; It included educational science experts, faculty members, education administrators, authors, and researchers with research experience in learning schools and learning organizations. The statistical sample in the qualitative section was 18 experts (including 6 females, 12 males) who were selected by purposive sampling and theoretical saturation. In the quantitative part, the statistical

population included all the teachers of the secondary schools of Hamadan province in the academic year of 1399-99 in the number of 3431 people. The statistical sample in this section was estimated 346 people using Cochran's formula. However, in order to increase the validity and prevent possible loss, 420 questionnaires were distributed and collected and finally 413 questionnaires were analyzed.

The data collection tool in the qualitative section was set up with an organized interview form (including dimensions, components and indicators) and after the interview and validation, the quantitative section tool was designed based on the analysis of qualitative data in the form of a researcher-made questionnaire. The questionnaire has 22 components and 82 items. The validity of the qualitative part was confirmed by Delphi method and interviews with experts, and in the quantitative part by Cronbach's alpha equal to 0.98 and its validity was confirmed by face and content validity. Quantitative data analysis was performed in two stages of data description and multivariate correlation analysis of data was performed in three main stages. During the first and second stages, the first and second order confirmatory factor analysis was

performed before modeling the structural equations as a preliminary step to check the validity of the questionnaire and the construct validity of the factors. Finally, in the third stage, to answer the second main question of the research and to examine the reproduced hypotheses of the research, the hypothetical relationships between the confirmed factors in the form of a conceptual model were tested using structural equation modeling.

Research Findings:

To answer the main question, it was first necessary to identify the factors and indicators of the learning school model. Therefore, qualitative findings, based on the analysis of data collected from in-depth interviews, were analyzed based on the data theory of the foundation, and similar concepts and codes with respect to semantic similarity and homogeneity (theoretical foundations were studied at this stage) in They were placed one floor. Finally, according to the analysis and coding of the interviews, 22 categories and 136 open codes were obtained from the information analysis process, which are listed in Table (1) subcategories and open codes related to each category.

Table 1. Subcategories and open code

open code	Categories
1. Having long-term plans in education 2. Commitment to common multilateral goals 3. Flexible goals. 4. Educational goals: 5. Development of common insights in education 6. Precise operational goals	Common educational goals and perspective
7. Friendly and cooperative communication circles 8. Thoughtful dialogue 9. Optimal multifaceted interaction between school parents, parents, students, teachers 10. Continuous and dynamic communication with the environment 11. Membership of all people in school groups 12. Creating networks Social with all members 13. Facilitate the transfer of information at the school level 14. Connect the school to international information and communication networks	Virtual and non-virtual communication network in school
15. Coordinated actions 16. Scientific thinking 17. Holistic 18. Changing attitudes of school staff and teachers 19. Evaluation with feedback 20. Understanding the impact of interactions on school 21. Understanding the impact of actions on school components	Systemic thinking in school
22. Self-reliance 23. Sense of responsibility in teamwork. 24. Generosity and forgiveness 25. Good taste and ambitious 26. Foresight 27. Continuous self-evaluation 28. Desire for professional improvement 29. Modernity and innovation	Individual capabilities of school staff and teachers
30. Flat structure 31. Joint decision making 32. Delegation of authority to schools 33. Decentralized system 34. Flexible rules and regulations 35. Structure with minimum complexity 36. Informal structure	Organic structure in the school
37. Promoting creative continuous learning throughout the school 38. Forming learning groups 39. Commitment of individuals to continuous learning 40. Learning in turbulent conditions 41. Generalization of learning in the whole school 42. Intelligent sensitivity of	Generative network learning throughout school

networks for learning 43. Integrating the school with its environment 44. Paying attention to e-learning in school	
45. Preparing the infrastructure for the use of technology 46. Funding for running costs 47. Equipped with teaching aids 48. Equipped laboratory 49. Computer workshop 50. Use of new patterns in school building design 51. Equipped library 52. Fit Educational space with a learner population 53. Allocate sufficient funds for capital expenditures	Material and financial resources in the school are commensurate with the changes
54. Using material and spiritual incentives to motivate members 55. Critical thinking training 56. Holding staff training and retraining courses 57. Holding creativity and innovation workshops 58. Improving teaching and learning styles 59. Flexibility in the face of change 60. Problem solving training 61. Formation of study circles 62. Formation of action research groups	Develop the competencies of teachers and school staff
63. Educational leader with strategic thinking 64. Wise educational leader 65. Strategic planning in school 66. Creativity and individual innovation 65. Continuous monitoring of all elements of the school 67. Turning school goals into personal goals of staff and teachers 68. Collaborating and collaborating with All groups 69. Supervision of all activities and relationships within the school 70. Capacity building in the school 71. Influence on teachers, staff and learners 72. Supporting learning opportunities for all at all times	Strategic leadership in school
73. Deep understanding of processes inside and outside the school 74. Acceptance of new ideas 75. Open mindedness 76. Learning new skills 77. Commitment to school goals	Mental patterns in school
78. Emphasis on flexibility 79. Maintaining groups 80. Sense of belonging and trust in school 81. Participatory leadership based on reason, thinking and support 82. Facilitate interaction between work teams 83. Build and develop human capacity 84. Focus On the internal and external environment of the school 85. Adaptation to the external environment 86. Promoting the motivation of all people 87. Leaders to entrepreneurship and idealism 88. Access to resources	Group organizational and developmental culture in school
89. Meeting the needs of students, teachers, staff and society 90. Continuous improvement of students' knowledge, skills and attitudes 91. Public participation in improving teaching and learning processes 92. Social and group belonging to the school	Improving the overall quality of the school
93. Welcoming the introduction of new ideas and perspectives (both internal and external) 94. Psychological security in school 95. Creating functional diversity in school 96. Readiness to accept all kinds of ideas and experiences 97. Avoiding self-centered approaches 98. Support from the atmosphere of experimentation and experience 99. Creating a lively atmosphere in the school	Open space and experimentation in school
100. Individual and group accountability in school 101. Collective wisdom 102. Comprehensive cooperation of stakeholders in order to realize the common vision of the school	Team thinking at school
103. Knowledge absorption in school 104. Applying knowledge 105. Knowledge development 106. Knowledge continuity flow 107. Knowledge sharing 108. Reflecting knowledge and new perspectives	Development of knowledge management in school
109. An interactive approach with other cultures 110. Belief in freedom of expression 111. Transformation and creation of appropriate values, moral relations and norms	Cultural development
112. Increasing the capacity and efficiency of the political system 113. Composition of the people, 114. Increasing the political activity of citizens	Political Development
115. Improving the material and social welfare of the people 116. Increasing social capital 117. Social cohesion	Social Development
118. Creating employment 119. Social justice 120. Increasing the wealth and welfare of the people of the society 121. Increasing the productive capacities including physical, human and social capacities	Economic Development
122. Change in science and technology 123. Change in human lifestyle 124. Change in the needs and wants of organizations 125. Change in human needs	Rapid global change
126. Have clear and acceptable values 127. Always learning, (lifelong learner) 128. Tendency to make changes and comprehensive development in your life 129. Optimistic 130. Creative and innovative	Maturity of learners
131. A clear vision of your future goals 132. Responsible	
133. The dominance of the spirit of continuous learning over the school 134. Fostering and promoting strategic thinking, interaction and teamwork 135. Achieving competitive advantage 136. The bedrock of creativity	School maturity

To answer the main research question, after open coding, the coding step is pivotal, Table (2) summarizes the results of axial coding, in which

the 22 subcategories resulting from open coding constitute the six main categories.

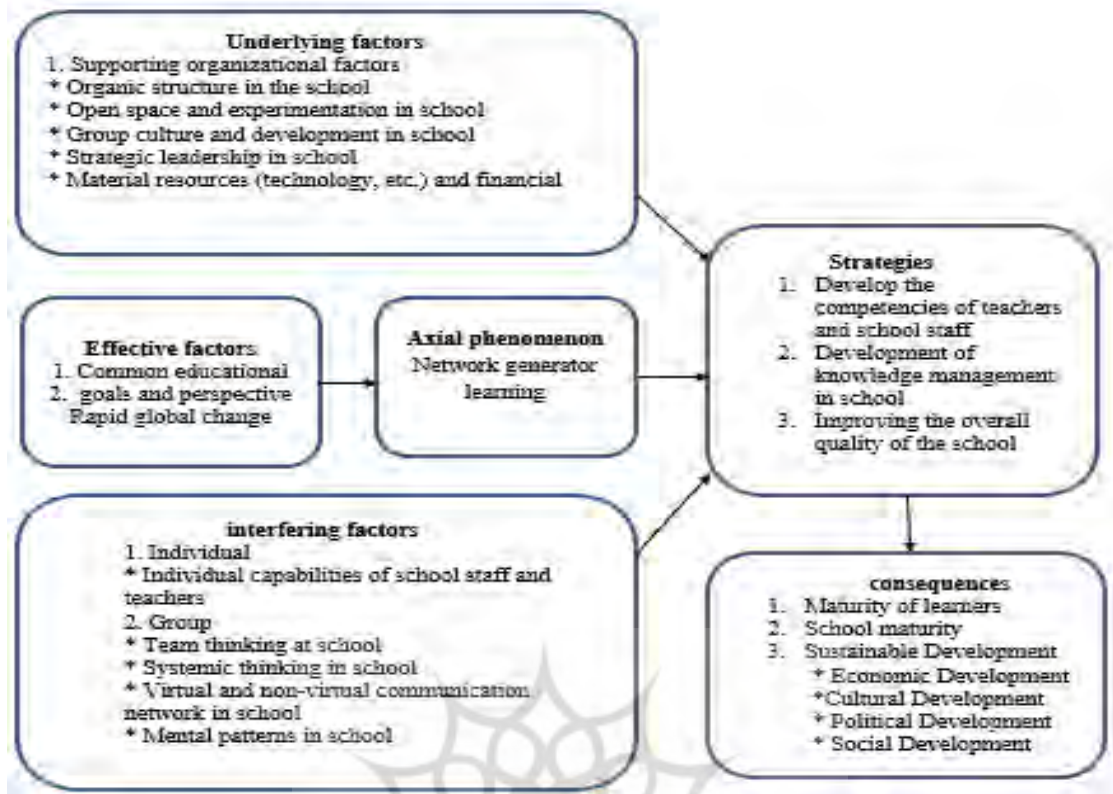
Table 2. Axial coding results

Selected codes	Axial factors	
Effective factors	Common educational goals and perspective	
	Rapid global change	
Underlying factors	Supporting organizational factors	Organic structure in the school
		Open space and experimentation in school
		Group culture and development in school
		Strategic leadership in school
		Material resources (technology, etc.) and financial
interfering factors	Individual	Individual capabilities of school staff and teachers
	Group	Team thinking at school
		Systemic thinking in school
		Virtual and non-virtual communication network in school
		Mental patterns in school
Axial phenomenon	Network generator learning	
Strategies	Develop the competencies of teachers and school staff	
	Development of knowledge management in school	
	Improving the overall quality of the school	
consequences	Maturity of learners	
	School maturity	
	Sustainable Development	Economic Development
		Cultural Development
		Political Development
	Social Development	

The main question of the research was what are the characteristics of the model of learning schools? According to the data obtained from data coding, the pattern of learning schools is shown in Figure (1), which has related the main categories of research to each other. In this

template, you can see the features and dimensions of the template.

figure 1. Qualitative exploratory model



Quantitative section findings

After analyzing the data of the qualitative section and formulating the conceptual model of the research, the theorems and hypotheses of the research were stated. To examine the hypotheses, a researcher-made questionnaire was used and the data of the quantitative section were collected. Findings from the descriptive analysis of data

provided a picture of the samples based on indicators such as mean, skewness and kurtosis, etc. Then the correlation between categories, validity of research structures and validity of the research model was examined. Table 3 presents the descriptive indices of the variables to investigate the appropriate dispersion and normality of the data distribution.

Table 3. Descriptive indicators of variables

	T _{Statistic}	Productive learning	Changes	Group factors	Individual capabilities	Organizational factors	Quality management	knowledge management	Competency development	Individual maturity	School maturity	Sustainable Development
mean	4/218	4/186	4/208	4/113	4/051	4/080	4/108	4/138	4/125	4/118	4/094	4/0757
The standard deviation	0/5612	0/5350	0/5318	0/4398	0/4759	0/4212	0/4284	0/4581	0/4480	0/4511	0/4449	0/40785
skewness	-0/157	-0/087	-0/016	0/012	0/126	0/302	0/245	0/144	0/221	-0/012	0/006	0/165
standard error skewness	0/120	0/120	0/120	0/120	0/120	0/120	0/120	0/120	0/120	0/120	0/120	0/120
kurtosis	-0/146	0/069	-0/060	0/694	0/954	1/310	1/604	1/111	1/180	0/988	1/269	1/198
standard error kurtosis	0/240	0/240	0/240	0/240	0/240	0/240	0/240	0/240	0/240	0/240	0/240	0/240

As can be seen in Table (4), according to the amount of skewness, kurtosis, standard error of skewness and standard error of kurtosis between 2- and +2, all variables are in normal condition.

the conditions for performing exploratory factor analysis were performed by performing KMO test and Corylt-Bartlett test according to table (5). This test shows whether the variance of

As a result, parametric tests can be used. According to the findings of the qualitative section and to answer the research questions, first

the research variables is affected by the common variance of some hidden and fundamental factors or not?

Table 4. Sample adequacy test

Kaiser-Meyer-Alkin Sample adequacy size	0/969
Bartlett test chi-square	35216/883
Degrees of freedom	3321
The significance level	0/0001

According to the table (4) Sample adequacy Kaiser-Meyer-Alkin The number 0.996 was obtained. And the Bartlett test With chi- square in degree of freedom 3321 and level of meaning 0/001 is significant. Therefore, the number of samples is suitable for factor analysis. The following figures show the standardized factor the proper fit of the models. Since this value was 2 in the present study, so based on this index, the research models have a good fit. The results also showed that the values obtained for the four indicators (AGFI, GFI, CFI, NNFI and IFI) are all higher than 0.9 and therefore the models based on

loads and the T-statistic for the items. Examination of goodness-of-fit indices (confirmatory factor analysis related to research categories) shows that, if the chi-square to freedom ratio (X^2 / df) is between 1 and 3, Indicates

these indicators have a good fit. Finally, the values of RMSEA(0.049) and RMR(0.02) were less than (0.1). Therefore, based on these indicators, the models fit very well with the data, and this indicates that the items are consistent with the theoretical structure.

Table 5. Confirmatory factor analysis fit indices

RMR	IFI	NFI	NNFI	CFI	AGFI	GFI	RMSEA	X ² /df	X ²
0/02	1	0/99	0/99	1	0/96	0/98	0/049	2	26

The results of Table(5) show that all indicators are reported to a very desirable level and the model fits very well with the data and this indicates that the items are in line with theoretical structures.

Research model fit test

After examining the validity of the questionnaire and the validity of its structures, in order to answer the second research question, the main research model of whether the model of learning schools is valid from the teachers' point of view? Structural equation analysis and LISREL software were used. Based on the paradigm model extracted from the analysis of

qualitative data and the factors resulting from the first and second order factor analysis, a hypothetical model was designed and the relationships between the variables were determined. According to the conceptual model obtained from the qualitative stage of the research, each of the exogenous and endogenous structures of the model according to the results of factor analysis are considered as variables observed in the hypothetical model of the research. The correlation coefficients between these general factors are presented in the table below. As can be seen in the table, the correlation coefficient between all factors at the level (0.001) is significant.

Table 6. Correlation between research categories

target	Changes	Productive learning	Group factors	Individual capabilities	Organizational factors	Quality management	knowledge management	Competency development	Individual maturity	School maturity	Sustainable Development	
target	1	0/741**	0/81** 3	0/40** 1	0/287**	0/407**	0/395**	0/46** 8	0/44** 4	0/43** 0	0/44** 2	0/515**
Changes	0/741**	1	0/85** 7	0/48** 2	0/348**	0/478**	0/495**	0/58** 1	0/58** 0	0/56** 0	0/58** 7	0/623**
Productive learning	0/813**	0/857**	1	0/51** 9	0/375**	0/512**	0/517**	0/60** 9	0/60** 0	0/58** 5	0/60** 1	0/634**
Group factors	0/401**	0/482**	0/51** 9	1	0/497**	0/609**	0/634**	0/69** 7	0/68** 1	0/65** 2	0/60** 7	0/678**
Individual capabilities	0/287**	0/348**	0/37** 5	0/49** 7	1	0/518**	0/568**	0/57** 5	0/56** 8	0/54** 2	0/51** 4	0/525**
Organizational factors	0/407**	0/478**	0/51** 2	0/60** 9	0/518**	1	0/712**	0/70** 0	0/74** 4	0/63** 0	0/65** 3	0/668**
Quality management	0/395**	0/495**	0/51** 7	0/63** 4	0/568**	0/712**	1	0/81** 3	0/84** 1	0/69** 7	0/69** 5	0/706**
knowledge management	0/468**	0/581**	0/60** 9	0/69** 7	0/575**	0/700**	0/813**	1	0/88** 0	0/72** 6	0/68** 5	0/741**

Competency development	0/444**	0/580**	0/60** 0	0/68** 1	0/568**	0/744**	0/841**	0/88** 0	1	0/72** 5	0/69** 0	0/745**
Individual maturity	0/430**	0/560**	0/58** 5	0/65** 2	0/542**	0/630**	0/697**	0/72** 6	0/72** 5	1	0/84** 5	0/848**
School maturity	0/422**	0/587**	0/60** 1	0/60** 7	0/514**	0/653**	0/695**	0/68** 6	0/69** 0	0/84** 5	1	0/833**
Sustainable Development	0/515**	0/623**	0/63** 4	0/67** 8	0/525**	0/668**	0/706**	0/74** 1	0/74** 5	0/84** 8	0/83** 3	1

In order to evaluate the fit of the model and also to evaluate its generalizability, the goodness indicators of the fit and the significant model of the research (model T) are presented. Examination of goodness-of-fit indices (table) shows that the value of chi-square (35.71) was significant at the error level less than 0.01. Therefore, based on this index, the model has a good fit. Since the value of chi-square (X^2) statistic is sensitive to the number of samples and increases with increasing number of samples, Therefore, it is necessary to calculate the ratio of chi-square to the degree of freedom, in order to control its relationship with the number of

samples. If the ratio of chi-square to degrees of freedom (X^2 / df). Between 1 and 3, indicates the proper fit of the model. Since this value in the present study was 2.97, so based on this index, the research model has a good fit. The results also showed that the values obtained for the four indicators (AGFI, GFI, CFI, NNFI and IFI) are all higher than 0.9 and therefore the model based on these indicators has a good fit. Finally, the values of RMSEA (0.068) and RMR (0.013) were less than 0.1 and therefore, based on these indicators, the research model has been a suitable model. In general, the final model of the research has been a suitable model based on most fitness indicators.

Table 7. Indicators of fit of the main research model

RMR	IFI	NFI	NNFI	CFI	AGFI	GFI	RMSEA	X^2/df	X^2
0/013	1	0/99	0/99	1	0/91	0/99	0/068	2/97	35/71

Description of research model findings

The hypotheses reproduced at the end of the analysis of the findings of the first stage of the research (qualitative part) were the basis for drawing a hypothetical model and testing the relationships between variables in the form of hypotheses presented in the quantitative stage of the research. Research papers are presented. After fitting the measurement models and the structural model and having a suitable fit of the models, the research hypotheses were tested. To test the hypotheses, the significance of path coefficients

has been used. One of the criteria for measuring the relationship between structures in the model (structural part) is T- value. If the value of these numbers exceeds 1.96, it indicates the correctness of the relationship between the structures and thus confirms the research hypotheses at the 95% confidence level. The diagrams of the path coefficients of the structural model and the diagrams of the significant numbers of the structural test are given in Figures (2) and (3), respectively.

Figure (2): Structural model in the case of path coefficients

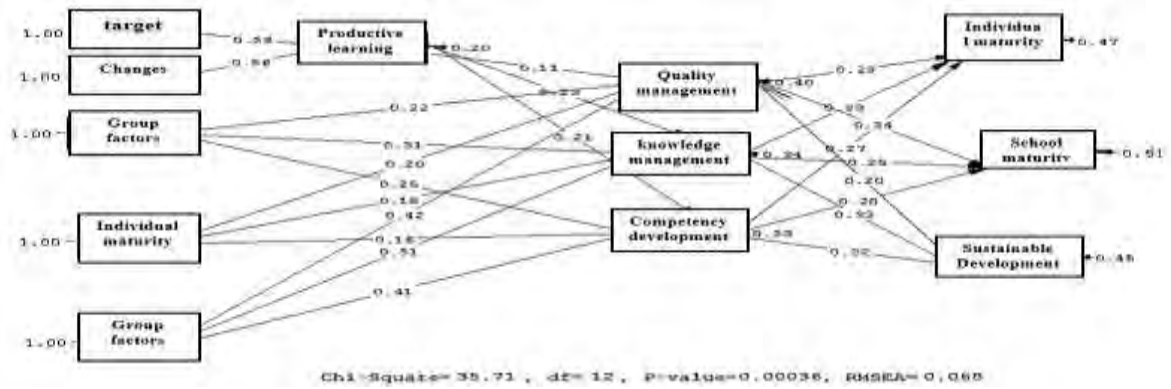


Figure (3): Structural model in the case of T- value

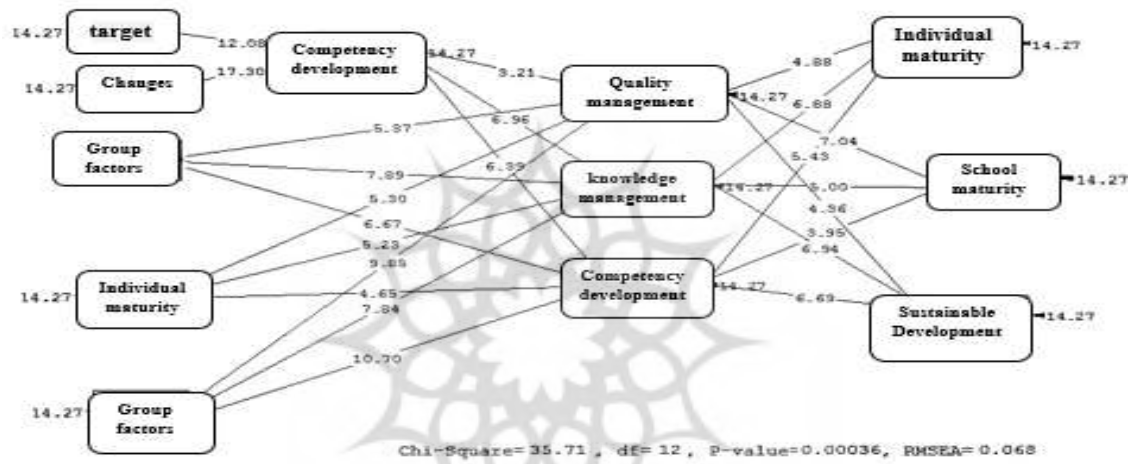


Table 8. Beta coefficients and significance of relationships

Predictive variable	Criterion variable	Beta	T	p-value	Result
Develop the competencies of teachers and school staff	→ Maturity of learners	0/27	5/43	0/001	Confirmed
Develop the competencies of teachers and school staff	→ School maturity	0/20	3/95	0/001	Confirmed
Develop the competencies of teachers and school staff	→ Sustainable Development	0/32	6/69	0/001	Confirmed
Improving the overall quality of the school learners	→ Maturity of	0/23	4/88	0/001	Confirmed
Improving the overall quality of the school maturity	→ School	0/34	7/04	0/001	Confirmed
Improving the overall quality of the school Development	→ Sustainable	0/20	4/36	0/001	Confirmed
Improving the overall quality of the school learners	→ Maturity of	0/33	6/88	0/001	Confirmed
Improving the overall quality of the school maturity	→ School	0/25	5/00	0/001	Confirmed
Improving the overall quality of the school Development	→ Sustainable	0/33	6/94	0/001	Confirmed

Common goals and visions generator learning	→ Network	0/39	12/80	0/001	Confirmed
Rapid global change generator learning	→ Network	0/56	17/30	0/001	Confirmed
Network generator learning competencies of teachers and school staff	→ Develop the	0/21	6/39	0/001	Confirmed
Network generator learning overall quality of the school	→ Improving the	0/11	3/21	0/001	Confirmed
Network generator learning of knowledge management in school	→ Development	0/23	6/96	0/001	Confirmed
Supporting organizational factors competencies of teachers and school staff	→ Develop the	0/41	10/70	0/001	Confirmed
Supporting organizational factors overall quality of the school	→ Improving the	0/42	9/58	0/001	Confirmed
Supporting organizational factors of knowledge management in school	→ Development	0/31	7/84	0/001	Confirmed
Individual capabilities competencies of teachers and school staff	→ Develop the	0/16	4/65	0/001	Confirmed
Individual capabilities overall quality of the school	→ Improving the	0/20	5/30	0/001	Confirmed
Individual capabilities knowledge management in school	→ Development of	0/18	5/23	0/001	Confirmed
Group factors competencies of teachers and school staff	→ Develop the	0/25	6/67	0/001	Confirmed
Group factors overall quality of the school	→ Improving the	0/22	5/37	0/001	Confirmed
Group factors knowledge management in school	→ Development of	0/31	7/89	0/001	Confirmed

As the findings of table (8) show, all the relationships between the factors in the model were confirmed, according to the indicators of good fit and confirmation of relationships, the validity of the model of learning schools was confirmed.

Discussion

This study was conducted with the aim of designing a model of learning schools in secondary schools in Hamadan province. For this purpose, the data obtained from interviews with 18 experts familiar with the subject of the research were analyzed. Qualitative findings based on the analysis of data collected from interviews, based on the data theory of the foundation were analyzed in two stages. In the first stage, 136 concepts were extracted from interviews with experts. In the second stage, for greater coherence and better analysis and interpretation, the concepts were coded in the form of 12 more abstract concepts. In the second step, the validity and reliability of the model were confirmed using structural equation modeling. The results of the present study with the studies

of Garbenis & Palujanskienė (2021), Naseri, Shahrakipour & Yadegari (2021), Ameri & Abdoli (2020), Wolhuter & Van der Walt (2020), Fadai, Khorshidi & Abbasi (2018), Ahmadi (2018) , Hatamian, Zeinabadi, Abdollahi & Abbasian (2018), Kools & Stoll (2016) Soulaïman, Mahbob & Sannusi (2015), are compatible.

Today, drastic environmental changes have become an integral part of the lives of organizations. Changes in science and technology, changes in human lifestyle, changing needs and wants of organizations and changing human needs, along with the growing trend of unemployment among graduates and the young population of the country, the country's education system more than ever needs to find new educational methods. It is necessary to review and modify the structure, methods, goals and perspectives of education. On the other hand, numerous findings of researchers in the field of education (Shakeri, Barzegar Befrooei & Panahi (2021), Bazgoli, Safari & Imani (2021), Ali Sarlak & Kaveh (2021), Soulaïmani, Ali Asgari, Hosseinikhah & Attaran (2021), Khaki vatan,

Abbasian, Naveh Ibrahim & Arasteh (2021)) and a close look at its facts indicate the existence of numerous problems in the current education system, which makes the need for comprehensive reforms inevitable. The main problem of the education system and schools, as one of the most effective organizations in society and the executor and responsible for education of the next generation, is the lack of purposefulness of the education system and the inefficiency of traditional methods. Hence, for sweeping reform, education must address two fundamental issues. The first is the discovery of new educational patterns and methods in accordance with international standards and the second is their adaptation to the realities of the Iranian educational community, localization and identification of conditions and factors affecting them. Learning schools have long-term goals and visions to motivate staff and a sense of belonging to the school, turning these goals into precise, flexible and personal operational goals. Learning schools to have a deep understanding of developments, activities and relationships inside and outside the school, try to have a favorable and comprehensive interaction between school parents, parents, students, teachers and cooperation with all groups inside and outside the education system. Learning schools promote a culture of teamwork, enabling everyone to join school groups to facilitate the transfer of information at the school level, in addition to public participation in improving teaching and learning processes and by providing feedback, they establish individual and group accountability in the school at the same time. Learning schools provide learning opportunities for principals, teachers, students, etc. at any time and place and are constantly evolving to adapt to changes in the environment. At the same time, these schools create the ability to create, acquire and transfer knowledge. In these schools, learning is considered a constant need of all employees and while emphasizing learning, how to learn, absorb and distribute new knowledge, to create, produce information and new and required knowledge and try to put all this knowledge in the behavior and Employee performance. Productive learning as a central phenomenon, provides the ground for adapting the school to its environment,

and develops creative learning throughout the school. Learning schools, by developing human values, provide the ground for the flourishing of staff talents. Increase people's commitment to continuous learning in organizations and provide the basis for active participation of employees in the development and distribution of knowledge to develop their skills and abilities. Learning schools try to attract the financial and material resources to provide training and retraining courses for staff, creativity and innovation workshops, improving teaching and learning styles, problem-solving training, forming study circles, forming action research groups, and Increase the motivation of employees, students, parents, etc. to participate in these courses by using material and spiritual incentives. Learning schools, by developing a culture of continuous learning in school, seek to absorb, apply and continuously develop knowledge in the school and provide the basis for public participation in improving teaching and learning processes to identify and meet the needs of students, teachers and staff, Institutionalize inclusive quality improvement in the school.

This research is one of the first attempts to design a model of learning schools in secondary schools in Hamadan province. The generalization of the findings of this research to other educational and university levels is limited. To increase the generalizability of the findings, it is recommended that this research be conducted at other levels of study and at the university level. Another limitation of the study was that due to Covid-19 disease, coordination and face-to-face interviews with many experts were not possible and also due to the dispersion of the statistical sample, a number of questionnaires were not returned.

According to the obtained results, it is suggested that the directors and officials of education approve and provide funding, improve and prepare the infrastructure and equip schools (workshops, laboratories, libraries and teaching aids), approve and implement laws to decentralize Education and delegation to schools, the appointment and support of Managers with team thinking to support learning opportunities for all, to help schools move towards a learning organization.

Ethical considerations

During the implementation of this research and the preparation of the article, all national laws and principles of professional ethics related to the subject of research, including the rights of statistical community, organizations and institutions, as well as authors and writers have been observed. Adherence to the principles of research ethics in the present study was observed and consent forms were consciously completed by all statistical community.

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