



## Presenting the educational policy model of skill learning for first year high school students: with a mixed approach

Samaneh. Keshmiri<sup>1</sup>, Abbas. Khorshidi\*<sup>2</sup>, Alireza. Araghiyeh<sup>3</sup>, Nader. Barzegar<sup>4</sup> & Esfandiar. Doshmanziari<sup>5</sup>

1. PhD student in educational management, Islamshahr Branch, Islamic Azad University, Islamshahr, Iran
2. \*Corresponding Author: Professor, Educational Management Department, Islamshahr Branch, Islamic Azad University, Islamshahr, Iran
3. Assistant Professor, Department of Educational Management, Islamshahr Branch, Islamic Azad University, Islamshahr, Iran
4. Assistant Professor, Department of Educational Management, Islamshahr Branch, Islamic Azad University, Islamshahr, Iran
5. Assistant Professor, Department of Educational Management, Islamshahr Branch, Islamic Azad University, Islamshahr, Iran

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Corresponding Author's Info  
Email:

a\_khorshidi04@yahoo.com

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### ABSTRACT

**Background and Aim:** Students can better understand what they have learned and prepare to build a better future. The present research was conducted to provide a model of educational policy for skill learning of first-year high school students. **Methods:** In terms of the applied goal, this research was exploratory mixed (qualitative-quantitative) in terms of data, and in terms of nature, in the qualitative dimension, it was a systemic (paradigm) foundation data, and in the quantitative dimension, it was a cross-sectional survey. The statistical population of the qualitative part included university professors and experts who had papers in the field of skill training, and in the quantitative part, it included all the teachers of the first year of secondary education in the central province who had a master's degree and above in the field of educational sciences, numbering 500 people. The sampling method in the qualitative part is purposeful and theoretical, and with the number of 15 experts, the theoretical saturation was reached. In the quantitative part of the sample size, 217 people were selected based on Morgan's volume determination formula. In the current research, after the open and axial coding of the measurement tool, it was sent in the form of a set form and sent to experts for selective coding and validation. Based on this, a researcher-made questionnaire was designed and distributed among the randomly selected statistical sample. Then the collected data were analyzed using descriptive and inferential statistics. **Results:** As a result, 5 dimensions, 20 components and 118 indicators were finalized for the educational policy model of students' skill learning. **Conclusion:** After the final approval and prioritization of the experts, the dimensions, components and indicators of the model were drawn, and the experts again validated the said model.



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### Introduction

By acquiring skills, students can gain a deeper understanding of what they have learned and prepare to build a better future (Hargrois, 2021). Skill training is a category that is always the focus of advanced educational systems; Because only the superficial teaching of teaching resources to students cannot prepare them for the future life. Therefore, in order to raise an efficient generation that can create a bright future for the country, it is necessary to think of ways to increase the skills of people in the education system (Carr, 2020). Today, the influence of educational systems on various dimensions of individual life of students and at a higher level, on all cultural, political, economic and social fields of countries is definite (Rigmi, 2019). And on this basis, the policy makers, with a forward-looking and macro-viewing approach, strengthen their educational system at different levels. They are trying to empower the human resources of the society by making education and learning more effective in different fields and ultimately guarantee comprehensive progress and sustainable development (Karimian, 2021). Increasing students' understanding and skills is perhaps one of the most important steps in this direction. Modernity and transformation in educational methods and content of textbooks are other important conditions for empowering students as much as possible, which has been repeatedly raised by educational experts in the last few years (Niyaz Azari, 2021).

According to the activists of the field of education, the current method and content of education at different levels of education, while being far from the educational and scientific standards of the day, does not pay attention to skill enhancement in students (Norouzi, Siadat, and Naderi, 2020). On the other hand, in the current conditions of the country and the trend of international changes, as well as the increase of educated volunteers looking for work, it is necessary to develop entrepreneurship as a strategic plan. On the other hand, the saturation of the government's employment capacity and the private sector's inability to employ people have caused the problem of unemployment among students and graduates to show up in recent years. In case of not paying attention to these issues and not foreseeing basic and appropriate solutions for this problem, it has

created economic, socio-cultural, political, etc. problems. Therefore, our society will face many crises in the not too distant future (Mehdi & Barani, 2019).

The points that were expressed, education is facing serious challenges and its output is not at the level of the Islamic Republic of Iran and is not responsive to the environmental changes and the needs of the society. Therefore, the wise emphasis of the wise leader of the Islamic Revolution on the necessity of a fundamental change in education for transformation and avoiding imported, old and purely imitation models is the light of the way out of the challenges of the country's education system. (Document on Fundamental Transformation of Education, 2011). Also, considering that one of the most important operational goals and solutions of the fundamental transformation of education is that the educated have at least one useful skill for making a halal livelihood; in such a way that in case of separation from the formal education system at any stage, they have the ability to provide for their lives and manage their families. Based on the studies conducted in this field, no suitable plan and practical action has been observed to realize the goals of the document in this field (Abbaspour & Moradi, 2018). In terms of the number of people working in it, the Ministry of Education is one of Iran's major government institutions, and about 15 percent of the country's budget is spent on education. Nevertheless, the level of effectiveness of this institution has been exposed to the attention and criticism of many observers due to public dissatisfaction with the quality of its outputs (Farkhandezadeh et al., 2022). The main issue is that education graduates are not as efficient as expected in terms of skills, in other words, their hands have not developed in harmony with their brains. Although, to compensate for this weakness, programs such as (CAD Project) (Work and Knowledge) (Development of Technical and Vocational Schools) have been carried out in the past, but these programs did not have much success in this way. Nowadays, dealing with the problem of students' skill training is one of the most important ways to reduce unemployment in the country. In the educational process of the country, the focus is on skill learning in the second secondary period, with an emphasis on conservatories and technical and vocational

schools. Therefore, it has caused students to have little time to learn skills and also do not have the right time to choose a suitable and favorite field and trend. Therefore, it is possible to start learning skills in the first year of secondary school to take advantage of the time period of school education and facilitate the process of achieving educational goals. A favorable policy is necessary to achieve the goals of secondary education. Considering the stated contents, the researcher was looking for answers to these questions:

- 1- What is the paradigmatic model of skill-learning policymaking in first-year secondary schools?
- 2- What are the causes, consequences, contexts, intervening factors, strategies, and outputs of the mentioned model (from the point of view of experts)?
- 3- How is the fit of the model, dimensions, components and indicators of the mentioned model (from the users' point of view)?

### Method

The current research is applied in terms of goals, in terms of data it is mixed exploratory (qualitative-quantitative), and in terms of the nature and type of study, it is a systematic (paradigm) foundation data type in the qualitative dimension, and a descriptive cross-sectional survey in the quantitative dimension. The statistical population of the qualitative part includes university professors and experts in the field of human resources management, who were selected by the theoretical sampling method and based on the theoretical saturation of 15 experts. In the quantitative section, all teachers of the first year of secondary education in the central province who have a master's degree and doctorate in the number of 495 people (255 women and 240 men) and with the help of Morgan's table, the number of 217 people (112 women and 105 men) formed a statistical sample size.

**Table 1. Dimensions, components and the number of constructive indicators of presenting the educational policy model of skill learning for the students of the first year of high school**

Dimensions	Component	Items
<b>Causal factors</b>	Management	6
	Teacher	9
	Learner	5
	Content	5
	Education	7
	Assessment	6
<b>interfering factors</b>	Learning environment	5

### Materials

The measuring instrument of the qualitative part is a semi-structured interview form, which was obtained with the help of open, central and selective coding. After the opinion saturation of the experts regarding the interview form of the qualitative section, the mentioned form was converted into a questionnaire by attaching the indicators and was implemented on the randomly selected sample group. The reliability and validity of the measurement tool in the qualitative part has been obtained with the help of three-way consensus (data consensus, researchers' consensus and the community of theories and methodology), in the quantitative part, the reliability is calculated with Cronbach's alpha and its total value is equal to 0.93. The obtained findings, 5 dimensions, 20 components and 118 indicators were finalized and the basis for designing the research questionnaire for the quantitative stage. Questionnaire answers were designed in the framework of a seven-point Likert scale. Data were collected and analyzed.

### Implementation

The data analysis of the current research was done in two qualitative and quantitative parts: Data analysis was done in the qualitative section in four steps:

- A) Open coding: In this step, 88 indicators were counted through national and global studies, and interviews with experts.
- B) Axial coding: In this stage, 5 dimensions, 21 components and 120 indicators were counted through interviews with experts. It is worth mentioning that in order to prevent the length of the text of the article, the coding table was avoided.
- C) Selective coding: In this stage, which was done by experts, in total, in order to present the educational policy model for the students of the first year of high school, 5 dimensions, 20 components and 118 indicators were obtained.

	Technology	8
	Upstream documents	5
	Funds	4
<b>Background conditions</b>	Corporate Culture	10
	Terms and Conditions	5
<b>Strategies</b>	Values	6
	Sociocultural	6
	Educational	6
	Economic	4
<b>Implications and outliers</b>	Individual	6
	Social	4
	Economic	8
	Political	3

D) Theoretical validation of the model: In this stage, the dimensions, components and indicators of the policy model of the first year secondary school students were prepared in the form of a model and validated by experts. In the quantitative part, descriptive statistics and structural equation model were used for data analysis.

### Results

In terms of demographic indicators, 112 (52.91%) of the participants were female and 105 (47.09%) were male. Also, 167 (79.23%) of the participants had a master's degree and 50 (23.77%) had a doctorate.

Table 2. Descriptive statistics indicators of research variables

Factors	Mean	SD	Skewness	Kurtosis
<b>Management</b>	6.1496	1.15971	-1.218	1.874
<b>Teacher</b>	4.4693	1.29869	-0.390	-0.254
<b>Learner</b>	5.0614	1.43350	-0.791	0.148
<b>Content</b>	5.4628	1.28778	-1.439	2.373
<b>Education</b>	5.1673	1.54594	-0.827	-0.048
<b>Assessment</b>	5.1850	1.25413	-1.078	1.225
<b>Learning environment</b>	5.3776	1.26871	-1.115	1.499
<b>Technology</b>	5.2217	0.91143	-0.979	2.353
<b>Upstream documents</b>	5.3060	0.85374	-1.700	5.350
<b>Funds</b>	4.9054	1.12453	-1.125	1.377
<b>Corporate Culture</b>	4.7654	1.23368	-0.760	0.133
<b>Terms and Conditions</b>	5.3151	1.33493	-1.071	0.943
<b>Values</b>	5.2748	1.21463	-1.195	1.707
<b>Sociocultural</b>	5.8933	0.80737	-1.367	1.861
<b>Educational</b>	5.9370	0.88065	-1.201	2.516
<b>Economic</b>	5.8465	0.83188	-1.347	1.537
<b>Individual</b>	5.8941	0.79212	-1.266	1.400
<b>Social</b>	6.0189	0.81359	-1.406	1.539
<b>Economic</b>	5.9528	0.72237	-0.919	0.460
<b>Political</b>	5.9134	0.87561	-1.003	0.527

According to the above table, the highest mean is related to the management component with a mean of 6.15 and the lowest mean is related to the organizational culture component with a

mean of 4.78. Also, the distribution of scores of all components has a negative skew. In other words, the sum of the squared scores of the mean is a negative number, and the scores of

most people in this scale are higher than the mean. The distribution of evaluation component scores (-1.7) has the highest skewness and the distribution of teaching component scores (-0.39) has the least skewness. The distribution of scores of all components has positive skewness.

This means that the scores of most people in these scales are close to the mean. Therefore, according to the obtained results, the sample distribution is normal. Therefore, the conditions for using parametric tests for data analysis are available.

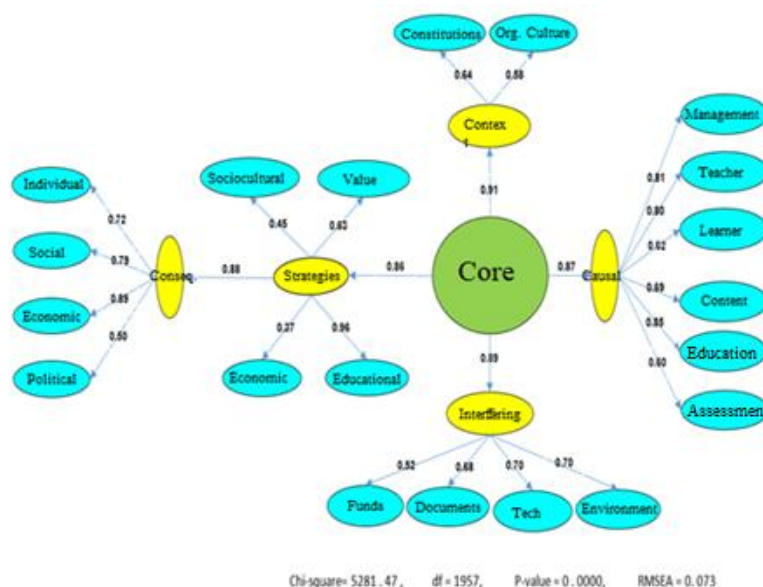


Figure 1. The general research model (path analysis) in the case of standard coefficients

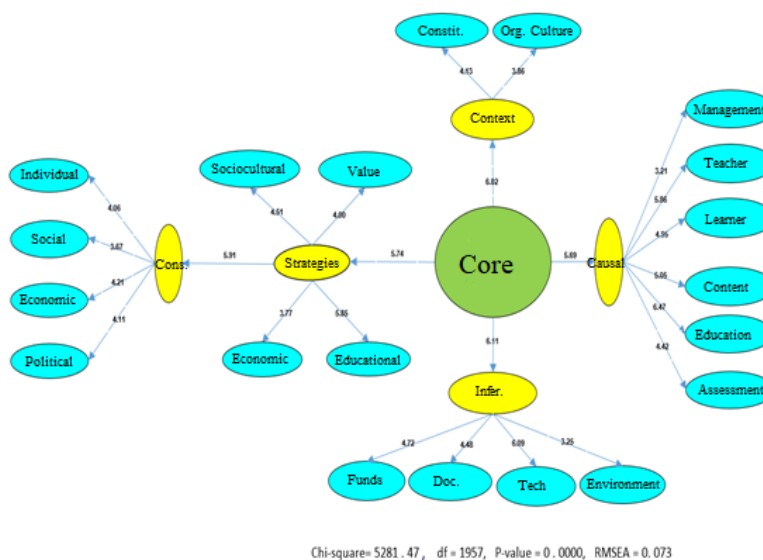


Figure 2. The general research model (path analysis) in the case of significant coefficients (t-value)

The summary of the results obtained from the general Puzhash model in terms of standard coefficients and significant coefficients is as follows: factor load and significance coefficient of the management path with the dimension of causal conditions equal ( $\lambda = 0.81$  and  $t = 3.21$ ); factor load and significance coefficient of the learning path with the dimension of causal

conditions equal ( $\lambda=0.80$  and  $t=5.86$ ); The factor load and the significance coefficient of the learning path with the dimension of causal conditions are equal ( $\lambda = 0.62$  and  $t = 4.95$ ); factor load and significance coefficient of the content path with the dimension of causal conditions equal ( $\lambda=0.69$  and  $t=5.05$ ); The factor load and the significance coefficient of

the education path with the dimension of causal conditions are equal ( $\lambda=0.85$  and  $t=6.47$ ); Factor load and significance coefficient of the evaluation path with the dimension of causal conditions equal ( $\lambda=0.60$  and  $t=4.42$ ); The factor load and the significance coefficient of the path of organizational culture with the dimension of background conditions are equal ( $\lambda = 0.58$  and  $t = 3.86$ ); The factor load and the significance coefficient of the path of rules and regulations with the dimension of underlying conditions are equal ( $\lambda = 0.64$  and  $t = 4.13$ ); factor load and significance coefficient of learning environment path with equal intervening conditions dimension ( $\lambda = 0.70$  and  $t = 3.25$ ); factor load and significance coefficient of technology path with equal intervening conditions dimension ( $\lambda = 0.70$  and  $t = 6.09$ ); factor load and significance coefficient of the path of upstream documents with the dimension of intervening conditions equal ( $\lambda = 0.68$  and  $t = 4.48$ ); Factor load and significance coefficient of the path of financial resources with the dimension of intervening conditions equal ( $\lambda = 0.52$  and  $t = 4.72$ ); Factor load and significance coefficient of the value path with the dimensions of strategies are equal ( $\lambda=0.63$  and  $t=4.00$ ); The factor load and the significance coefficient of the cultural-social path with the dimension of strategies are equal ( $\lambda=0.45$  and  $t=4.51$ );

The factor load and the significance coefficient of the educational path with the dimension of strategies are equal ( $\lambda = 0.96$  and  $t = 5.85$ ); Factor load and significance coefficient of the economic path with the dimension of strategies are equal ( $\lambda=0.37$  and  $t=3.77$ ); Factor load and significance coefficient of the individual path with equal consequences dimension ( $\lambda = 0.72$  and  $t = 4.06$ ); Factor load and significance coefficient of the social path with the consequences dimension are equal ( $\lambda = 0.79$  and  $t = 3.67$ ); factor load and significance coefficient of the economic path with the consequences dimension equal ( $\lambda=0.89$  and  $t=4.21$ ); Factor load and significance coefficient of the political path with the consequences dimension are equal ( $\lambda = 0.50$  and  $t = 4.11$ ); The ratio of chi-square to degrees of freedom is 2.69. The value of the square root of the variance of the approximation error is equal to 0.073, which is considered an acceptable level in the model fit. Other fit indices such as Goodness of Fit (GFI) and Adjusted Goodness of Fit (IFGA) and other characteristics values above 0.9 are considered as good fit indices of the model. Therefore, based on the modeling results, it can be said that the model has a relatively good fit with the data. As a result of the research, the paradigmatic model of the educational policy of the first-year high school students is as follows:

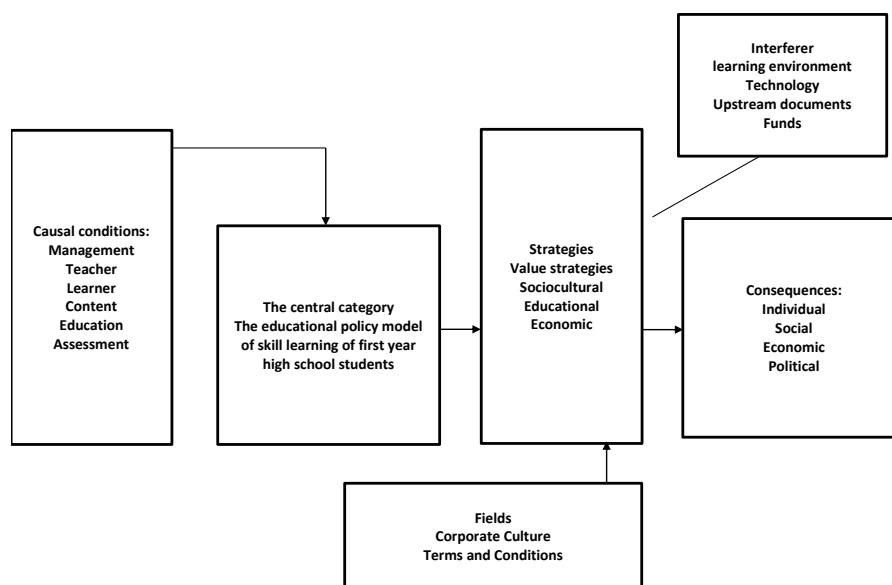


Figure 3. Paradigmatic model of educational policy and skill learning of first year high school students extracted from the research

### Conclusion

The mentioned model consists of 5 dimensions, 20 components and 118 indicators. Also, the causes, consequences, contexts, intervening factors, strategies and outputs of the mentioned model are: 1- Causal factors: management, teacher, learner, content, education and evaluation. 2- Intervening factors: learning environment, technology, upstream documents and financial resources. 3- Background conditions: organizational culture and rules and regulations. 4-strategies: value, cultural/social, educational and economic 5-consequences and inputs: individual, social, economic and political. The next finding of the current research; What is the fit of the educational policy model of skill learning for first year high school students from the users' point of view? It indicates that the findings obtained in the qualitative section included 5 dimensions, 20 components and 118 indicators. The priority of their placement is set based on the priority of each component, and the factor load of each index is higher, that index has a higher priority. Therefore, based on the obtained coefficients, it can be said that all the indicators have an important and significant role in measuring the dimensions and components of the educational policy model of skill learning for the students of the first year of high school; In total, they presented an underlying factor in the form of an educational policy model of skill learning for the students of the first year of high school. The present findings with the findings of researchers such as; Salmi et al. (2022) are aligned in terms of causal, contextual, intervening conditions, strategies and consequences; That is, the dimensions obtained in both studies were the same. In terms of technology and information literacy and proper planning of skill training, it was in line with the findings of Khairinia (2020). It was also consistent with the results of Heydari's research (2020) in terms of human capital (learner and teacher), cultural capital, political and economic consequences, laws and regulations, and attention to value strategies in society. It was also in line with the results of Rodwell's (2020) research in terms of attention to technology and digital skills. It was also consistent with the results of UNICEF research (2019) in terms of social and cultural consequences, attention to the learner and the development of the abilities of young people in society and the social

consequences of skill training in society. Finally, it was aligned with the research of Forstell and Bull (2018) in terms of economic consequences. Human capital is one of the necessities and requirements of the economic growth and development of the educational system to create the necessary skills, and skill training is a combination of science, technology, and art, and it plays a very important role in providing efficient and developmental human resources. The purpose of these trainings is to increase people's knowledge, skills, and understanding abilities and to perform work better within the scope of job duties. It is expected that educational organizations, including education and training, can play a significant role in training skilled technicians and reducing unemployment by providing skill training. This is why one of the important priorities in educational investments is the development and expansion of skill-based education, and it is recommended by relevant international organizations such as UNESCO, UNIWAC and the World Bank as an important strategy for developing countries. In general, the research had limitations in implementation, which are as follows:

The present research was conducted to design the educational policy model for high school students' skill learning. If other stages such as elementary or higher education were included, more extensive results would definitely be obtained. Not paying attention to the type of school such as: public, non-profit, etc. in the current research, which may have an impact on the results of the research. In the end, based on the research results, the following suggestions are presented:

It is suggested that resources including practical and useful skill training should be prepared and made available to the people of the society, especially teachers and students. Considering the skill needs of students based on the needs of today's society in writing new textbooks. Comprehensive skills training program and the practical application of these skills in in-service courses for teachers and extracurricular activities of students should be implemented. Creating a skill training course to teach the skills needed from the preparation period to the university.

### Conflict of Interest

According to the authors, this article has no financial sponsor or conflict of interest.

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