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Investigation of the Fit of the Model of Components of Creativity-Based Curriculum

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ABSTRACT

Background and Aim: The aim of the current research was to investigate the fit of the model of components of creativity-based curriculum. **Method:** For this purpose, a quantitative research approach based on the descriptive-survey method was utilized. This research employed inferential analysis and descriptive data analysis methods, utilizing factor analysis for the analysis of questionnaire data and presenting results. The statistical population included all primary school teachers in Tehran province who were serving in the year 2021, totaling 3195 individuals, all of whom were employed in primary schools in Qom province in 2021. Considering the population size (3195) and referring to Morgan's sample size estimation table, the research sample size was determined to be 345 individuals. For selecting the research samples, a cluster random sampling method was used. The data collection tool in this research was a researcher-made questionnaire. **Findings:** Considering the Root Mean Square Error of Approximation (RMSEA) value for each dimension, which is respectively 0.068, 0.071, 0.086, 0.085, 0.094, and 0.085, and is below 0.10, and also considering the Standardized Root Mean Square Residual (SRMR) which is respectively 0.071, 0.058, 0.058, 0.077, 0.071, and 0.067, and is below 0.08, it can be concluded that the model error is not significant. Moreover, considering other absolute/relative fit indices such as Chi-square, GFI, NDI, and CDI, and comparing them with conventional values for models with an appropriate fit, it can be concluded that the creativity-based curriculum model for students has a suitable structure. **Conclusion:** The model of components of the creativity-based curriculum presented in the current research has an appropriate fit.

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Introduction

Education is still traditionally conducted in schools (Chengal et al., 2016), emphasizing the transmission of scientific knowledge. Teachers, instructors, and professors transfer scientific information to students, who then memorize and regurgitate it orally or in writing during exams, receive grades, and are promoted; however, they tend to forget this information after a while. An excessive focus on rote learning and knowledge transmission is observed in many educational institutions. Telling, listening, and memorizing constitute the pillars of teaching-learning activities. Information is unidirectionally presented by the teacher to the students, neglecting that this method itself hinders learning and creativity, contrary to the learners' natural inclinations in the teaching-learning process; students prefer to listen, observe, touch, question, think, explore, experiment, and research, and to interpret and judge (Blazevich, 2016). Given the increasing local and global demands of the 21st century, primarily due to political changes, technological advancements, economic growth, and social welfare, a serious effort to encourage learners' creativity has become a fundamental necessity in schools (Borzeski, 2019). Creativity in childhood can be nurtured or hindered by external factors such as the teacher's approach to creativity, the educational and cultural environment, and the curriculum. Sorrentino (2019) stated that if teachers want learners to become worthy citizens, nurturing creativity throughout the curriculum is essential. Moreover, teachers should pay attention to students' emotional characteristics and guide them in setting goals for creativity education (Walter et al., 2017).

Nowadays, creativity and fostering creative individuals are considered very important in the education system of any society. Creative individuals can actively direct their interests and desires (Kadja, 2016). What matters in creating something new, with a new design, and generally in the process of creativity, is thinking; because creativity is a type of mental activity. One of the human's prominent features and the core of his existence is the power of thought. A human has never been without thought and reasoning throughout his life and has been able to solve problems and achieve growth and excellence through correct thinking; thus, all human successes and advancements depend on fertile, dynamic, and effective thinking (Chan & Yeon, 2015). The creative curriculum emerged in the late 1970s as a method to help pre-school teachers organize their classrooms. It supports an educational environment that promotes age-appropriate learning goals in social/emotional, physical, cognitive, and language areas (Sanomia & Yamaguchi, 2016). Some believe the curriculum should be based on curiosity (the ability to ask questions and discover how things work), creativity (the ability to generate new ideas and apply them in practice), critique (the ability to analyze information and ideas, and form reasoning and judgment), communication (the ability to express thoughts and feelings clearly and confidently across a wide range of media and forms), collaboration (the ability to work constructively with others), compassion (the ability to empathize with others), composition (the ability to connect with inner life and create a sense of personal harmony and balance), and citizenship (the ability to engage constructively with society and participate in it). In fact, the curriculum aims to replace the traditional boundaries of "subject knowledge" with general skills that enhance abilities, attitudes, characteristics, and behaviors significant throughout learners' lives (Mishara & Henricken, 2015). Therefore, rapid advancements in science and technology require individuals to possess scientific and creative knowledge. Research shows that students gain creativity through curricular or extracurricular activities on creative subjects (Piska et al., 2014). Hence, considering the role and importance of the curriculum and its elements in fostering or hindering creativity in students, the current research aims to identify and examine the fit of the model of components of the creativity-based curriculum in the primary education system of our country.

Method

To assess the fit of the proposed research model, a quantitative research approach based on the descriptive-survey method was used. This research utilized inferential analysis and descriptive data analysis methods, employing factor analysis for analyzing questionnaire data and presenting results. The statistical population included all primary school teachers in Tehran province who were serving in 2021, totaling 3195 individuals, all of whom were employed in primary schools in Qom province in 2021.

Considering the population size (3195) and referring to Morgan's sample size estimation table, the research sample size was determined to be 345 individuals. For selecting the research samples, a cluster random sampling method was used.

Materials

1. Researcher-constructed questionnaire on the state of students' creativity-based curriculum: This questionnaire contains 119 questions, developed through reviewing theoretical and practical foundations and exploratory interview results (open and axial coding of interview texts). The questionnaire includes six dimensions: 1) School dynamism (including components of future orientation, realism, competitiveness, and systemic thinking), 2) Lesson study (including components of professional knowledge, learning culture, and critical thinking), 3) Educational management (including components of teachers' abilities, addressing needs and educational facilities), 4) Organizational-individual (including motivational components, organizational and misconceptions), 5) Educational improvement (including components of educational planning, empowerment, teacher management, educational-family factors, and organizational structure), and 6) Learning improvement or deep learning (including components of modeling, educational efficiency, scientific orientation, and sustainable learning). To determine the questionnaire's validity, face, content, and construct validity were used. In face validity, the questionnaires were reviewed by the researcher, some sample members, and some academic experts before distribution. Content validity was assessed using a Delphi method and CVR forms with the help of ten experts, including interviewees, educational experts, some subjects, etc., to examine the questionnaire content for additional questions or question modifications. For construct validity, both convergent and divergent validity were assessed using Smart-PLS software. Convergent validity assessment showed significant factor loadings greater than 2.58 (t-statistics), meaning all factor loadings were statistically significant with 99% confidence; all factor loadings were also above 0.50 (relationship between manifest and latent variables); the average variance extracted for all components was above 0.50, and likewise, the composite reliability for all components was greater than the average variance extracted; thus, the convergent validity of the model's constructs is confirmed. Divergent validity was assessed using the Fornell-Larcker test, which showed the square root of the average variance extracted for each latent variable was greater than the maximum shared variance with other latent variables in the model; also, the cross-loading test results showed the factor loadings for each research variable were greater than the factor loadings of other observable variables in the measurement models present in the model, and on the other hand, the factor loading of each observable variable on its corresponding latent variable was at least 0.10 greater than the factor loadings of that observable variable on other latent variables. Therefore, the results of these two tests indicate divergent validity. In this research, reliability was calculated using Cronbach's alpha coefficient. The values of these coefficients for all research variables were above 0.7, indicating the measuring instrument's reliability.

Implementation

Qom province was divided into three main branches in terms of the number of counties (Qom, Kahak county, and Jafarabad county), then each county was divided based on the managed section into branches: Qom county (Central section, Khalajestan section, and Salafchegan section); Kahak county (Central section and Ferdows section); Jafarabad county (Central section and Qahan section). Subsequently, the names of 7 sections of Qom province were written on papers and placed in a bag, from which 4 papers were randomly selected. The extracted papers contained the names of the Central section of Qom county, Salafchegan of Qom county, Central section of Kahak county, and Qahan of Jafarabad county, and the researcher visited the primary schools in these sections and distributed 345 questionnaires in the primary schools of these sections in a simple random manner. Finally, descriptive and inferential statistical methods were used for analyzing the obtained data, and SPSS and confirmatory factor analysis and modeling using Smart-PLS version 2 software were employed.

Results

Regarding demographic findings, the highest frequency of gender included 221 individuals, equivalent to 64.1% related to female teachers of primary schools in Qom province, and the lowest frequency with 122 individuals, equivalent to 35.9%, related to male teachers of primary schools in Qom province. In terms of education, the highest frequency of educational level with 170 individuals, equivalent to 49.3%, belonged to teachers with a bachelor's degree, and the lowest frequency with 52 individuals, equivalent to 15.1%, belonged to teachers with an associate degree; also, 123 teachers, equivalent to 35.6%, had a master's degree or higher.

Table 1. Descriptive Findings and Normality Test

Component	N	Mean	Standard Deviation	Kolmogorov-Smirnov Z	Significance Level
Learning Improvement	345	6.027	1.837	0.935	0.320
Educational Improvement	345	5.660	1.813	1.027	0.263
Organizational-Individual	345	5.764	1.855	0.937	0.324
Educational Management	345	5.710	1.973	1.232	0.157
Lesson Study	345	5.672	2.065	1.075	0.206
School Dynamism	345	5.826	2.063	1.359	0.015

Based on the data from the above table, it is observed that the significance level (Sig) of the normality test for data in 5 variables is greater than ($p > 0.05$), and only one variable has a significance level less than ($p < 0.05$). In other words, most variables meet the normality assumption, and one variable is not normal. Therefore, parametric tests can cautiously be used to examine the above question. Subsequently, the factor analysis model of the creativity-based curriculum for primary school students in the Qom province's education system is reported.

Table 2. Exploratory Factor Analysis

Component	Factor Loading	Indicators	Path Coefficient
Future orientation	0.880	Emphasizing the value of creative teachers in annual formal educational programs.	0.717
	0.861	Schools should seek a model for enriching learning and professional development of teachers and students.	
	0.901	Schools should aim to enhance capacities for adaptability in society.	
	0.862	Schools should foster idea generation among students to create an ideal future.	
	0.846	Teachers possessing skills in association and connecting distant concepts.	
Realism	0.902	Managers having a realistic understanding of school conditions.	0.785
	0.904	If schools aim to define, design, act, rethink, and review findings.	
	0.909	Identification of internal and external environmental threats and opportunities by school managers.	
	0.871	Teachers and managers having the skill to see similarities, differences, and logical concepts among phenomena.	
	0.894	Organizing learning activities in schools for the accurate recognition of phenomena.	
	0.883	Avoiding sloganism by school managers.	
Competitiveness	0.887	School managers should aim to develop the capacity of schools for expanding collaborative and organizational learning.	0.814
	0.906	School managers having a development-oriented spirit.	
	0.877	Adapting current school strategies to competitive environmental changes.	
	0.911	Preparing the school environment by managers to accept new ideas.	
	0.850	Providing grounds for teachers' educational independence.	
Systemic Thinking	0.868	Conducting intelligent activities in schools in the form of strategic management by managers.	0.747
	0.848	Ability of school managers for short-term strategic planning.	
	0.896	Focus of managers and teachers on proactive activities.	
	0.921	Emphasizing educational objectives by managers for participatory decision-making among teachers.	
	0.886	Utilizing creative and innovative human resources in the planning and educational system.	

Professional knowledge	0.929	Guiding and advising students by teachers towards stimulating their creativity.	0.748
	0.895	Employing diverse teachings for exploratory learning among students.	
	0.877	Teachers having a background of general knowledge and utilizing it in teaching students.	
Learning culture	0.902	Emphasis by managers and teachers on fostering innovation among students.	0.737
	0.904	Emphasis by managers on effective teamwork in schools and classrooms.	
	0.911	Teachers having an active imagination and spreading it among students.	
	0.882	Emphasis by school managers on spreading a culture of innovation among teachers.	
Critical thinking	0.895	Focusing on the participation of creative and knowledge-oriented human resources instead of performance-oriented in education.	0.794
	0.901	Obliging educational managers to encourage teachers' creative thinking.	
	0.885	Emphasizing students' thinking and learning skills in the classroom by teachers.	
	0.894	Use of scientific methods in thinking by teachers.	
Teachers' abilities	0.889	Preventing the brain drain and attracting elite teachers in the educational system.	0.848
	0.887	Emphasizing teachers' participation in professional seminars and workshops and absorbing comprehensive information.	
	0.892	Emphasizing teachers' spending time on education to satisfy students' natural curiosities.	
	0.897	Emphasis by managers on teachers' diligence towards effective learning.	
	0.901	Utilizing capable individuals who facilitate innovation in the educational system of schools.	
	0.846	Teachers' ability to identify or discover problems or issues in the classroom.	
	0.847	Teachers' ability to find multiple solutions for problem-solving.	
	0.877	Teachers possessing the ability and willingness to evaluate their teaching and identify their own issues.	
	0.872	Ability to share their findings with others.	
	0.790	Providing sufficient opportunity for students to solve problems.	
Addressing needs	0.857	Meeting students' needs and expectations to create an active and dynamic mind.	0.786
	0.917	Analyzing educational needs of schools to produce tacit knowledge.	
	0.908	Encouraging and motivating students by managers and teachers to find an excellent environment for creativity growth.	
	0.878	Enhancing students' intrinsic motivation by teachers.	
Educational facilities	0.901	Systematic guidance of teachers using modern educational technologies to create motivation.	0.723
	0.898	Utilizing experienced management and research-oriented advisors alongside school managers.	
	0.909	Providing necessary facilities and equipment for the growth and flourishing of students' creativity in schools.	
	0.912	Giving newly appointed teachers sufficient time by managers to learn curricular skills in schools.	
	0.869	Allocating appropriate and sufficient financial budget for schools to use various teaching methods.	

Motivational	0.861	The courage to break past barriers and realms among teachers.	0.762
	0.853	Teachers' lack of confidence in using research-oriented teaching methods.	
	0.844	Teachers' lack of self-belief in their educational abilities.	
	0.878	Teachers' self-abnegation and its impact on improper teaching.	
	0.864	Teachers' detachment from knowledge and culture in teaching and its role in reducing student engagement.	
	0.822	Low future expectancy among teachers and its role in student education.	
	0.826	Lack of social security and prestige for teachers and its impact on their teaching methods in the classroom.	
	0.852	The presence of moral education weaknesses among teachers and its role in lack of patience and sufficient time spent on teaching.	
	0.869	Teachers' lack of scientific boldness.	
	0.844	The excessive desire for order among teachers in teaching and its impact on reducing students' creativity.	
	0.799	Teachers' professional biases and its impact on reducing students' creativity.	
	0.801	Inability to overcome individualism and its impact on teachers' teaching methods.	
Organizational	0.887	Uncoordinated growth of scientific fields and the marginalization of educational sciences.	0.720
	0.903	Inefficiency of the administrative system of the country and its impact on the learning system.	
	0.854	The educational structure of the country being problematic.	
	0.892	Lack of support from managers for research-oriented teachers.	
	0.903	Lack of intra-group interactions among teachers of other classes.	
	0.425	Lack of extensive and comprehensive communications of schools with other institutions.	
Misconceptions	0.892	Emphasis on blind imitation by teachers and not using modern teaching methods.	0.760
	0.917	Some teachers argue that a creativity-focused approach cannot cover all curriculum subjects.	
	0.915	Some teachers believe that fostering creativity is a specialized task and not everyone's capability.	
	0.901	Some teachers think that fostering creativity requires many facilities and causes disorder and disruption in teaching.	
Educational planning	0.884	Use of scientific programs in teaching students by teachers.	0.760
	0.910	Implementation and execution of appropriate educational programs to create innovation in learning.	
	0.916	Designing comprehensive educational programs for recreating learning.	
	0.895	Use of balanced teaching in all subjects to produce deep learning.	
	0.905	Adopting appropriate methods and strategies in school management for choosing and creating suitable learning.	
Empowerment	0.879	Utilizing experienced teachers to foster students' talents.	0.724
	0.895	Removing mental barriers for teachers to strive more towards improving student learning.	
	0.922	Training teachers to free themselves from the fear of failure.	
	0.897	Teachers using modeling in teaching to enhance students' creativity.	
	0.889	Producing multiple and innovative answers by teachers in response to students' questions.	
Teacher management	0.861	School managers emphasizing to teachers the importance of focusing on students' writing skills to increase creativity.	0.848

	0.791	School managers emphasizing to teachers the importance of creating visual creativity in teaching.	
	0.789	School managers emphasizing to teachers the importance of creating verbal creativity in teaching.	
	0.851	School managers encouraging teachers to free themselves from negative thinking habits.	
	0.738	School managers emphasizing to teachers the importance of focusing on intuitive thinking.	
	0.858	School managers encouraging teachers to tolerate ambiguous situations.	
	.865	School managers emphasizing to teachers the importance of making classrooms more fluid.	
	0.788	School managers emphasizing to teachers the importance of creating thought-focused classrooms.	
	0.801	School managers emphasizing to teachers the importance of creating emotion-focused classrooms.	
	0.679	School managers emphasizing to teachers the use of education based on play, humor, kindness to facilitate and grow students' creativity.	
	0.621	School managers focusing on developing and sustaining teachers' personal progress.	
Family factors	0.829	The role of parents' economic and social status and its impact on stimulating students' creativity.	0.811
	0.876	The role of parents' upbringing style in enhancing students' creativity.	
	0.898	Emphasizing to parents the importance of creating a positive environment in the family and encouraging children's curiosity.	
	0.846	Focusing on family educational models on students' thinking skills.	
	0.920	Giving children the opportunity by parents to experiment and see the results of their actions.	
Organizational structure	0.859	Creating an appropriate and balanced structure among different educational sections by managers.	0.598
	0.883	Reforming the organizational structure of education to create educational flexibility.	
	0.866	Reengineering curricular and educational planning processes in education.	
Modeling	0.904	Creativity-based education creates an effective model for continuous improvement of education in schools.	0.776
	0.910	Creativity-based education improves educational activities through collaboration with peers and colleagues.	
	0.870	Creativity-based education leads to the development of scientific theories.	
Educational efficiency	0.661	Creativity-based education takes on a local flavor and the results of changes become completely practical.	0.723
	0.768	Creativity-based education allows teachers to learn experimenting through teaching.	
	0.744	Creativity-based education, through creating opportunities in areas of deep thinking about long-term learning objectives, develops subject knowledge and educational knowledge, thus fostering professional development of teachers.	
	0.812	Creativity-based education increases students' self-confidence.	
	0.851	Creativity-based education strengthens the collaborative spirit among students.	
Scientific orientation	0.833	Creativity-based education means creating a research-oriented thinking process aimed at improving school activities.	0.808

	0.788	The creativity-based education cycle provides teachers with the opportunity to carefully consider objectives related to a specific lesson, unit, and topic.	
	0.565	Creativity-based education encourages teachers to become thoughtful and reflective.	
	0.809	Creativity-based education provides teachers with the opportunity to deeply consider the long-term objectives for their students.	
	0.815	Creativity-based education directs students' thinking more towards practical and creative thinking.	
Sustainable learning	0.674	Creativity-based education expands various types of learning in schools.	0.675
	0.801	In creativity-based education, students learn how to learn by themselves.	
	0.851	Creativity-based education enables students to see themselves in a new way based on precise insights obtained through focused classroom observation.	
	0.781	Creativity-based education creates an environment where teachers learn from each other.	

Table 3. Factor Loadings

Row	Component	Factor Loading	Results
1	Future orientation	0.717	Approved
2	Realism	0.785	Approved
3	Competitiveness	0.814	Approved
4	Systemic thinking	0.847	Approved
5	Professional knowledge	0.748	Approved
6	Learning culture	0.737	Approved
7	Critical thinking	0.794	Approved
8	Teachers' abilities	0.848	Approved
9	Addressing needs	0.786	Approved
10	Educational facilities	0.723	Approved
11	Motivational	0.762	Approved
12	Organizational	0.720	Approved
13	Misconceptions	0.760	Approved
14	Educational planning	0.760	Approved
15	Empowerment	0.724	Approved
16	Teacher management	0.748	Approved
17	Family factors	0.811	Approved
18	Organizational structure	0.598	Rejected
19	Modeling	0.776	Approved
20	Educational efficiency	0.723	Approved
21	Scientific orientation	0.808	Approved
22	Sustainable learning	0.675	Approved

Given the data from the above tables, it is observed that the organizational structure component has a factor loading of less than 0.60; therefore, the mentioned component is removed from the model. Ultimately, the results of the path analysis are shown as per the diagram below.

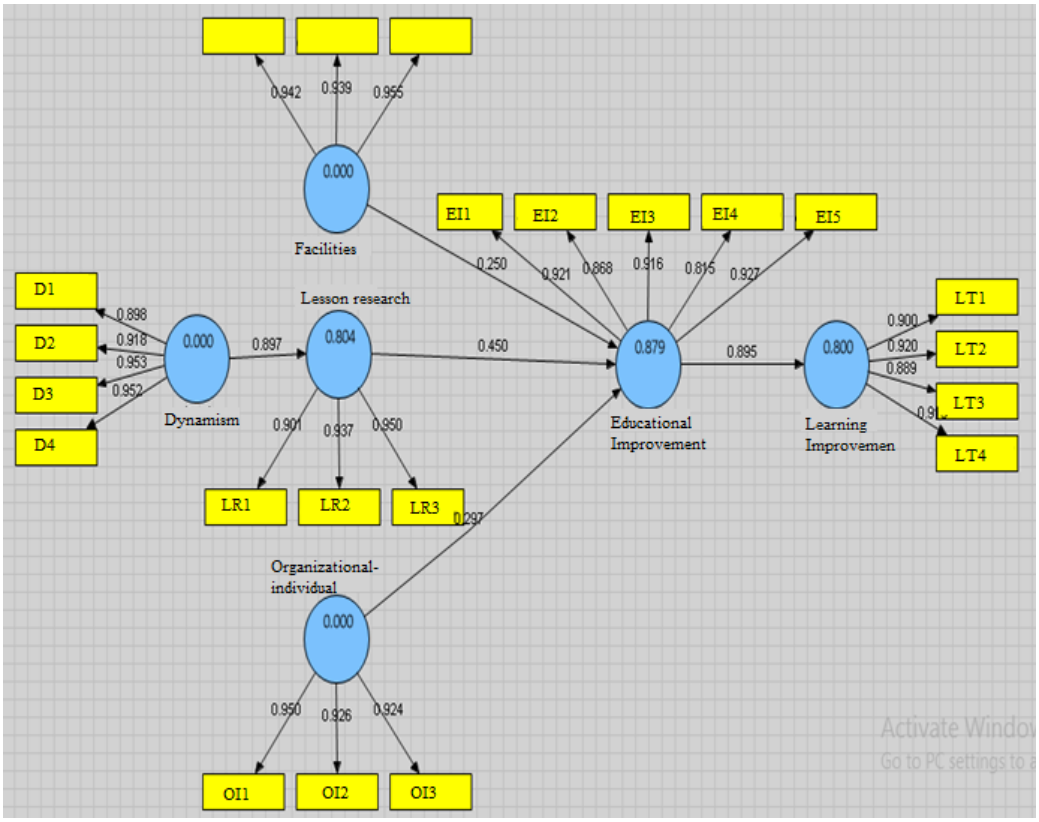

Figure 1. Model with Path Coefficients

After drafting the model and initially ensuring the accuracy and significance of the information, the most important issue is the model's significance through what are commonly called "goodness-of-fit indices." Acceptable scientific criteria for confirming the theoretically devised model using collected data constitute the main discussion in model fit indices. These indices, sometimes called goodness-of-fit indices (as increasing values of these indices are interpreted as stronger data support for the theoretical model) and sometimes as badness-of-fit indices (because as their value increases, it is considered as weaker data support for the theoretical research model), though half of the fit indices are badness-of-fit indices, which values should always be below a specific amount. Overall, various tests exist for model fit indices, and there is still no consensus on the optimal tests. However, generally, several indices are used to assess model fit. But for model confirmation, usually, the use of 3 to 5 indices seems sufficient, which in this research, indices shown in the table below were used.

Table 4. Fit Model Results

Row	Dimension	Index	Value	Criteria	Results
1	School Dynamism	df.Chi – square	412.84	<5	Approved
		RMSEA	0.068	<0.01	
		SRMR	0.071	<0.08	
		GFI	0.92	>0.90	
		NDI	0.93	>0.90	
		CDI	0.92	>0.90	
2	Lesson Study	df.Chi – square	93.47	<5	Approved
		RMSEA	0.071	<0.01	
		SRMR	0.058	<0.08	
		GFI	0.90	>0.90	
		NDI	0.90	>0.90	

		CDI	0.91	>0.90	
3	Educational Management	df.Chi – square	114.24	<5	Approved
		RMSEA	0.086	<0.01	
		SRMR	0.058	<0.08	
		GFI	0.92	>0.90	
		NDI	0.93	>0.90	
		CDI	0.92	>0.90	
4	Organizational-Individual	df.Chi – square	380.98	<5	Approved
		RMSEA	0.085	<0.01	
		SRMR	0.077	<0.08	
		GFI	0.91	>0.90	
		NDI	0.91	>0.90	
		CDI	0.91	>0.90	
5	Educational Improvement	df.Chi – square	173.44	<5	Approved
		RMSEA	0.094	<0.01	
		SRMR	0.071	<0.08	
		GFI	0.90	>0.90	
		NDI	0.90	>0.90	
		CDI	0.90	>0.90	
6	Learning Improvement	df.Chi – square	389.35	<5	Approved
		RMSEA	0.085	<0.01	
		SRMR	0.067	<0.08	
		GFI	0.91	>0.90	
		NDI	0.91	>0.90	
		CDI	0.91	>0.90	

According to the above table, it is observed that the fit statistics are at an acceptable level, and it can be concluded that the model can have minimal fitting. However, given the Root Mean Square Error of Approximation (RMSEA) value for each dimension, which respectively equals 0.068, 0.071, 0.086, 0.085, 0.094, and 0.085, and is less than 0.10, and also considering the Standardized Root Mean Square Residual (SRMR) which respectively equals 0.071, 0.058, 0.058, 0.077, 0.071, and 0.067, and is less than 0.08, it can be concluded that the model error is not significant. Moreover, considering other absolute/relative fit indices such as Chi-square, GFI, NDI, and CDI, and comparing them with conventional values for models with an appropriate fit, it can be concluded that the creativity-based curriculum model for students has a suitable structure.

Conclusion

The aim of this research was to examine the fit of the model of components of the creativity-based curriculum. Based on the obtained data, it is observed that the fit statistics are at an acceptable level, indicating that the model can have minimal fitting. However, considering the Root Mean Square Error of Approximation (RMSEA) for each dimension, which respectively equals 0.068, 0.071, 0.086, 0.085, 0.094, and 0.085, all less than 0.10, and also considering the Standardized Root Mean Square Residual (SRMR) which respectively equals 0.071, 0.058, 0.058, 0.077, 0.071, and 0.067, all less than 0.08, it can be concluded that the model error is not significant. Moreover, considering other absolute/relative fit indices such as Chi-square, GFI, NDI, and CDI, compared with conventional values for models with appropriate fit, it can be concluded that the creativity-based curriculum model for students has a suitable structure. No research was found regarding the rejection or confirmation of this finding. However, to explain the findings based on previous studies, some of the following researches can be mentioned. Yasemi (2020) conducted a study titled "Designing and Validating a Creative School Model for the Primary Level" using a sequential exploratory (qualitative-quantitative) research method, concluding that the validation results of the designed model based on experts' opinions in curriculum and creativity were appropriate. Masouminejad (2019) in "Designing and Validating an Ideal Model for Curriculum Liberalization of the Primary Education with a Focus on Localization" used qualitative

approaches and methodologies like phenomenology, content analysis, and ethnomethodology, showing that the model has the necessary fit. Erawahi, Masoumeh (2013), in a study titled "Investigating the Factors Influencing the Cultivation of Creativity in Primary School Students from the Perspective of Primary Teachers in Four Districts of Karaj," concluded that according to goodness-of-fit indices, the measurement model of all six components (teacher characteristics, student characteristics, curriculum, school educational space, organizational culture, and family) significantly influences the cultivation of creativity in primary students. Faraji (2019) conducted a study titled "Designing and Validating a Curriculum Framework for Experimental Sciences Based on Creativity Development in the First Period of Primary School," which was a sequential exploratory (qualitative-quantitative) research. The findings showed that the curriculum framework for experimental sciences based on creativity development in the first period of primary school is student-centered and according to participants; indices like exploratory teaching and problem-solving, fostering creative thinking, being exploratory, transferable, focusing on creativity and innovation, using encouragement and praise, focusing on friendship and teamwork, alignment with educational objectives, and compatibility with educational aids and media are of utmost importance. However, it should be noted that the presented models and patterns do not encompass all dimensions and components of the research, but the mentioned models and patterns also have fitting and to some extent align with the current research.

The present research was accompanied by limitations, including: 1-The current research is conducted from the perspective of primary school teachers in Qom and should be cautiously generalized to teachers in other levels or cities and provinces. 2-Due to the vast research population and limited resources, the sample was mainly selected from experts, professors, and teachers in Qom schools, which may limit the generalizability of the research findings; although Iranian schools have many similarities due to a centralized structure. 3-This research is limited to the time frame of 2022-2023, and its results should be cautiously generalized to other years. 4-One of the most significant limitations of this research was that the model of the creativity-based curriculum in this study was limited to the mentioned factors and components, and other factors and components may be identified by other experts in the future. 5-The data collection tool in this research was limited to questionnaires and interviews, which might have yielded different results if tools like observation were used. Therefore, it is suggested to future researchers, considering the designed model in the form of six main elements of the curriculum including: school dynamism, lesson study, educational management, organizational-individual, educational improvement, and learning improvement, to also address other curriculum elements such as the role of the teacher, organization of space and learning environment, time, learning tools, etc., in future research.

Finally, based on the findings, the following suggestions are offered to educational authorities, managers, teachers, and parents of primary school students in Qom: 1-In line with the school dynamism factor, it is suggested that managers involve students, colleagues, and especially parents in decision-making by holding briefing sessions. Also, by decorating the space with various facilities including flowers, colors, and different flags, make the school environment pleasant. Additionally, by organizing sports, scientific celebrations, various holidays, and healthy eating festivals in school, create a dynamic environment for educational staff, especially teachers and students.

In the current research, it was determined that among the influential factors on the creativity-based curriculum in primary schools, educational improvement includes components such as educational planning, empowerment, teacher management, family factors, organizational structure, and educational planning, empowerment, and teacher management are components of improvement. 1-It is suggested to parents to create a positive environment in the family and encourage the curiosity of their children, allowing them the opportunity to experiment and see the results of their actions. 2-School managers are advised to create an appropriate and balanced structure among the different educational sections and to reform the organizational structure of education to create educational flexibility. 3-School managers are recommended to utilize experienced teachers to foster students' talents. 4-Teachers are advised to

use balanced teaching across all subjects to produce deep learning.

In this study, it was found that factors influencing the creativity-based curriculum in primary schools for learning improvement include components such as modeling, educational efficiency, scientific orientation, and sustainable learning. School managers and teachers are advised to establish creativity-based education to continuously improve education in schools, as creativity-based education directs students' thinking more towards practical and creative thinking. They should provide the necessary conditions for the expansion of various types of learning and sustainable learning in schools. By organizing training courses, enable students to see themselves anew and learn material scientifically based on precise insights obtained through focused classroom observation. Managers should create an environment where teachers can learn and model from each other. With the implementation of the suggestions and solutions provided, the process of learning becomes continuous and sustainable, and educational efficiency increases.

In the developed model of factors influencing the creativity-based curriculum in primary schools, teacher abilities with a coefficient of 0.848 and systemic thinking with a coefficient of 0.847 have the highest factor loadings in the designed model. Therefore, it is suggested for teachers to participate in professional seminars and workshops and fully absorb information and spend time on education to satisfy the natural curiosities of students. Suggestions include emphasizing teachers' diligence towards effective learning and involving teachers in activities for which they are capable and engaging them in participatory decision-making. By participating in decision-making and activities, consult teachers, students, and parents in implementing educational and training programs to strengthen systemic thinking in the school.

Given that the creativity-based curriculum model in primary schools is confirmed and has the necessary fit, it is recommended to managers and teachers of primary schools in Qom province and the officials of the said province to consider the dimensions and components of the model for fostering students' creativity. They should conduct training courses by experts on topics such as school dynamism, future orientation, realism, competitiveness, systemic thinking, lesson study, professional knowledge, learning culture, critical thinking, educational management, methods to increase teachers' abilities, ways to meet needs, ways to increase educational facilities, methods to create interest and motivational activities, methods to reduce misconceptions, educational improvement strategies, correct educational planning methods, empowerment strategies, methods for classroom teacher management, ways to strengthen parental family relations, how to reform the organizational structure, methods for learning improvement, modeling techniques, techniques for increasing educational efficiency, how to foster a scientific orientation, and methods for establishing sustainable learning.

Conflict of Interest

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

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