

Re-engineering of Quality Management of Different Types of Educational Systems and Comparing its Functions with those of the World's Top Educational Systems, and Development of a Fundamental Transformation Vision Document of the Iranian Ministry of Education

Abstract

This research aimed to investigate the educational system's effects on the quality of education in Iran and to compare it with the world's top educational systems. The phenomenon of globalization is one of the most challenging issues in the world, which plays a determining role in humans' social, cultural and economic activities. It reduces geographical boundaries to their minimum levels. This phenomenon has also connected the interest of all people and countries and helped exchange human knowledge and thoughts more easily, in addition to goods and products. This research used library methods and gathered data based on the views of experts on the world's education systems. This study aimed to investigate various dimensions and components of the quality of education using different models and to provide ways to improve them. Using education efficiency indicators in various regions of the world and multivariate regression analysis, the research sought to determine education's social, political, economic and cultural development to compare all areas of the world together and provide a more conclusive perspective. This research determines weak and strong points and helps improve the quality of education.

Keywords: *Education, Quality of educational services, Quality function development, Economic development.*

Nazanin Zarei

*Department of Industrial Engineering,
Central Tehran Branch, Islamic Azad
University, Tehran, Iran.
Patentiran2016@gmail.com*

Introduction

Education is a social phenomenon that requires public cooperation. Every human being as a member of modern society is entitled to enjoy appropriate education commensurate with the individual and social needs of the society where he resides. For an all-inclusive education, society requires educating learners who are creative, deep-thinking, searching, questioning, and innovative. This connection requires understanding social, cultural, political and economic trends to explain the visions, policy making, and scientific futurism measures. Sociologically, the relationship between the educational system and development can be investigated to reveal that development is a reality that comes from the rational actions of people in society, as education is a major factor by which human behaviors can be rationalized and rectified, which, in this way, scientific and cultural achievements of the human being throughout the history can be utilized. Also, in this connection, the educational structure and the type of educational systems should be focused on. The educational system of each country can leave a considerable impact on the educational efficiency of that country because these systems use principles of educational policies to have considerable impacts (Chalabi, 2006). Thus, appropriate education is the most important factor in economic, social and political growth and stability (Malasis, 1997; Chalabi, 2006a). This research uses secondary data on a global scale and comparative methods to quantitatively analyze and compare

the type of the world's educational systems and their effects on the educational efficiency of countries. Promotion of education quality is an excellent goal of the educational systems; on the one hand, it underscores the sensitivity of education and educational processes and improves the quality of education, thus finally increasing the efficiency of the national education system. On the other hand, each society requires effective education to achieve social, cultural, economic and political development. One of the effective dimensions of the educational system in each country is planning, which changes depending on the type of educational system, administrative policy making and determination of policies.

Theoretical Foundations of the Research

Effect of Educational Systems on Scientific Development

Since the educational system has an impressive effect on the scientific development of society, this effect can be determined by the intervention of the type of centralized and decentralized educational system over the efficiency of education. Thus, three types of educational systems are centralized, decentralized and semi-centralized systems, which will be useful when there is an appropriate setting for structural changes and real faith in delegating powers to the public, and valuing and respecting the views of educational staff, students and parents. The ground is laid for trust in specialized skills, proficiency in the provinces, and faith in public engagement in the affairs (Shirazi, 1994:96).

Table 1: Functional comparison of types of educational systems

Type of educational system	Centralized educational system	Semi- centralized system	Decentralized system
Has all educational powers	✓	-	✓
Has an equal and similar program	✓	-	✓
Education is based on the economic and social settings and the place of education	-	✓	✓
Intervention by managers, teachers and students in decision making	-	✓	✓
Non-government financial powers	-	-	✓
Examination monitored by central authorities	✓	✓	✓
Possibility of presenting the draft of the subjects and executive problems to upstream documents	-	-	✓

Table (1) states that the decentralized educational system is very comprehensive. It is noteworthy that in decentralized education, it is needed to coordinate educational activities to meet the general objectives of the society due to the lack of concentration; though this need does not cause schools to be confined and restricted to each one of these objectives; rather, allowing them to choose and follow the way of meeting their goals consistent with their local facilities and requirements, as well as human and financial resources. Here, we investigate the educational system and its effects on improving social, economic and political development.

Relationship between the Educational System and Economic Development

Once a society experiences good economic development when it seriously and profoundly transforms its skills and technical-scientific knowledge. The major factors that contribute to this

Table 2: Effect of the type of educational system on economic development

Type of educational system	Decentralized educational system	Semi- centralized	Centralized
Effective factors			
Providing local knowledge	✓	✓	✓
Providing specialized, local and regional skills	✓	-	-

transformation are the use of a scientific spirit over the society, employment of the social powers to strengthen the human capital, concentration on the educational system and emphasis on the quality and adaptability of the educational system with economic development needs. For UNESCO, the main question is: Which type of education fits the general development of the society, especially the economic development?

In response to the above question, Simon Smith Kuznets, the Noble Prize laureate of 1971 in Economy, states that 90% of the past developments in industrial nations were not due to increased capital; but rather due to improved human proficiency, skills, management, etc. that are rated as the first factors to the economic development. Thus, education in this regard can help talents and quality of human force to prosper, as the educational system needs to be highly effective.

Participation by the authorities of the educational program per local requirements	✓	-	-
Talent discovery	✓	-	-

Reverse Relationship between Economic Development and Its Effects on Education Efficiency

When economic development improves, technical and social labor division unfolds, expertise is created, and economic and social systems, especially technical systems, will require several skills; for this; as a result of economic development, technical and organizational requirements of the society help develop the education (Chalabi, 2006). Accordingly, many researchers maintain that there is a significant relationship between the economic development of a country and its educational efficiency, with the economic development helping the educational system to develop both quantitatively and qualitatively (Chalabi, 2006a; Sielo, 1949, Alvin, 1961; Maurice, 1982; Robert Baror, 2000; Lin, 2003; & Berin Dahlein, 2007).

Relationship between Educational System and Social Development

Table 3: Effects of type of educational system on social development

Type of educational system	Public interest	Collaborative actions on issues	Association relations	Voluntary associations	Colloquial or dialogue relations	Dynamic and creative system
Concentred	-	-	- (with defined association relation)	- (with defined vulnerary relation)	-	-
Semi-centralized	-	✓ (unprofessionally)	✓ (With defined but large-scale relation)	(With defined but large-scale relation)	✓ (limited)	-
Decentralized	✓	✓	✓ (Maximum presence)	(Maximum presence)	✓ Maximum presence	✓

Relationship between Educational System and Political Development

Attention to the role of educational systems in the incidence of social and political development has been a pivotal issue that has preoccupied the minds of political science and educational

The nationwide educational system should be characterized by learning based on new thoughts and socialization of humans, as schools are tasked with the social development of humans. The publication of a short paper by Michael Saddler in 1990 opened a new chapter in comparative studies on education. In this article, he considers education to be a product of several determined social and historical factors (Almasi, 1996). Over the past several decades, social development has achieved a more critical place in the development policies and theories. It is becoming one of the major aspects of the development process. This issue indicates the expansion of a network of social relations between social actors. Saddler argues that education is associated with society and its fundamentals, and just as education is a product of social entities and systems, it also contributes to the creation of new social, economic, cultural and political conditions as well as the transformation of old bodies of the society (Almasi, 1996).

science theorists. The incidence of any kind of political transformation in a society requires setting the stage for components and premises of the education of that society. A political transformation naturally consists of characteristics among the educational system's main missions (Sajjadi, 1990).

Table 4: Effects of type of educational system on political development factors

Political development factors	Political skills	Respect for individual rights	Individual differences	Democratic relations in a	Free discussion classes on political issues
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Type of educational system				patriarchal system	
	Concentered	-	-	-	-
	Semi-centralized	-	✓	✓	-
	Decentralized	✓	✓	✓	✓

Results from table 4 indicate that the decentralized educational system in contemporary and industrial societies forms some main functions to increase educational efficiency. These educational systems seek to select children based on their talents and competence, provide an appropriate education for

people of different talents, strengthen free discussion classes and help them engage more, and directly and indirectly assign experienced and expert people to the occupational roles in the society.

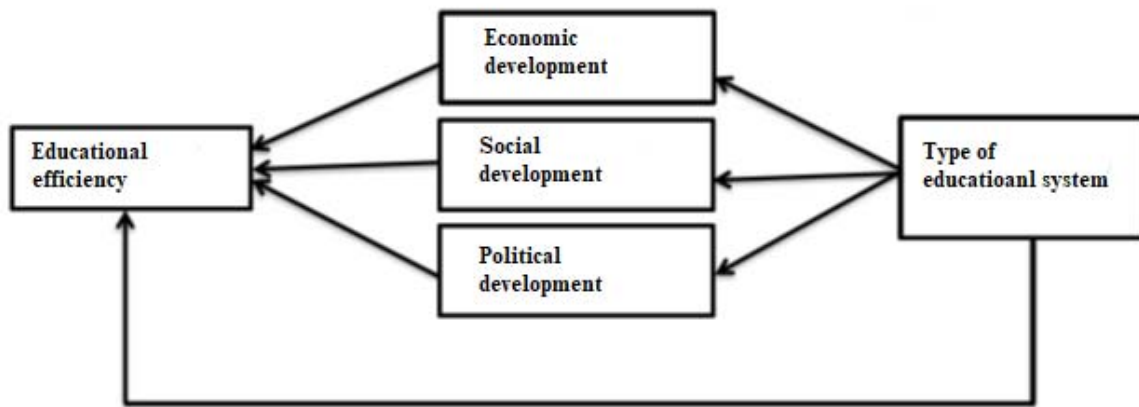


Figure 1: Analytical model of the research

Research Methods:

The present research with an explanatory nature used a quantitative comparative method or an interstate analysis. This research was based on quantitative data from other countries and used secondary analysis to gather data. This study used a convenience (total population) sampling method. Because there may be practical limitations to accessing data from any country, UNESCO data were provided to the education sector to better conduct the investigation. To assess the educational efficiency, indicators such as international assessments of the students, number of researchers, international competitions, non-repetition rates and drop-out rates were taken into account, indicating each country's educational efficiency.

The type of educational system meant centralized systems with Code 1, Semi-centralized systems with Code 2 and decentralized systems with Code 3, which were defined in the Literature Review section. (Information was derived from the Higher Cultural Revolution Council on educational studies and objectives of the world countries in the month of November). This research also considered the per capita indicator of gross domestic product (using peoples' purchasing power) to evaluate the economic development of the countries. The variable of social development is a combination of indicators of social trust and association prohibition. In contrast, the variable of social relations includes such indicators as the importance of friends in life, relation with people in their adjacency, relation between people in the region, relation with

the citizens, and relation with others. Later, social trust was measured, which was characterized by indicators such as trust in people, trust in the broadcasting services, trust in the press, trust in the state, and trust in political parties, as well as in the unions, as well as belonging to political, sports, and entertainment factions. This research regarded democracy to be an indicator of political development; here, political rights were measured by such indicators as political participation and government performance; civil freedom by such indicators as freedom of speech and opinion, organizational and association rights, the role of the laws and autonomy as well as individual rights. In the meantime, freedom of the press was regarded as an indicator of political development.

To compare the scores of the research variables and to facilitate reporting, all the indicators in this article were transferred to the 0-100 scale using the following formula.

$$X_{new} = \frac{X - X_{min}}{x_{max} - X_{min}} \times 100$$

S: variable score on the new scale

X: variable score on the previous scale

Max: the highest negative score on the previous scale

Min: the lowest variable score on the previous scale

Findings

First, the variance or dependent variable changes (educational efficiency) was investigated through a linear combination of relative cooperation of three levels of development (political, social and economic development). Here, Table 5 reveals that the economic, political and social developments explain educational efficiency at 0.27, 0.14 and 0.29, respectively.

Table 5: Data relating to independent variables of regression models

Non- standardized coefficients					
	Beta	SD error	Standardized beta coefficients	T	Sig.
Constant value (intercept)	127.692	47.125		2.710	0.009
Economic development	0.191	0.000	0.274	2.147	0.034
Social development	0.167	0.087	0.286	1.817	0.041
Political development	0.704	1.108	0.141	0.948	0.061

In the next stage, the variable of the type of educational system was modeled using regression, and the findings revealed that this variable affected educational efficiency; thus, the effect of these three variables on educational efficiency decreased significantly, with none of them experiencing a significant effect.

The relationship between centralized and semi-centralized educational systems was examined and noted to be either high or low. The educational efficiency was based on the average derived from the variable of educational efficiency and given in the following.

Table 6: Relation between the type of educational systems and educational efficiency (high and low-efficiency rates)

		Type of educational systems			Total
Educational efficiency		Centralized	Semi-centralized	Decentralized	
	High	10	14	10	34
	Low	16	0	0	16
Total		26	14	10	50

Results from the Chi-square concordance test suggest a significant relationship between types of educational systems and educational efficiency, as consistent with the Cramer's Phi, the value of this relation was reported to be a relatively strong value; thus, confirming the effects of the type of educational systems on educational efficiency. Also, as shown in Table 7,

all semi-centralized and decentralized educational systems reported higher efficiency rates. However, 61% of the countries with centralized educational systems held low educational efficiency. This result is notable in that most third-world countries, including Iran, enjoy this system. Later, the difference in the type of educational systems in terms of

educational efficiency was calculated by the F test, which examines the difference in mean rates and equality of the

dependent variable. This test is a generalized T-test, revealing the total population variance of its initial factors.

Table 7: Variance analysis of the relationship between the type of educational systems and educational efficiency

Type of system	Sample size	Mean	SD	F	Sig.
Centralized	26	224.8798	56.296	3.759	0.039
Semi-centralized	14	271.6400	29.528		
Decentralized	10	278.4827	22.782		

The F test shows a statistically significant difference between the centralized, semi-centralized and decentralized educational systems regarding educational efficiency, with the highest

educational efficiency pertaining to the countries with a decentralized educational system.

Table 8: Test after Scheffe's experience

Comparison of types of educational systems	Difference of mean	Significance	Comparison result
Centralized-decentralized	-53.603	0.004	Centralized < decentralized
Centralized-semi-centralized	46.760	0.113	Semi-centralized-centralized
Semi-centralized-decentralized	-6.842	0.039	Semi-centralized < decentralized

Scheffe's test results indicated that the F significance pertains to the mean educational efficiency of the decentralized system with the centralized system (p=0.004), on the one hand, and with the semi-centralized system (p=0.039), on the other hand. This suggests that the centralized educational system had significantly higher educational efficiency, and it was noted that there was no significant difference between the mean

educational efficiency of semi-centralized and centralized systems, with both having low educational efficiency compared to the decentralized system. In the following model, fitting indicators of the theoretical structure, determined with observable data of 70 countries of the world (n=70), suggest a relatively good fit of the model determined with observable data.

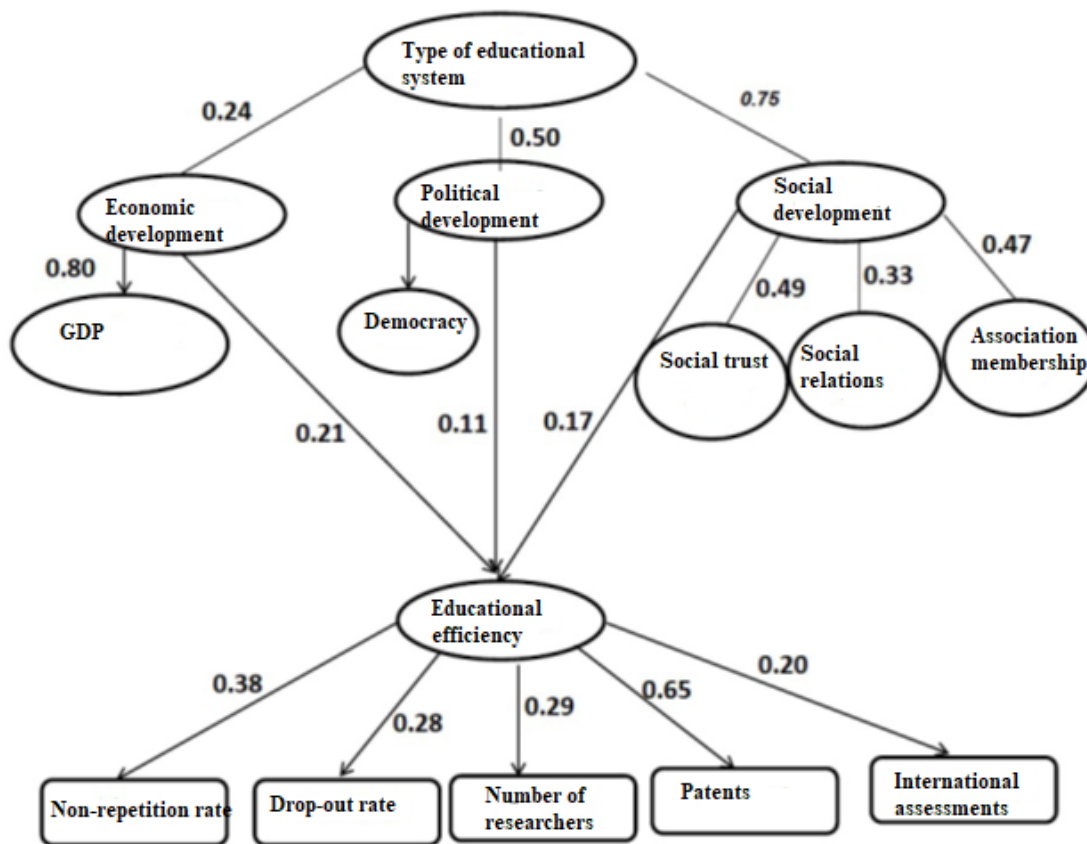


Figure 2: Path coefficients of the structured pattern of educational efficiency of type of educational system

Table 8: Indicator values of structural model fit

Model indicators	fit	Value	Value status
RMSE		0.00	Appropriate
AGFI		0.78	Slightly inappropriate
GFI		0.86	Slightly inappropriate
NFI		0.96	Very appropriate
GFI		0.98	Very appropriate
IFI		0.99	Very appropriate

The educational system affects political, economic and social development by 0.50, 0.84 and 0.75. On the other hand, we observe that economic, social and political development and the type of educational system affect educational efficiency by

0.21, 0.17, 0.11 and 0.36. As noted from the results and based on analyses of all countries, the so-called fundamental transformation vision document was developed.

Table 9: Major indicators of the fundamental transformation vision document of the Ministry of Education

The educational system's response to national and regional developments
Quality of curricula sources in all educational levels
The attraction of top talents in all humanity areas
Promotion of teacher status in the society
Transforming organizational structure across all levels
Transforming organizational management
Transforming the system's outputs
Transforming culture
Obligation to implement educational policies by the year 2025

Conclusion

This research was based on data from 70 countries around the world and investigated the factors affecting the improvement and progress of the educational system. Results from structural equation modeling suggested the effect of the type of educational system (in terms of administrative centralization) and three levels of economic, social and political development on educational efficiency. Then, the goodness of fit test of the value of the theoretical structure, including data from 70 countries of the world, indicated a good model value determined by the observable data. Results from the independent variables regression also confirmed this, as the type of educational system affected the educational efficiency by 0.38, which was considered an important factor in improving educational efficiency; on the other hand, variables of economic development, social development and political development independently affected educational efficiency by 0.27, 0.29 and 0.14, respectively. Thus, as noted by the findings, education is viewed as the main axis in any country's development process. In essence, the educational system is the driving force of all-inclusive development because the educational system of every society is subject to continued transformation and modernization in line with the development of talents and rectification of human behaviors. In the modern world, the output of each country's educational system affects and is affected by the domestic developments of this system, as well as by the functioning and interrelationship of the economic, social, cultural and political systems within the society. These educational systems serve to transform talented people into healthy, balanced, creative and innovative people. Quantitative inter-state research suffers from problems such as comparing different countries and collective data, which can only reveal the social parameters and contexts in which events unfold. Understanding special events require in-depth case-based research (Ragin, 1987), as comparative quantitative analysis is never used instead of a detailed investigation of specific cases. Of course, case-based research also suffers from such problems, including small sample sizes and selection bias, which makes it difficult or impossible to accurately test the theoretical claims, thus failing to determine general social parameters. It is thus recommended that several countries with different educational efficiency be selected and their educational systems be carefully analyzed using qualitative comparative methods to look deeper into their objectives.

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Conflict of interest

None.

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Ethics statement

None

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