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Research Article

# Smartening Schools Using Dynamic educational programs based on the Transformation Document Vision

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ABSTRACT

**Background and Objectives:** Making schools smarter by using dynamic educational programs means using technology and software created to improve the educational and learning process in schools. These programs usually include interactive tools such as cinemagraphs or experiences such as virtual reality, as well as computer-based educational software and programs. This research was conducted with the aim of investigating the smartening of schools using dynamic educational programs in line with the vision of the transformation document.

**Methodology:** The current applied study was conducted in 2023 by adopting a qualitative-analytical paradigm using a text analysis approach. The research was conducted on the country's transformation document, which was selected purposefully in the fourth chapter of the transformation vision document. In order to respond to the needs of schools smartening using dynamic educational programs, the coding method (open, central and selective) was used.

**Results:** The results showed that based on the extraction of 50 concepts from the perspective of the transformation document, the categories extracted from the fourth chapter of the fundamental transformation document in the fields of modernization of schools in line with technology included the education of a thinking, national-religious person, education of an expert, technical skill, and education of Human interaction and participation, and the basic form of development was the design and implementation of these goals so that they can be developed to make them smarter at the level of developed countries.

**Conclusion:** In general, making schools smarter by using dynamic educational programs can completely change the learning environment and create a more useful and attractive environment for students. The use of dynamic educational programs can make students more attractive than traditional teaching methods. These programs usually create a fun and energetic environment using images, videos and direct interaction with students.

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## Introduction

Current schools emphasize effective education through modern teaching methods and stress the utilization of electronic learning environments, including ICT, CD-ROMs, the Internet, and home computers, as technology creates new skills in learners (Marandi, 2019, p.2). On the other hand, rapid changes in information and communication technologies and the achievement of scientific advancements by human societies have made the need to improve the quality of education, including recurrent education and the training of up-to-date and efficient teachers, more necessary than ever (Samandari, 2016, p.2). The application of information and communication technology has facilitated continuous learning and has provided new opportunities for individuals to experience life in an information society, so that this technology is considered not merely as a tool but as an empowering infrastructure for professional teaching and training. In the educational system, simultaneously with the transformation in global educational approaches, this technology has paved the way for the creation of smart schools (Behboudi & Fathollahi Far, 2013, p.79). Smart schools are schools in which the learner educates a creative generation, capable in the arenas of life and able to construct knowledge. These schools are considered a necessity for knowledge-based societies that pursue approaches to developing students' knowledge skills and entrepreneurship (Jalili, 2009, cited in Adib et al., 2015, p.23). Smart schools are among the key requirements of knowledge-based societies, where teaching-learning processes are strengthened and an integrated interactive environment is provided to enhance students' key skills relying on group activities in the knowledge-oriented era. Since teacher-centeredness is currently the basis of education in the country, updating schools, using modern technologies, benefiting from new innovations in education, and paying attention to students' abilities are prerequisites for this transformation (Alam et al., 2016, cited in Bidgoli et al., 2018, p.246). On the other hand, the use of information and communication technologies in educational systems and consequently the

http:// 10.22034/NAHQ.2023.174434

establishment and development of smart schools, due to the existence of flexible curricula, provides the possibility of teaching with modern methods and paying attention to students' knowledge interests according to their talents, provided that the new method replaces the traditional one and is acceptable to teachers; any change and transformation in line with technology will pave the way for the smartification of schools (Farahi et al., 2015). The smart school has emerged as the most fundamental manifestation of the policy of technology deployment in Iran, and educational policymakers, after a decade of the life of technology, have pursued the serious entry of education into this field, so that it was introduced as one of the transformative measures of the Ministry of Education in the government under the plan of the Fundamental Reform Document of the Education System (Secretariat of the Supreme Council of the Cultural Revolution and the Ministry of Education, 2011).

With the implementation of the Fundamental Reform Document by the horizon of 1404 (2025), it is expected that transformations will take place compared to the past, enabling special measures to be taken in the process of training school principals and improving educational quality. Accordingly, the policies of the education system have emphasized the education of students at the level of the Islamic Republic of Iran system, and improving educational quality is considered one of the key strategies for achieving goals, as well as reforming and improving schools (Karimi Argini et al., 2020, p.44). Based on the empirical evidence of Poullet (2015) in a comparative study conducted in four countries—France, England, Turkey, and Denmark—the conditions for assuming management in schools include the conditions of the applicant, pre-service training, in-service training, appointment, evaluation, and employment. Asghari (2009) identified the insufficiency of specialized human resources, lack of financial resources, and the lack of school equipment with computer systems, equipment, and necessary necessities as existing problems in the field of school smartification. Daneshmand (2015), in investigating the status of school smartification in Birjand, stated that the state of school smartification is not in a favorable condition. Bidgoli et al.

(2018), in a study, stated that school smartification technologies lead to the enhancement of creativity in students. Adib et al. (2015), in examining the impact of school smartification in interaction with the attitude towards information and communication technology on the enhancement of the teaching-learning process and academic self-efficacy, stated that there is a difference between the teaching processes and self-efficacy of normal and smart schools. Also, there is a difference in the effect of the interaction between the school and the type of attitude towards technology on academic self-efficacy. Noori Hassanabadi et al. (2019), in investigating the presentation of a model for improving educational quality using emerging technology in school smartification, stated that what is effective in school smartification includes contextual conditions, causal conditions, intervening conditions, strategies, and the consequences resulting from it. Given the high speed of progress in all aspects, especially in educational and teaching-learning aspects, school smartification is a key factor in progress synchronized with global growth; therefore, regarding the issue of school smartification in Iran, considering the Fundamental Reform Document and the executive challenges and existing bureaucracy in the educational system, this research addressed the question of whether school smartification using emerging technologies is achievable in line with the vision of the Fundamental Reform Document or not?

## Methodology

The present research was applied in terms of purpose, as it aimed to address practical issues within the educational system, and it adopted a qualitative-exploratory method to investigate the specific dimensions of school smartification. The study focused on document analysis, utilizing the Fundamental Reform Document of Education as the primary source of data. Through a purposeful sampling strategy, the researchers specifically selected Chapter 4 (The Vision) of the document, as this section was identified as the most relevant to the topic of smartification using emerging technologies. To analyze the textual data, the study

employed a Grounded Theory approach, which involved a systematic process of coding. The analysis proceeded through three distinct stages: open coding, where the text was broken down into discrete concepts; axial coding, where these concepts were categorized and linked together based on their relationships; and selective coding, where a core category was identified to form a coherent theoretical framework. This rigorous analytical process continued iteratively until data saturation was reached, ensuring that no new themes emerged from the text.

## Results

To analyze the data, concepts were extracted from the text of Chapter 4 of the Fundamental Reform Document through open coding; in axial coding, related categories were classified; and in selective coding, the final form was presented.

**Table 1.**

**Open codes of the vision based on school smartification using emerging technologies**

| TEXT OF CHAPTER 4 OF THE FUNDAMENTAL REFORM DOCUMENT: THE VISION | CONCEPTS |
|---|---|
| The official public education system in the horizon of 1404 [2025], relying on the everlasting power of God, based on the Islamic standard system, Islamic culture and civilization and their consolidators, and a ground for the global society of Mahdi justice, enjoying superior educational capabilities at the level of the Islamic Republic of Iran in the region, inspiring and having constructive and effective interaction with education systems at the global level, capable of paving the way for the flourishing of nature and talents and the formation of an integrated Islamic, revolutionary, and Iranian identity of students according to their specific identity; efficient, effective, learner, justice-oriented, and participatory, enjoying faithful educators and managers adorned with Islamic moral virtues, actors of righteous deeds, seeking transcendence and transformative, revolutionary, future-oriented, wise, committed, trustworthy, insightful, and recognizing the truth. | 1. Empowering schools<br>2. Competence based on Islamic criteria<br>3. Competence based on culture<br>4. Flourishing of talents<br>5. Competence in forming Islamic identity<br>6. Growth of moral virtues<br>7. Nurturing the righteous<br>8. Transformation in schools<br>9. Strengthening insight orientation<br>10. Rights-based approach<br>11. Rationalism<br>12. Equal educational opportunities |
| The school in the horizon of the 1404 vision: Based on this vision, the school is a manifestation of the realization of the stages of the "Good Life" | 13. Increasing thinking in learners<br>14. Increasing the elevation of |

| | |
|---|---|
| (Hayat Tayyebah), a center for providing services and educational opportunities, paving the way for students to understand and improve their position and the continuous formation and elevation of their identity based on the Islamic standard system, within the framework of the philosophy and mission statement of the official public education system of the Islamic Republic of Iran, which has the following characteristics: | Islamic identity<br>15. Manifestation of Islamic culture<br>16. Strengthening duty orientation<br>17. Strengthening responsibility<br>18. Strengthening human dignity<br>19. Strengthening self-belief<br>20. Entrepreneurial school<br>21. Efficient school<br>22. Justice-oriented school<br>23. Value-oriented school<br>24. Discretion-oriented schools<br>25. School autonomy in line with national goals<br>26. Skill-oriented school<br>27. Individual life maturity<br>28. Collective maturity<br>29. Growth based on differences<br>30. Discovery of elites<br>31. School aligned with learner needs<br>32. School aligned with national-religious cultural needs<br>33. Perfectionism<br>34. Learning with modern methods<br>35. Education towards self-management<br>36. Education of a participatory human<br>37. Education of a self-made human<br>38. Strengthening interpersonal interaction culture<br>39. Strengthening meritocracy<br>40. Strengthening monotheistic identity<br>41. Acceptance of criticism for progress<br>42. Utilization of capacities<br>43. Constructive interaction |
| • A manifestation of rich Islamic and revolutionary culture in relationships and dealings with the Creator, the world of creation, oneself, and others (especially duty orientation, responsibility, human dignity, trustworthiness, self-belief, efficiency, entrepreneurship, avoiding waste and dependence on the world, empathy, respect, trust, punctuality, order, seriousness, sacrifice, lawfulness, criticism and innovation, anti-arrogance, defense of the deprived and oppressed, and the values of the Islamic Revolution) | |
| • A point of reliance for the government and the nation in the growth, transcendence, and progress of the country, and a center for neighborhood education | |
| • Enjoying the power of decision-making and planning in operational areas within the framework of local, regional, and national policies | |
| • Playing a role in the conscious, rational, responsible, and voluntary choice of the individual, family, and social life process of students based on the Islamic standard system | |
| • Having the capacity to accept individual differences, discover and guide diverse innate talents, and respond to the needs, interests, and desires of students in line with public interests and the framework of the Islamic standard system | |
| • A learner, seeking perfection, demanding continuous elevation of educational opportunities, a facilitator of guidance, learning, and a spontaneous provider of new capacities in the service of education | |
| • Self-evaluating, responsible, and accountable to external supervision and evaluation | |
| • Providing individual and social needs and a moral, scientific, safe, healthy, lively, affectionate environment, and enjoying collective identity | |
| • Enjoying educators with moral virtues and professional competencies with an integrated monotheistic identity based on the Islamic standard system | |
| • Based on a critique-accepting and participatory management approach | |
| • Relying on the pillars of education and benefiting from the capacity of | |

| | |
|---|---|
| participating and effective factors and based on stakeholder participation with an emphasis on educators, students, and families | between educator and mentor<br>44. Interaction with religious sources<br>45. Establishment of national-religious theories<br>46. Link between science and life<br>47. Link between science and technology<br>48. Link between individual and developed society<br>49. Education of a developed human |
| • Benefiting from educational technology efficiency at the standard level; considering the spectrum of learning resources and media of the National Information and Communication Network | |
| • Having the capacity to make decisions for the official public education system | |
| • Having effective interaction with mosques and other institutions, religious centers, and local centers such as cultural centers and public libraries, and enjoying continuous and effective communication with religious scholars, experts, and specialists | |
| • Having an effective link with the subjects and issues of society at the local, regional, and national levels with active presence in social life | |

**Table 2.**

**Axial Codes (Categories extracted from concepts)**

| | AXIAL CODES | OPEN CODES (REFERENCE NUMBERS) |
|---|---|---|
| Smartification of Schools Using Emerging Technologies in Line with the Vision of the Fundamental Reform Document | Education of a Thinking, National-Religious Human | 2-3-5-6-7-9-10-11-13-14-15-18-19-22-23-27-31-32-33-35-37-39-40-45-46-50 |
| | Education of a Specialized, Technical-Skilled Human | 1-4-8-12-16-17-20-21-24-25-26-29-30-34-41-42 |
| | Education of an Interactive, Participation-Oriented Human | 28-36-38-43-44-47-48-49 |

Selective Codes

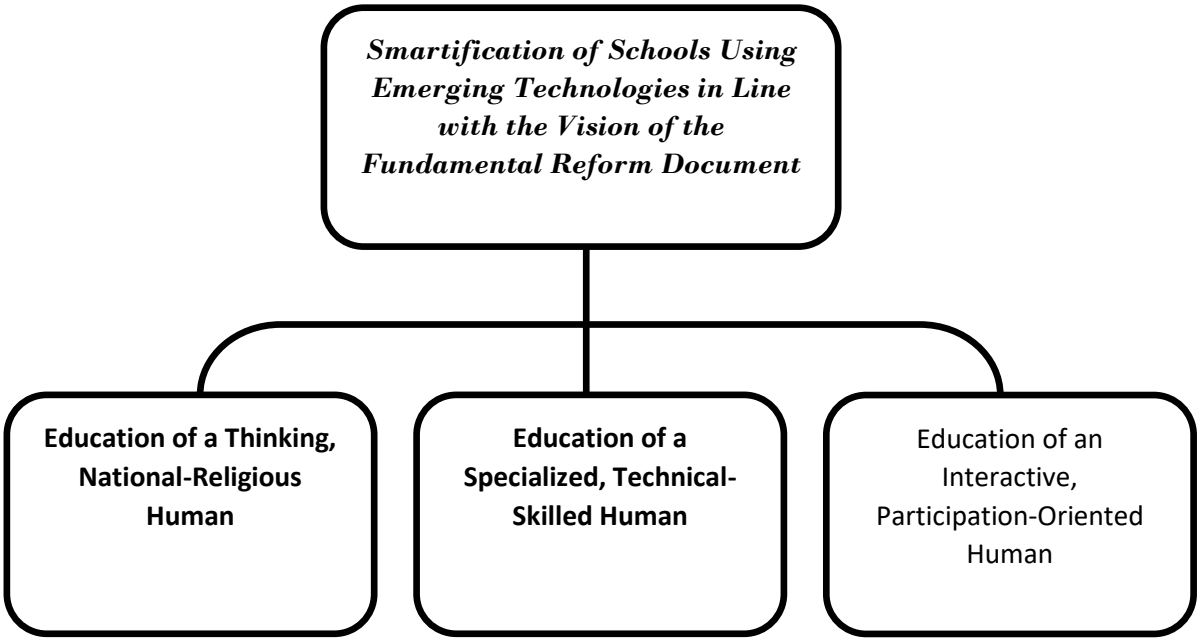


Diagram 1. Smartification of Schools Using Emerging Technologies in Line with the Vision of the Fundamental Reform Document

## Discussion and Conclusion

This research was conducted with the aim of school smartification using emerging technologies in line with the vision of the Fundamental Reform Document. By analyzing the vision of the Fundamental Reform Document in the context of technology, the extracted themes for school smartification seek to educate progress-oriented individuals, as the categories indicate that school smartification by leveraging technology will be able to lead to the education of students at three levels:

Technology and the availability of the Internet have led to the creation of a kind of integrated global culture. In this regard, countries that have greater access to the Internet promote the dominant global culture throughout the world to the same extent and marginalize other cultures. In this context, school smartification creates an opportunity to enhance the national-religious culture through technology. By providing students with better access to religious resources from the very

beginning of childhood, instead of becoming entangled with incongruent cultures, they can develop the national-religious culture in society and at the national level, and export it to other countries through technology. This both prevents the invasion of other cultures and leads to the expansion of the national-religious culture. Therefore, when students can acquire correct thinking and understanding based on authoritative resources, they will become thinking, national-religious humans and themselves become agents of national-religious cultural development.

In our country, natural resources and reserves are very abundant, and it must be acknowledged that from the perspective of natural resources, we are among the rich and high-level countries of the world. School smartification causes skills, expertise, techniques, and professions to be taught according to the needs of each region and district based on the existing potentials of that region and district. Technology leads to the synchronization of practical work and activity with theory, and this synchronization prepares the degree of expertise, skills, and techniques required by each region. Thus, school intelligence using technology will make possible the ground for educating a specialized, technical-skilled human.

One of the most important issues in societies is interaction and communication. Interaction and communication make it possible to become aware of techniques, culture, weaknesses, advancements, and all current issues of the world. Technology causes students to have active participation and interaction in the virtual space from the elementary school period, and to be aware of advancements, weaknesses, paths to progress, facilities, defects, and all aspects needed by society. By being participation-oriented, they provide the grounds for eliminating defects and progress-oriented in all aspects needed by the country. Therefore, smart schools, through technology, are the most important key to solving problems and progress in the country.

This research was limited to Chapter 4 of the entire Fundamental Reform Document, and it could have addressed the entire Fundamental Reform Document regarding smartification. In this regard, this significant matter is suggested to future researchers that the entire Fundamental Reform Document be examined and

investigated in the context of school smartification.

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**Conflict of Interest**

No financial, scientific, or personal conflicts of interest were involved in the conduct of the present research.

**Ethical Considerations**

This research was conducted in accordance with the ethical principles of scientific research. Participants took part in the study with full awareness, and their information was considered confidential. The results were used solely within the framework of the research's scientific objectives, and the names or personal details of participants were omitted.

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