International Journal of Digital Content Management (IJDCM)
Vol. 4, No. 6, Winter & Spring 2023; P 311-333
dcm.atu.ac.ir
DOI: 10

ATU PRESS

Original Research
Accept Date: 15 March 2022
Receive Date: 24 March 2022
eISSN: 2717-3313
ISSN: 2717-3305

Providing Professional Development Smart Model of Secondary Education Principals in Tehran

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Abstract

The present study was aimed at providing a smart model of professional development of second high school principals in Tehran province. This study was based on a combined strategy of successive explorations. The research method was qualitative case study and in the form of content analysis. The selection of the sample in the qualitative section was made by a targeted sampling method with a criterion-based technique. The sample size was up to 20 people emerging in order. The data collection tool consisted of two sections, semi-structural interviews in the field and a review of upstream documents and training documents in the library section, and data analysis in the qualitative section based on the content analysis using ATLASTI software. The quality of this study was observed, from the point of view of experts , and 6 dimensions and 29 components were

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How to Cite: Najafi, H., Ghobadian, M., Pour Hosseini, E. (2023). Providing Professional Development Smart Model of Secondary Education Principals in Tehran, *International Journal of Digital Content Management (IJDCM)*, 4(6), 311-333.

considered in the professional development of second high school principals. The identified dimensions are educational, research, service, ethical, cultural, and executive. This is not only an evaluation of the candidates for the second-high school administrative candidates in the field, but also the role of a way to promote the material and the competence of these scholars. Due to the limited resources of some organizations, it is not possible to set up an office or deputy for the subject of digital transformation.

Keywords: Professional Development, Secondary School principals, Education.

Introduction

In today's dynamic and active situations, organizations will have to develop their capabilities and competencies to survive so that they can respond to variable and different environmental conditions (Kraus, Durst, and Ferreira, 2022). Schools and education institutions, like other organizations, are exposed to complex forces of change, which have inevitably made them persistent for survival (Malekolkalami, 2020). Successful organizational transformations are realized through focusing more on how to create change in different fields and not what the change is. In the transition of this transformation, management is a vital thing, management and staff challenges are considered the most important challenges of digital transformation. In addition, the extensive complaints about academic achievement, between technological developments and digitization of education and global pressure toward privatization, have led to less access to quality education. Accordingly, everyone expects the educational system as the highest level of education in society, to influence the digital developments of society more than any other institution, and to play an important role in promoting its various parts (Vial, 2019).

Digital transformation is a management approach that refers to the growing adoption of digital technologies and tools by the organization in a way that fundamentally transforms internal and external activities and processes. Therefore, one of the ways to respond to the challenges of the 21st-century educational fields is the professional development of secondary high school principals (Sprott, 2019). Providing a smart model of professional development for digital age managers is a precise understanding of the concept that these people seek to manage and direct.

Nowadays, professional development is one of the most important components of digital competencies in developed countries. But unfortunately, the content and development programs of our country's principals have been neglected, and this ignorance has influenced the quality of learning and teaching methods based on their technology and has made educational outputs a significant drop in quality (Rafi'i, Hasani, and Mohammadi, 2021).

On the other hand, it can be said that more professional development programs focus on the skill and update processes of information and have made little progress as a structure that reflects the personal, professional, and work conditions of the principals.

Instead of analytical tools for continuous education seeking new knowledge and technological changes and implementing e-learning, they focus on developing educational programs (Secundo, Rippa, and Cerchione, 2020). In other words, most principals' professional development programs are often designed and implemented based on the structural dimension of educational systems and are recognized as an organizational responsibility, not an individual concern. As a result, less attention is paid to the needs and role of principals in these processes. For this reason, most incentives intended to help in educational courses are not in line with the spirit and nature of learning (Adli, 2021). The disadvantages of these programs include disregarding the various aspects of principals' development, the disorder in programs, disregard for internal motivations, disregard for individual differences, lack of need assessment, low number and repetition of programs, lack of information, poor information, inappropriate topics, inappropriate content, ineffective teaching methods, low interaction and participation, lack of sufficient mechanisms to evaluate the effectiveness and weakness of feedback channels, non-implementation of digital educational developments, and so on. Professional development programs in the field of purpose, content, teaching-learning methods, and evaluation methods based on digital tools require a fundamental review. (Bandali, Abolghasemi, Pardakhtchi and Rezai Zadeh, 2020).

Another problem is that many school principals still are reluctant to make educational behavioral changes. Some of the most important obstacles from the perspective of lecturers are insufficient motivation, limited training in professional development, inadequate time, and inadequate clinical supervision in the school environment (Zare Sefat, Dehghani, Hakimzadeh, Karami and Salehi, 2020). In general, it can be said that there are some barriers to the participation of high school principals in multidimensional and intertwined periods. So that the anti -motivational factors of second high school principals' participation in growth, development, and development opportunities include three individual barriers (self-attitude), organizational obstacles (job, educational, structural, economic, and organizational culture), and circumstantial obstacles (individual social status and a person's job position) (Faraji Dehsorkhi, Hooshi al-Sadat, MohammadAbadi, and BastaniPour Moghaddam, 2020).

Principals' professional development programs play an important

role in introducing and expressing such needs, and it seems that the issue of professional development of high school principals is not in its proper position and that the needs for the professional development of high school principals need to be identified and planned to meet those needs . Due to the different needs of secondary school principals and the decrease in the dynamics and motivation of high school principals in acquiring knowledge, the weakness of professional development programs and the reduction of available resources for education, the lack of attention to digital developments and electronic and virtualization educational programs, , Tehran's Education Ministry is seeking to seriously observe second high school principals based on the need assessment of professional development programs and give a special priority to maintain their educational institutions. Various studies have examined some of the factors affecting professional development and sometimes examined the dimensions of professional development . Therefore, according to the studies, this study seeks to develop professional skills development of second high school principals in Tehran province, and the main question is: What is the Smart Model of Secondary School Professional Development in Tehran Province Education?

Literature Review

Professional development of principals

The development of the profession is a collective or individual feature of empirical and practical education that enables instructors to make complex decisions, identify problems, and seek solutions to the problem of setting balance between theory and practice in effect. Professional development covers individual characteristics and behaviors, such as skills, knowledge, and attitudes (Wang, 2020). Also, with the development of teachers' professions, they should be able to provide learning opportunities for learners. Because content is the main part of education, professional development should help deepen the teacher's content knowledge. Professional development should also help in:

Providing the most useful method of training, reducing misunderstandings, types of specialized questions, communicating with previous knowledge, increasing general knowledge in the field of teaching and learning processes, knowledge necessary to create and maintain educational and specialized environments, curriculum

planning, evaluation, progress measurement of Students' academic capabilities (Hejazi, Pardakhtchi, and Shahsand, 2009). Digital transformation has significant effects on management theory and practices regarding principals' abilities, capabilities and how to implement these changes. Digital transformations include creating a pleasant digital experience for customers, improving internal organizational processes, and re-creating the business model, and leadership capabilities include the ability to create a digital vision, attract the enthusiastic participation of all employees, focus on digital governance, and management technology.

Sandra, Ireland, Hogan, and Psaledakis (2006) outline the following goals for professional development:

- Increase of the effectiveness of education through designing educational goals and aspirations and applying the best educational experiences;
- Use of evaluation results to improve student academic achievement;
- Preparation for students for entry courses into work;
- Ensure the creation of the right environment in schools;
- Establishment and application of technology with teaching and learning;
- Parent and Society's relationship with the process of education;
- Understanding different cultures;
- Creating capacities based on the principles of leadership and specifically educational leadership;
- Preparing guidelines so that teachers can observe professional development needs

- Focusing professional development on improving education and uccess of learners;
- Establishing professional development with schools and teachers' goals;
- Increasing school capacity (Wang, Cao, and Zhou, 2019).

Continuing research to examine the development of principals has been mentioned:

Jalai Far and Abdullahi (2021) did a research into the identification of professional development of the newly hired principals at secondary schools in Tehran. Finally, educational, research, organizational, individual, ethical, value, service, and

international competencies were identified as the professional competencies of the newly hired secondary principals.

Refai'i, Hosni, and Mohammadi (2021) achieved a mediating role of professional development in a study of teachers' self-efficacy and its relationship with the professional learning community in virtual learning environments. The results showed that there was a positive and significant relationship between professional development and self-efficacy of school teachers in Sanandaj, and ultimately, based on the results, it can be said that professional development in the relationship between the professional learning community and teachers' self-efficacy can play a mediating role.

Roshani, Banehsi, Hasani, and Ghalavandi, (2021) in a study entitled "The Identification of the Dimensions and Components of Research for Conceptual Model Design" showed the research of principals involved five dimensions of knowledge, skill, ethics , individual characteristics, and group research teaching competencies. Burton(2020), in a study entitled" Leadership Training Factors to Obtain a Doctorate to Meet Professional Development Needs", found that educators looking for a doctorate in education to meet their professional development needs should look for education opportunities, including coaching courses and experimental learning opportunities. Tran & Nghia (2020), in a study entitled "Leadership in International Education", showed that the most crucial challenge these educational leaders are confronted with is to strengthen their capacities and their impact as the main actors in international education.

Given the discretion of the changes that will be digital in the same way, it is not possible to apply for a high level of management in order to adhere to these developments. For this reason, many large organizations in recent years have played a role as a senior digital manager at the senior management level of the organization. But now, the digital development and the professional development of serious interpretation managers are in place, precisely the concept of this criticism is in order to succeed in digitalism in the same way. This article first seeks to evaluate and present the competence of a digital manager to succeed after the implementation of digital transformation in the organization, and secondly, the results of the previous section will be completed by applying the interview method to experts. Finally, the smart model of professional development will be

presented as the heart of digital transformation in the organization.

Method

Given the goals and nature of the research problem in line with "Design and Evaluation of Professional Development Model of Secondary Education Principals of Tehran Province," this study was conducted within the framework of interpretive paradigm and qualitative methodology. To study the components of the professional development of the second-high school principals, the case study was conducted in Tehran province

The reason for choosing a qualitative approach ie (in relation to a quantitative approach) to analyze the views of informants and officials at this stage of the research, was that a qualitative approach is a systematic and conceptual approach to describing living experiences and making them meaningful that leads to increased vision, understanding and awareness of human experiences.

Thematic analysis was carried out using the Atreid-Sterlid (2001) method.Qualitative data analysis was done by means of interpretative analysis and using theme analysis in the form of theme network. With this order, in the first step, quotes were extracted from the interview text of the participants in the semi-structured interview, as well as from the text of the upstream documents, key training documents, and initial coding of the quotes was done in separate tables. In the next step, the basic themes were extracted by putting together the codes that were conceptually similar. Then, based on the functional similarities of the basic themes, categorization process took place. In the end, the organizing themes were placed in the form of an abstract and comprehensive theme and the final table of three themes was presented.

The selection of people by targeted sampling and criteria-based technique was from amidst PhD candidates and at least fifteen years of teaching, research, and management experience in different schools was required. The statistical description of the library and field sector participants (based on scientific, education, gender, age, and experience) are presented in Table 1.

Table 1: Demographic Statistics of Qualitative Participants

	Variable	Category	Frequency	Frequency percentage
Survey section	Science ranking	Principal Assistant	13	65 %
		Associate Professor	4	%20
		Principal	3	15%
	education	PhD	20	100%
	Gender	Female	4	20%
		Man	16	80%
	Age	Lower than 45 years	3	15 %
		45 to 50 years	6	30%
		51 to 55 years	6	30 %
		Over 55 years	5	25%
		Under 20 years	5	25%
		20 to 25 years	9	45%
	work experience	Over 25 years	6	30%
Library section	Upstream documents and educational documents		21	100%

Qualitative data analysis was performed by interpretive analysis using themes in the form of a theme network. In the first step, quotes were extracted from the text of the interview of the participants in the semi-structural interview, as well as the text of the upstream documents, key documents, and documents of the training, and in separate tables, the initial coding was turned to quotes. In the next step, the basic themes were extracted by putting together codes that had conceptual similarities. Then, based on the functional similarities of the basic themes, the basic themes were classified into organizing themes. In the end, the organizing themes were also incorporated into an abstract and pervasive theme, and the final table of the triple themes was formulated. The Kappa index was used to investigate the validity of the research. The value of 0.853 was calculated, which indicates encoding confirmation.

Findings

In this section, based on the six steps of the theme analysis, the codes and the design of the themes network are discussed. First, the initial codes of interviews and related documents were identified. Secondly, the identified codes were categorized. The basic themes in the second stage and the constructive themes were identified in the third stage. The inclusive theme is the main purpose of the research, which forms the core of the theme network. The themes identified in the table were specified. Some of the interviews are referred to in the table below.

Table2: A summary of the interviews

Primary codes	interviews
Educational reputation	The level of experience and expertise of the principal and his reputation, his prominence in the field of specialized training, add to his credibility
Educational lecture	Participation and educational lectures in local, regional, national and international specialized conferences promote the reputation of principals.
Holding a training course	Many principals in addition to holding training courses in their respective schools, also cooperate with other schools in this field.
Earning educational honors	Having incentives and receiving national and international honors in the field of quality teaching and training and guidance of students display the efforts and professional activity of principals

Table 3: Classification of basic themes to organizing themes, professional development of principals

Themes - Organization - Product	Basic themes	Basic codes
Educational Research	Educational credit	Educational reputation/ Scientific Authority/ Important Educational Lecturer/ obtaining Educational Honors/ Ability to Attract Resources
	Educational Impact	Modification and Promotion of Curriculum/ Using Educational Technology/ Supervision of Key Projects/ Consulting & Guidance of Articles and dissertations/ Student Satisfaction and Success/ Using Knowledge and Research Together/ Criticism of Educational Subjects/ Research Education
	Educational Innovation	Curriculum Innovation/ New Content Production/ Educational Idea/ Providing Creative Solution/ Using New Educational

Themes - Organization - Product	Basic themes	Basic codes
		Technology/ Using New Educational Media
	Mastery of educational content	Mastery of Content and Teaching Topic/ The ability to organize content/ use of theoretical content/ linking old and new knowledge/ Meaning learning/ communication and combining different courses/ dealing with challenges and weaknesses/ understanding of specialized knowledge boundaries
	assessment	Standard Evaluation/ Purposeful Targeting/ Diverse Evaluation/ Quantitative and Qualitative Evaluation/ Evaluation Based on Modern Technology
	Educational Technology	Using Smart Class Equipment/ Using IT and Communication Technology in Training/ Using Digital Libraries/ Creating Blogs, MOOCs and Educational Podcasts
	Training Method	Electronic and online teaching/ diverse and modern teaching/ Target -oriented and skill -based/ conceptual and problem -oriented teaching/ interactive teaching/ expression skills/ coaching skills/ writing skills/ Presentation of Daily and Serious Lesson Plan/ Considering Student Active Role In learning
	Knowledge Update	Research into New Scientific Resources/ Using Study Opportunity/ Participation in Education and Psychological Courses/ Participation in Scientific Increased and Empowerment Workshops/ Participation in Criticism of Theorizing and Free Thinking/ participation in Scientific and Technology Discourses
	Scientific production	Critical correction of books and articles/ book and translation of books, encyclopedia/ presentation of articles/ presentation of research achievements and scientific projects/ educational content development
	Impact of Research	Providing inspirational articles/ compilation of lessons/ citing their research works/ Research activity based on monitoring plan
	Research Credit	Research Lecturer/ Research Honors/ Research Researcher/ Ability to Get Grant for Research/ future researches

Themes - Organization - Product	Basic themes	Basic codes
	Research Innovation	Invention of New Products/ Providing Exquisite Research Works/ Technical Innovation/ Innovation of Scientific and Academic Works/ Idea and Scientific Theorizing/ Interdisciplinary Scientific Innovation, especially in Humanities
	Research Skills	Research Methodology/ Data Analysis Skills/ Problem-solving Skills/ Searching/ English Language Skills/ Skills in Research Plan Developing/ Cost Management Ability / Implementation/ Research Findings Ability
	Research Technology	Ability to access information resources/ membership in digital libraries/ membership in e -learning management system
Service	Serving the community	Attempting to identify industry and community needs/ Attempting to solve political and social problems/ Acceptance of scientific consultations on industry and services/ intellectual interaction of elites and scholars of the field and schools/ / Attempting to Do Business Based on Promoting Entrepreneurship Culture/ Attempt to expand business schools
	Serving schools	Fundamental Research, Applied and Development Research/ Participation in Councils and Committees/ Participation in Mentoring Programs/ Participation in Educational, Arbitration and Supervision of Educational Journals/ Trying to update schools/ Taskology/ Educational and Research Partnerships with Other Principals/ Cooperation in Exams/ Commitment to Promotion of Knowledge and Publication of Research Results
	Serving students	Taking on the principle of student education/ motivation and deepening the spirit of self -esteem/ enhancing perception and creativity, the power of invention and initiative and self -esteem/ promoting the spirit of vitality, hope, contentment, avoidance/ encouragement Collective Education of Society and World Issues / Educational Management and Leadership

Themes - Organization - Product	Basic themes	Basic codes
Implementation	Executive activities	Collaboration in Research Centers for Science and Technology Parks and Professional Growth Centers/ Participation in Empowerment and Knowledge Programs/ Continuous Scientific Jihad/ crusade with the aim of acquiring scientific and technology authority/ Strengthening and expanding the discourse of scientific production and software movement
	Participation in the development of science	Design and Settlement of Specialized Laboratory and Workshops and Research Centers/ Virtual Network Design Research Projects/ Creating New Disciplines/ Program for Increased Performance and Effectiveness/ Failure of companies in identifying Production and Employment Needs/ Payment Conferences and Opportunities/ School Salaries and Benefits/ Eliminating Individual and Professional Material and Spiritual Needs/ Improving Occupational Position and Rotating Based on Specialty and Competence/ Hardware and Software Facilities/ Avoid Capital Organization Laws / Maintaining the peace of mind and intellectual freedom of principals
	Membership in scientific groups	Member of Government Committees/ Member of Professional and Civil Association/ Member of Scientific Committees/ Member of Technical Committees of Conferences/ Activities in Scientific Parks and Professional Growth Centers/ Member of the Journal/ Editorial Board/ Faculty member
	Management skills	Technical-Human and Perceptual Skills/ Individual, Group and Virtual Relationship/ Strategic and Systemic Thinking/ Decision-Independence Skills/ Independence of Operation/ Performance Management Skills/ Creative and Flexible-Critical Thinking/ Critical Thinking/ Critical Thinking/ Self-Management Skills (Self-regulation)/ Teamwork Management Skills
Culture	Cultural	Adherence to religious, national and

Themes - Organization - Product	Basic themes	Basic codes
	values	revolutionary values/ Observance of ethical, social and political norms/ Citizenship rights/ preservation of dignity and non - discrimination/ promotion of chastity culture in accordance with revolutionary beliefs/ Promoting original Islamic culture/ Promoting a culture of scientific thinking in society
	Cultural Effect	Writing Books and Cultural Articles/ Cultural Counseling/ Criticism of Cultural Theory/ Correction and Guidance of Cultural Attitudes/ Holding Cultural Art Exhibition/ Effective Cultural, Social and Political Interaction
	Cultural activities	Monitoring Cultural Projects/ Criticism and Assessment of Cultures/ Participation in Cultural and Educational and Social Affairs/ Cooperation with Cultural Associations/ Political and Cultural Activities to Promote Religious Knowledge and Thought
Ethical	Educational Ethics	Honor and Respect for Students/ Paying attention to individual, gender and cultural and religious differences/ Student psychology skills/ time management/ good listening/ personal communication skills/ Elite students' talent for scientific and postgraduate Olympiads
	Organizational Ethics	Order, Law or Task Force/ Confirmation of School Values and Objectives/ Realization/ Respect and Interaction with Partners/ Preference of Interests and Collective Wisdom over Individuals/ Protecting School Property/ Work Conscience/ Consolidation of reaction,/Bribery
	Social Ethics	Having a social commitment/ commitment to cultural development of the community/ Vanguard of social change/ preserving a professional dignity and position in social interactions/ spirit of cooperative and social compatibility/ discourse and social impact/ explanation of important social, political and economic issues at the community and world level

Themes - Organization - Product	Basic themes	Basic codes
	Research Ethics	Originality of Research/ Intellectual Property/ / Acceptance of Works/ Establishment/ Avoiding Non -Professional Behaviors/ Commitment and Responsibility
	Public ethics	Theism/ Ethical Pattern/ Criticism/ Flexibility/ Patience/ Honesty/ Commitment/ Being Independent/ Self -Esteem/ / faith/ Satisfaction/ Time

According to the final table of the three themes analysis, the themes of the professional development themes of the second-high school principals were plotted. The network was in the form of a comprehensive theme, 6 organizing themes, and 29 basic themes. The themes extracted can be seen in Figure 1.

Figure 1: The themes network of Professional Development Smart Model for Principals

Cohen's kappa index was used to check the validity and reliability of the qualitative model. This index is 0.75. Cohen suggested the Kappa result be interpreted as follows: values ≤ 0 as indicating no agreement and 0.01–0.20 as none to slight, 0.21–0.40 as fair, 0.41– 0.60 as moderate, 0.61–0.80 as substantial, and 0.81–1.00 as almost perfect agreement. Therefore, Cohen's kappa index is confirmed.

For the final validation, the synchronization method was used. Putting together and adapting field and library evidence with research findings and theoretical evidence from scientific sources justified the convergence of themes. The interviews were collected with the documents and as a result, the model's credit was confirmed. Examples of upstream documents and evidence of key education documents and guidelines on basic themes are found in Table 3 as evidence of alignment.

Table 4: Adaptation of interviews and texts

Components	Source	Evidence
Educational credit	Code of Regular Promotion of Secondary School Principals (2016) Article 2 (2)	Being prominent or indexing in education
Educational Impact	Educational Documents (1998)	Guidance of the curriculum planning system to strengthen ethical and social virtues, nurture the power of invention and innovation and confidence and create belief in religious foundations for social responsibilities
Educational Innovation	Page 8 paragraph 5-4	Support for the use of new technologies in higher education

Discussion and conclusion

Recently, the issue of professional development of second high school principals has become a pervasive and important topic in scientific communities. Many schools and educational institutions have found that they need programs to help them manage, develop and improve this capital based on educational changes in the digital age. This issue should be investigated given the widespread changes in the global economy, information technology issues, increased education costs, the emergence of new knowledge and research capabilities, increased global education and literacy, and the emergence of superior

competition in the fields of education increased organizational efficiency for schools and training centers, management and commenting on the digital development of a man, the need for new managerial desires, the capabilities, and the airspace of serious strategies, and monitoring the digital transformation of an organization requires new management practices, capabilities, and competencies for leadership.

An organization can successfully establish digital management at the organization level if it is able to create a future, comprehensive and innovative planning for the digital age in the organization. It is believed that the degree and quality of the qualification of secondary school principals in each of the roles they have notably contributes to the quality of education programs and facilitating students' learning, especially in postgraduate education. As observed in the themes of this study, it is necessary from the perspective of experts to pay attention to 6 dimensions and 29 components in the development of secondary school management. In this section, the interpretation of educational, research, service, ethical, cultural, and executive dimensions is discussed.

• Educational development

Secondary principals' educational activities are a set of activities to educate students and focus on maintaining and enhancing the quality of education and optimal concepts. In other words, it is a set of skills and capabilities that high school principals must have to guide the students' teaching-learning process. In interviews, experts pointed to a wide range of educational skills. The results of the study showed that the most important components of the educational dimension were evaluation, knowledge update, education validity, educational method, educational innovation, educational technology, educational impact, and dominance/ mastery of educational content.

Ideal principals should provide creative solutions within the context and educational environment for educational innovations. Innovation for their managerial method and use of modern technologies. Information and communication technology are very important for further impact on education. The principal in his specialty field should be familiar with the world's day-to-day information resources and new educational methods and the use of various educational tools. Developing a , weekly, and daily curriculum

and training plan is one of the concepts for the professional development of principals. In other words, principals must formulate a specific program for the training course and enable students to manage the class. The ability of administrators to transform the school environment into a dynamic learning environment in which all students participate to improve the learning and learning process is important to manage school space and to prevent educational challenges that overshadow the school education process. The results of this study correspond to the research carried out by Jalayar and Abdollahi (2021), Sultani Parshekafti, Ja'fari, Ghorchian and Bagheri (2020), and Ford, DiTommaso Downs, McDowell, and Bedford, (2018).

• Research development

Research development and fostering the second-high school principals as a quality mechanism to promote the productive forces of science enhances the performance and effectiveness of the school and promotes their role in the society. One of the main factors for school ranking is research. This shows that research priorities are one of the main functions of the schools. In this study, experts in the interviews pointed to a wide range of research skills. The results of the research showed that the most important components of the research were: scientific production, research effectiveness, research validity, research innovation, research skills, and research technology.

Understanding and using a variety of digital systems such as data databases, e-learning management systems, digital libraries, etc. is very important in education, and research. Therefore, given the growth of technology in today's world, it is best to use the most advanced educational, research, and e-learning methods using IT tools, at the best and lowest cost,to provide the most tutorials and contribute to the design of the electronic educational system and the preparation of electronic content and the guidance of the virtual class. In this regard, schools need to create the right platform and provide intelligent equipment and access to a variety of digital systems such as information banks, digital libraries, etc. in various educational, research, and entrepreneurship sectors. To publish the research works of second high school principals in national and international journals with a high impact coefficient, it is necessary to present high-quality academic books, articles and works compared to their counterparts.

Principals seem to be familiar with search methods in different scientific data databases should the need arise as to participate in knowledge-based workshops and scientific research workshops, problematic workshops, methodology research workshops, and workshops relating to statistical and soft skills. Update data analysis and other knowledge in this regard. In the research dimension, the findings are consistent with the research done by Roshani, Banehsi, Hasani, and Ghalavandi, (2021), Bakhtiari, Abbasi, Kurdistani, and Khorshidi (2020), and Ismaili Mahani, Pourkimi, Mir Kamali, And Jamali (2020), Howell, Perez, and Abraham (2018).

• Service development

The results of the study suggest that principals should be supported by student organizations in addition to specialized education and research services and scientific and ethical consultations, and student affairs, and help to develop their spirit of independence and thinking and reasoning. . In addition, principals should stimulate the interest in the field of science and evoke the spirit of science . It is also important that second high school principals have the morale and concern of solving organizational problems to enhance the quality and productivity of the organization's programs, and besides providing consulting services to the organization, try to do research and scientific works , to direct their research for promotion of the organization and to work in school or science centers ,and finally to provide scientific and specialized services. The research findings in the service dimension are in line with the research carried out by Jalayar and Abdollahi (2021), Yousefi, Asadbaghi, and Rashid Haji Khajehloo (2020), Cheng & Li (2020), and Ford, DiTommaso Downs, McDowell, and Bedford, (2018).

• Cultural development

The cultural dimension of the second-high school principals involves the acknowledgement of the need to pay attention to cultural issues. Secondary school principals consider cultural and educational activities to be intertwined with educational and research activities, and many of them are inseparable from educational and cultural activity. Today, one of the most important factors affecting the students and the cultural atmosphere is the presence of school principals. The principal has a better relationship with the community

through the valuable school level of the community. The results showed that the cultural dimensions of the indicators were cultural activities, cultural influence, and cultural values. The results of the study in the cultural dimension correspond to the findings of Tran & Nghia (2020), and Pérez & Lazzarini (2019).

• Executive development

The executive factor is a set of activities based on the components of science, knowledge, research, and technology aiming to enhance the executive management and development of infrastructure in related areas. Currently, the movement of schools towards excellence is accelerating, and organizations need more flexibility to relieve pressures. On the one hand, globalization, the emergence of the phenomenon of information and communication technology, and so on, demand rapid accountability from organizations, and on the other hand, employees have increased their expectations of the organization and demand more self-efficacy. The results showed that in the executive aspect the most important components were participation in science development, managerial skills, membership in scientific groups, and executive activities.

The research finding in the executive dimension is also in line with the research done by Siddiqui, Cherabin, Maghool, and Zendedel (2021), Bakhtiari (2018), Sultani Parshekafti, Ja'fari, Ghorchian and Bagheri (2020), and Mohabbat, Fathi Vajjargah, and jafari (2019).

According to the studies, no research has been found investigating the manager's competencies based on digital developments in the organization, and in this respect the article is quite novel. This model not only shows the ability to evaluate the qualifications of secondary school principals in the organization, but it can also be a roadmap to enhance the skills and competencies of these principals. Also, due to the limited resources of some organizations, it is not possible to set up an office or deputy for the subject of digital transformation. Therefore, another suggestion for future research is to examine the best organizational option for choosing a senior digital manager/ principal.

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How to Cite: Mosayebi. (2023). Providing Professional Development Smart Model of Secondary Education Principals in Tehran, *International Journal of Digital Content Management (IJDCM)*, 4(6), 311-333.
DOI: 10