# A Search for Knowledge Leaders in the Schools of Tehran

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**Abstract**

This research was conducted with the aim of identifying the characteristics of knowledge leaders in Tehran schools. Based on this objective, the study was conducted using a qualitative method. Data was collected through triangulation, including semi-structured interviews with administrators and teachers of all-girls secondary schools and knowledge management specialists, observation of schools and the study of relevant documents. Interviews were conducted with 28 people using criterion-based sampling method and 8 schools were observed in the areas under study using sequential sampling method. The Document of the Fundamental Evolution of Education and the Regulations for the selection and appointment of school administrators were also reviewed. The data was analyzed using thematic analysis. The characteristics of the school administrator as a knowledge leader were categorized into 3 main classes including: knowledge network builder, knowledge guardian and school knowledge flow facilitator, and 10 subcategories. The emergence of knowledge leaders in the schools under study requires the following criteria: development of a digital physical space in the school, financing and sufficient educational budget, development and training of school administrators for the role of knowledge leaders, reforming the conditions for the selection and appointment of school administrators, granting independence and freedom of action to school managers, scientific and practical directives and instructions. It is suggested that professional development programs for school administrators should be developed and implemented, and the renovation of the public space of classrooms and school libraries based on knowledge literature should have a place on the agenda of the Ministry of Education.

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## Introduction

Rapid changes, increasing complexity and unpredictability of social, political, economic and biological environments along with the continuous evolution of digital technologies and the emergence of cognitive capitalism (Stehr and Ruser, 2018) have transformed the way we think about education and learning (Collins and Halverson, 2018). These

[1] In educational systems, an increasing interest in the application of knowledge management principles and methods has attracted some attention as well (Petrides and Nodine, 2003). Among the reasons for the necessity of establishing knowledge management in educational systems are: determining the strategic vision and planning, studying the enrolment process, academic counseling and student learning, restructuring learning environments, behavior management, training teachers and administrators (Bain and Parkes, 2006). In that regard, Fullan (2002) believes that due to the main role of school administrators in increasing and improving school capacity, they should play the role of knowledge leaders in schools so that they can identify and evaluate the school's knowledge assets, facilitate the sharing of knowledge, experience and best teaching practices among teachers and make strategic decisions to improve student learning and school quality (Chu, 2016). Nevertheless, Carroll et al.

developments have called upon the educational systems around the world to reform and improve themselves in order to prepare students to face the unstable, complex and chaotic environments ahead. In order to meet these developments, experts and researchers have proposed knowledge management strategy for the success of organizations since the 1990s.

(2003) believe that although schools manage and develop the society's knowledge through teaching and learning processes, they often fail to manage their own knowledge in an effective way. The evidence also shows that school administrators in the country rarely play a leadership role and lack the sufficient knowledge and required skills (Mahdavipour, Adli and Naraghizadeh, 2019); many schools lack effective leadership (Mard, Zaynabadi, Abdulahi, and Arasteh, 2017). Reports on the behavior of administrators in secondary schools show that many principals do not have enough knowledge about adolescence and lack sufficient skills to communicate with teenagers (Baniyasad, Hosseinqalizadeh and Aminkhandaghi, 2016). Responsibilities and the conduct of the country's school administrators are more oriented towards the traditional functions of management rather than leadership (Kohsari, 2016). Based on this discussion, the present study sought to identify the characteristics of

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1. Nonaka & Takeuchi, 1995; Wiig, 1997; Ho, 2008; Liao & Wu, 2010; Saqib, Udin & Baluch,2017; Igbinovia & Ikenwe, 2017

knowledge leaders in all-girls secondary schools in Tehran, and the research questions were as follows:

1. What are the main characteristics of knowledge leaders in secondary schools?

2. What are the conditions for the emergence of knowledge leaders in secondary schools?

**Theoretical Foundations and Review of Literature**

The age of knowledge has created profound challenges for teachers and learners alike, since classrooms have been disrupted by the continuous modernization of knowledge, technology-based knowledge sourcing, and the rapid increase of knowledge in the public sphere (Stephani et al., 2021). On the other hand, the rediscovery of the importance of education for a comprehensive development has led the Organization for Economic Cooperation and Development and the World Bank to introduce education as the key of cooperation with the new global knowledge economy and the development of human capital, with the aim of promoting and improving the qualifications of workers, introducing research and creating scientific knowledge (Peters, 2001). Accordingly, improvement of the quality of the educational system has been placed on the agenda of educational organizations, and knowledge management has come to the aid of educational organizations as one of the main strategies of transformation and innovation. Knowledge management means

auditing intellectual assets in order to identify unique resources, important functions, and potential predicaments that impede the flow of knowledge toward its application, and protecting them from degradation, and providing opportunities to enhance decisions, services, and products through intelligence enhancement, value creation and flexibility (Bhojaraju, 2005).

It is essential for schools to choose knowledge management as the source and driving force of their fruitful educational activities in order to create knowledge and cultivate creative human capital with the ability of critical thinking and problem solving, which is a necessity in today's social life and business environment (Kurniawan, 2014). There is a belief about the establishment of knowledge management in schools based on which education is related to the creation and application of knowledge, and it seems that the creation and application of knowledge is more compatible with the nature of educational systems than other organizations, and organizations can learn valuable tips from the operational methods of the education sector in the field of knowledge management (Jones & Sallis, 2002). Therefore, knowledge management in schools, strategic management activities in acquiring, creating and distributing knowledge in schools using information and communication technology, as well as human interactions are effective (Anantatmula, 2008).

Research shows that knowledge management provides appropriate communication channels for all education partners to discuss school problems; for example, by creating a pool of knowledge to serve students, it creates a base for teachers and students to access information on educational progress and career guidance, and it makes teachers better-equipped in providing guidance and counseling to students (Zhao, 2010). Teachers can also review and reflect on peer feedback and develop diverse strategies and practical plans to improve school policies and educational effectiveness. Knowledge management supports innovative teaching and effective learning. By analyzing students' scores, teachers can identify students' strengths and weaknesses for effective educational planning. In order to enhance the professional development of teachers, the establishment of a research task force in the knowledge management system makes acquiring, sharing, storing and creating knowledge and educational content possible (Cheng, 2013). School administrators can also adjust their school policies based on teachers' feedback to promote and improve students' learning (Cheng, 2015), and use knowledge management systems to improve communication and collaboration in order to enhance staff skills with a focus on boosting school capacity and productivity (Anantatmula, 2008). A review of knowledge management frameworks shows that human-centered factors, including leaders, people and culture are vital for the successful establishment of knowledge management strategies (Heisig, 2009; Pawlowski & Bick, 2012). Considering the vital importance of the knowledge leaders in knowledge management, researchers have emphasized the significance of studying the role of leaders in the establishment of knowledge management. Among them is Skyrme (2000) who defines the role of knowledge leader as the continuous development and innovation of knowledge resources, individual skills, and knowledge and learning networks; Cavaleri and Seivert (2005) who believe that the role of knowledge leaders is any shared or individual attitude and action that causes new and important knowledge to be created, extracted, shared and used in such a way as to ultimately create a change in collective thinking and outcome. The knowledge leader helps the group members in the process of knowledge acquisition and learning in order to obtain achievements for the benefit of the group or the organization (Viitala, 2004).

Research on knowledge leaders is very limited, including Niazazari (2021) who studied the relationship between knowledge leadership and organizational silence with the mediating role of the team reception of school administrators. The findings showed that knowledge leadership has a negative relationship with organizational silence and a positive relationship with the team reception of

administrators. Sattari and Heydari (2019) investigated the relationship between knowledge leadership and intellectual capital from the perspective of primary school teachers. The findings showed that the current status of knowledge leadership and intellectual capital is above average and the components of knowledge leadership have a significant relationship with intellectual capital. Sohrabi, Razavi and Taherkhani (2018) studied the relationship between knowledge leadership and organizational improvement from the viewpoint of librarians in central libraries of state universities in Tehran. The findings showed that there is a positive relationship between knowledge leadership and organizational improvement, and knowledge leadership can predict organizational improvement. Banmairuroy, Kritjaroen and Homsombat (2022) investigated the role of knowledge-based leadership and human resource development on sustainable competitive advantage in high technology and innovative organizations. The findings indicated that knowledge-based leadership has a direct impact on sustainable competitive advantage, and human resource development does not have a significant direct impact on sustainability. Moreover, knowledge-based leadership and human resource development has an indirect impact on sustainable competitive advantage through organizational innovation. Ghosh, Kabra and Mukerjee (2022) studied the

impact of knowledge leadership on IT project performance and quality in order to investigate the role of leaders to reduce risk. The findings indicated that knowledge leadership skills, cooperation, trust and knowledge integration have a positive effect on project performance and quality, and the knowledge leader's risk reduction efforts moderate the relationship between knowledge leadership, performance, and project quality. These studies scarcely investigated the nature of the knowledge leadership in the context of the educational system; therefore, in agreement with Chu (2016), we believe that researchers and policymakers in the educational system have little knowledge about the characteristics of knowledge leaders in schools, they especially lack knowledge about creating a social fabric that can aid the sharing of knowledge among school members. On that account, considering that the cultivation and development of knowledge leaders is necessary based on local needs and cultural norms (Mahdavipour et al., 2019), the successful and effective preparation of school leaders requires more research on the characteristics of knowledge leaders.

## Method

Based on the research questions, the researchers aimed to study the knowledge leader phenomenon from the perspective of school administrators, teachers and knowledge management specialists (participants' knowledge and what they know); therefore, the

subjective views and personal opinions of the participants were investigated. Accordingly, the theoretical reference of the present research is the symbolic interaction and interpretation that studies people's subjective meaning, which is the meaning that people create and attribute to their activities and environment (Flick, 2014). Thus, the present study adopts a qualitative method with a phenomenological approach (Mohammadpour, 2013: 263). Research data were collected by semi-structured interview, non-participatory observation (Mohammadi, 2013) and the study of relevant documents to understand the facts correctly and enhance the quality of the research. In the ensuing paragraphs, we will briefly discuss how these tools were used. Most of the data were obtained from semi-structured interviews. In order to select the participants, criterion-based sampling was used (Mohammadpour, 2013), the participants were selected by following the criteria of public schools, all-girls and secondary schools of Tehran, from regions 2, 3, 5, 6, 7 and 14. In total, interviews were conducted with ten principals and 14 high school principals (Table 1, in the appendix). Interviews were also conducted with 4 knowledge management specialists who are members of the academic faculty of universities and have authored in the field of knowledge management. The interviews were conducted at their work place and continued until no new findings were obtained. Before the interview, necessary arrangements were

made, and the interviews were recorded with the consent of the participants. An interview guide was prepared to conduct the interviews. Examples of interview questions are: What is your definition of a school administrator? What tasks do you undertake at school? How can the school administrator strengthen the culture of learning and scholarship among teachers? What role does the school administrator play to create a space for communication in order to promote the culture of sharing knowledge and experience among teachers? How can the school administrator encourage teachers to be creative and innovative and use new teaching methods? What characteristics should the school administrator have as the knowledge leader? Under what conditions can the school administrator play the role of the knowledge leader?

Non-participatory observation was conducted with the aim of direct observation of the school. The observer (one of the researchers) attended the schools in the areas under study and observed the atmosphere of the school based on knowledge management literature (Mohammadi, 2013: 151). The schools were selected based on the principle of gradual sampling (Flick, 2014). In other words, it was not known which school or how many schools would be observed in advance, rather, schools were selected and observed only based on predetermined criteria such as: public schools, all-girls schools and secondary schools in Tehran. Necessary arrangements were made with the

school administrator before going to each school. The observation continued until further observations did not produce any more knowledge (Flick, 2014: 242). Eight schools were observed in total. The related documents, including the Document of Fundamental Evolution of Education (1390), and the Regulations for the Selection and Appointment of School Principals (1400) were also studied (the Ministry of Education website, 1401). The data were analyzed using thematic analysis. Although the triangulation technique (Carter et al., 2014) was used in data collection to increase the validity of the data, in order to determine their validity, three school administrators and one knowledge management specialist reviewed the data and confirmed their validity.

**Findings**

In relation to question 1, what are the main characteristics of knowledge leaders in schools? By analyzing the interviews and related documents, the characteristics of the knowledge leader were classified into two categories, individual and organizational aspects. Regarding the individual aspect, for the emergence of the school administrator as the knowledge leader, the following characteristics were identified: patient, holistic, flexible and transformational, possessing up-to-date knowledge, willing to learn, risk-taking and having the ability of creative thinking. Regarding the organizational aspect, the following characteristics were identified: school knowledge network builder, guardian and facilitator of the school knowledge flow (table 2). It should be mentioned that only one example of data analysis is presented here.

**Table 2. The Characteristics of School's Administrator as The Knowledge Leader**

| Main Category | Subcategory | Primary Concepts | An Example of The Interview |
|---|---|---|---|
| School Knowledge Network Builder | Promoting knowledge-based interactions | Communication skills, avoiding boss-subordinate relationships, avoiding looking down on others, providing the opportunity to express opinions and criticisms, cordial and friendly relationships. | Code 4: "The leader must know that s/he is dealing with human beings, not soulless parts of a machine or a factory. A particular method is required in dealing with each person. Although it is difficult, it is possible with patience and determination." |

| | Building a knowledge community | Formation of councils, same-discipline and interdisciplinary committees, specialized committees, online communities and groups, discussion meetings, openness for expressing ideas and individual opinions, creating opportunities for communication, using mass communication applications, creating a communication environment, creating formal and informal networks, creating work teams and promoting the spirit of cooperation | Code 2: "Feedbacks in the teachers' council are very useful, a form of sharing of knowledge and experience is conducted in these working groups. If co-workers share their experience in classroom and the way they deal with raised issues and their own personal solutions with their colleagues, the outcome is very desirable." |
|---|---|---|---|
| | Building trust based on knowledge | being justice-oriented and avoiding bigotry, transparency of relationships, prohibition of vilification and badmouthing, avoiding comparing colleagues, promoting mutual respect | Code 15: "If the leader's conduct is to avoid badmouthing, vilifying and comparing us with each other, it will make colleagues grow closer and have a sense of trust. Mistrust between colleagues and a sense of competition replace friendship." |
| Guardian of School Knowledge | The ability of self-directing | Training, freedom of action, organizing in-service courses, listening to collective opinions, collaborative leadership, inspiring, empowering members | Code 5: "The school leader makes an impact by interacting with teachers and training them. Most of the weaknesses exist because the members are not trained and training has the highest impact. Training should be possible for teachers to be up-to-date." |

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|---|---|---|---|
| | Creating a supportive space | Providing space and time for study and learning, empathy, compassion, understanding subordinates, transferring love and energy, appreciating and acknowledging the efforts of colleagues, providing a calm and stress-free environment, being supportive, reducing work volume and pressure | Code 9: "The greatest impact that a leader can have is to provide a calm atmosphere for teachers. A stressful atmosphere causes the depletion of energy and hinders the flourishing of creativity in teachers. " |
| Facilitator of Knowledge Flow in School | Creating a culture of knowledge | A culture of expecting success, pursuing progress and professional development, promoting a culture of learning and sharing knowledge, teamwork and a model of creativity, learning and sharing knowledge, a practical model of knowledge, creating opportunities, reporting individual experience and innovation, enthusiastic presence of the leader in the teachers' meetings and gatherings, demanding reports on solutions, taking the lead in learning and sharing knowledge. | Code 20: "The knowledge leader must be the embodiment of knowledge acquisition. |
| | Motivation to create knowledge | Material and spiritual motivation, encouragement and reward, appreciation and acknowledgement of hard work, respect and valuing, embodiment of knowledge | Code 14: "The only factor that motivates a teacher to continue working is that the administrator, parents and students treat her/him with respect. The teacher should feel valued and respected." |
| | Creating a perspective based on knowledge | Mastery of management knowledge, determination and definition of common perspective and vision, ability to plan and schedule accurately, explanation and awareness of short-term and long-term goals. | Code 6: "the administrator should be far-sighted and should not work in a sporadic fashion, rather, s/he should have a clear perspective. S/he |

| | | | should know what results are to be expected from the activity that is being done. For instance, the principal should consider the students in a three-year period and answer this question with a perspective: what kind of people are going to come out of this period." |
| --- | --- | --- | --- |
| | Creating a knowledge-friendly structure | Improving and restoring infrastructure, promoting education technologies, developing the physical space of education, providing facilities and equipment | Code 11: "Changing the physical structure of schools and turning it into a real educational space is one of the duties of a good leader." |

In relation to question 2, what are the conditions for the emergence of knowledge leaders in schools? The analysis of interviews and observations (Tables 3 and 4) shows the development of a digital physical space in the school, adequate financing and educational budget, development and training of school administrators for the role of knowledge leader, reforming the conditions for the selection and appointment of school principals, granting independence and freedom of action to school principals and compiling circulars and scientific and practical guidelines are among the conditions for the emergence of knowledge leaders in schools.

**Table 3. Observing The Environment of the Schools Under Study in Terms of Infrastructures and Physical Symbols of Establishing Knowledge Management in Schools**

| Subject of Observation | Observation Code | Description of Observation | Interpretation of Observation |
|---|---|---|---|
| Library | 2, 3, 7 | The library was locked and the lights were off. The school vice-principal provided access by bringing the key, since no one was in charge of the library. It seemed abandoned and the students were practically deprived of having a library and a place to study. | Lack of space to acquire, store and share knowledge |
| Computer site | 2, 7, 8 | A few computers, a printer and a fax machine, a table in the middle of the room, none of the systems was operational, internet connection was not possible. | Lack of space for knowledge acquisition, sources or knowledge storage bases |
| Benches, furniture and spaces for communication | 1, 2, 3, 4, 5, 6 | There were no chairs or places to sit and talk in the corridors. The students sat on the floor during recess. Some students were in the prayer room to study. Teachers did not have a separate room to meet with students to solve their problems or have private conversations with them, either. | Lack of social learning and knowledge sharing space |
| Laboratory | 4, 7 | The laboratories were closed due to lack of necessary equipment and supplies. The existing supplies and equipment were not maintained properly. | Lack of space for learning and acquiring practical knowledge |
| General space of classroom | 1, 2, 3, 4, 5, 6, 7, 8 | The walls were mainly white and it had been years since they were painted. The classrooms were small, the window glasses were opaque or covered with curtains and fences, some windows were left open to accommodate air conditionings, and some classes had ceiling fans. Insufficient lighting in the classrooms, some classes had video projectors and laptops, radiator was the source of heating, the seats were arranged in rows behind each other with a short distance, some classes were not big enough considering the number of the students, the classrooms were without any | non-standard educational spaces; unsuitable environment for acquiring knowledge and learning |

| | | decoration or cheerful and eye-catching objects. Fluorescent lamps were used for lighting. | |
|---|---|---|---|
| Corridors | 1, 2, 4, 5, 6 | No windows and natural light in corridors, the application of bulletins was limited to religious messages and celebrations. | Unsuitable environment for acquiring knowledge and learning |
| Archive | 1, 2, 3, 4, 5, 6, 7, 8 | Some computers were connected to the network, but the job of archiving and documentation was done both in the traditional way (writing books and preparing files) and in the modern way (using systems and automations). | Poor and incorrect use of technology |

**Table 4. Conditions for the Emergence of Knowledge Leader in Schools**

| Category | Interview Example |
|---|---|
| Funding and adequate educational budget | Code 21: "I have a degree in educational management and thirty years of work experience. There are so many things, plans and programs that I wish to implement, but I cannot do anything as I am not financially secure. This is where knowledge leadership founders." |
| Development and training of school administrators for the role of knowledge leader | Code 12: "Currently, administrators do not seem to have completed a training course. Most of the work is done on the basis of trial and error and the administrators know little about the experience of their colleague in other schools. Without training, they become school principals based on some criteria alone." |
| Rectifying the conditions for selecting and appointing school administrators | Code 25: "School principals should be selected based on meritocracy. What has been done so far is not right. For a while it was based on appearance, then it was through interviews, with questions such as: Do you know anything about finance? Can you do technical work? What should be done if there is a fire in the school? These are not appropriate criteria, rather, it is important to assess the interest of principals in their students and their profession and the ability to deal with challenges and make important decisions." |
| Independence and freedom of action of school administrators | Code 10: "Currently, in the educational system, pressure is exerted from above and a series of cases is dictated to the administrators. They are asked to take action and send a report. This has caused us to be constantly involved in unnecessary issues and the opportunity of consideration has been taken away from us." |
| formulation of scientific and practical directives and instructions | Code 7: Considering the fact that the conditions of different schools, cities and provinces and even the characteristics of the neighborhoods of a city are very different, the circulars should be formulated according to these conditions. Therefore, a leader must have the authority to think within their own group to identify the needs of their group and take the necessary actions." |

## Discussion

Considering the vital role of knowledge leaders in the establishment of knowledge management in schools, the present study was conducted with the aim of identifying the characteristics of knowledge leaders in the context of all-girls secondary schools in Tehran. Based on the findings of the study, in addition to individual characteristics, the main characteristics of the school administrator as a knowledge leader in the organizational aspect include: knowledge network builder, knowledge guardian and facilitator of the school's knowledge flow. In what follows, these features will be discussed.

Knowledge leader is defined in the role of a school knowledge network builder by promoting knowledge-based interactions, building a knowledge community, and building trust based on knowledge. The findings of the study (Syed et al., 2018) show that the duties of the knowledge leader in the school include providing physical spaces such as meeting rooms, a space for internet use such as a computer network site, and mental and psychological space such as having common goals and the necessity to promote constructive interactions in the school. Network building helps teachers search, apply and share knowledge. It also accelerates the professional development of teachers. Therefore, considering the fact that the future of education relies mostly on technology and competent teachers (Arunima and Pakkeerappa, 2018), the task of providing the best equipment and

tools in the field of technology is the responsibility of the knowledge leader of the school. According to Vitala (2004), knowledge leaders continuously help to develop knowledge resources, individual skills and knowledge and learning networks. Jones and Salis' research findings (2002) also support the role of the school administrator in creating and enhancing the knowledge network, which leads to growth in the school capacities. The research findings of Davenport & Prusak (2013) and Cheng (2015) also support the role of leaders in influencing and interpersonal interactions for knowledge sharing, collaborating with teachers to improve teaching and learning (DeMatthews, 2014), social interactions to develop relationships based on trust, cooperation, expanding expertise and knowledge, and building trust (Paliszkiewicz, Gołuchowski, Koohang, 2015). However, the findings of Shirbegi and Moradi's research (2017) show that by having inappropriate verbal and non-verbal interactions with teachers, which is contrary to the goals of the knowledge leader, secondary school administrators have a negative impact on the motivation and behavior of teachers to acquire and share knowledge.

The knowledge leader as a guardian of the school's knowledge empowers the learning context for the self-management of members by creating a supportive atmosphere. Although the research findings of Chu (2016) show that there is little knowledge about the

characteristics of the appropriate context for sharing knowledge amongst school members, Louis, Murphy and Smylie's research findings (2016) support the role of administrators in creating a supportive atmosphere for learning, innovation and creation of knowledge. Jafari and Talepasand (2013) consider empowerment as the cause of increasing intra-occupational motivations; therefore, in empowering employees, it is essential that they have an opportunity to propose new ideas about their duties in practice (Abukhait, Bani-Melhem and Zeffane, 2019). In order to develop the members' self-management ability, the administrator can improve the emotional, cognitive and skill-oriented outputs of the members (Paliszkiewicz, Gołuchowski, Koohang, 2015; Habib, Patwardhan & Patwardhan, 2019) by implementing the strategy of knowledge management, independence, initiative, control and willingness to work (Chhotray, Sivertsson & Tell 2018).

The knowledge leader, in the role of the facilitator of the flow of knowledge in school, aims to create a knowledge culture, provide motivation for the creation of knowledge, draw a knowledge-oriented perspective and create a knowledge-friendly structure in the school. Cho's research findings 2016 and Donate & Pablo, 2015, support the feature of facilitating the flow of knowledge. The findings of the study indicate that culture, structure and information technology are among the enabling capabilities of knowledge

management which are necessary to improve the effectiveness of schools (Arunima and Pakkeerappa, 2018). Technology infrastructure and the culture of sharing knowledge, in addition to promoting teachers' knowledge can improve students' academic performance, and the school leader is effective in teachers' motivation, the growth of creativity and its reduction (Mehri et al., 2013). The findings of the study also show that school administrators must pay attention to incentives and rewards in order to maintain teachers' internal motivation and self-efficacy (Mahdavipour et al., 2019), since the leader's behavior encourages the development and use of knowledge exploration (for example, creation) and its exploitation (for example, storage, transfer and application) (Donate and Pablo 2015). A leader's behavior may create serious obstacles to creating and maintaining knowledge, because their behavior can lead to information gathering and competition rather than cooperation, and it can create other negative attitudes for knowledge-creating environments (Donate and Guadamillas, 2010).

According to the findings of the study, determining and explaining the vision is the main skill for knowledge leaders of schools. Mohapatra, Agrawal & Satpathy (2016), found that no great innovation, development, or achievement is possible without inspiration from a mysterious source called vision. Visions are very important for organizations because they are

mainly responsible for creating solidarity and motivation in employees to work together in the organization to achieve the desired outcomes. Also, with personal ideals and building collective logic, leaders create an image of a possible and desirable future state that organizational members accept and share (Syed et al., 2018). The findings of the study show that explaining and interpreting the Vision Document for teachers, staff, students, parents and the society leads to a common understanding (Mard, Zainabadi and Arasteh, 2016). By defining the scope of knowledge, the leader determines the type of knowledge in the workplace (Al Saifi, Dillon & McQueen, 2016). The findings of Zaynabadi and AbdulHosseini's study (2016) show transparency in the transfer of expectations as one of the top competencies of leaders. In spite of this, the findings of the study demonstrate the inability of school administrators in determining the vision and formulating programs at school. Even though organizational structure and leadership style are contextual conditions of knowledge management (Mohammadi Qeshlaq and Seyed Abbaszadeh, 2022), school structures are unable to acquire, store, share, use and create knowledge in their schools (Saghri, Hassanzadeh Kashfgarkalai and Qasimzadeh, 2018).

In relation to question 2, what are the conditions for the emergence of knowledge leaders in schools? For the emergence of knowledge leaders in schools, the findings of the study show the necessity of adequate funding and educational budget, professional development and training of administrators for the role of knowledge leaders, reforming the conditions for the selection and appointment of school administrators, and the development of a digital physical space in the school.

In relation to the necessity of financing and adequate educational budget, the research findings of Ahmadi et al. (2015) indicate that the share of government credits for education in comparison to gross national product has fluctuated between 3% and 4% throughout the years and it is lower that the global average (8%). The share of personnel costs in the total of education costs is about 93%. Non-personnel credits comprise about 7% of the education budget, and many of its applications are pre-defined and have little flexibility for change. Accordingly, allocation of required funds for innovation, initiative and new investment to improve the quality of schools is not possible and the administrator inevitably focuses on solving everyday issues. Despite the importance of professional development and the training of school administrators to play the role of knowledge leaders, the development and training of school administrators and their empowerment is a field of research that has scarcely been studied in Iran. Research shows that leadership training is possible at all levels with different impacts, and if implemented effectively, it can improve the emotional, cognitive, and skill-

oriented outputs of leaders (Habib et al., 2019). Tingle, Corrales and Peters (2019) believe that it is essential that school administrator preparation programs include administrator skills as elements of successful change. The study conducted by Gentilucci, Denti & Guaglianone (2013) indicates that many school administrators ignore the preparation programs which universities offer, while they do not have the necessary qualifications, skills and abilities to run their schools (Tingle et al., 2019). Despite the fact that the conditions for the selection and appointment of school administrators improve school policies (Cheng, 2013), the examination of school administrator appointment policies and their job description through the analysis of relevant documents shows that the roles of administrators in official education documents include: management, supervision, inspection, evaluation, report preparation, notification, construction and repairing schools. In these documents, the role of the school leader has been reduced to the executive and reconstruction manager. These roles may have been suitable for the industrial age, but they are not suitable for responding to the needs and demands of the age of knowledge. In contemporary academic literature, school principals are identified as leaders, mentors, facilitators, supporters and companions, collaborative leaders and enablers. Features such as problem solving, presenting solutions in the face of challenges, creative thinking, the ability

to design, and determining the vision and perspective are not defined in the documents under study. In fact, various tasks regarding reconstructing and equipping schools, preparing multilateral reports and responses to different institutions, doing parallel work, and dealing with financial issues leave school administrators with little time for pondering and going through personal and professional development and leave them no energy for creativity and innovation (Adli and Matlabi Verkani, 2017).

While the combination of knowledge management infrastructure and technology in schools is essential, and the research findings of Arunima and Pakkeerappa, 2018; Cahyaningsih et al., 2017 and Stanton et al., 2016 indicate the necessity of developing digital physical infrastructure in schools, the findings of this study show that none of the spaces in the schools under study, including libraries, computer sites, benches and furniture and areas dedicated to discussions, laboratories, classrooms, corridors, archives and document rooms are suitable for the learning community and the establishment of knowledge management. In addition, the findings of Fazelian and Azimi's study (2013) documented the negative effects of the existing physical educational spaces in schools and how they are affecting the gradual depression of students and teachers. Moreover, numerous studies indicate the neglect of the significance and the necessity of using libraries as

sources and bases for acquiring knowledge and promoting the culture of book reading (Eftakhari, Bakshayesh and Fatakhari, 2014; Karamati and Pourkarimi & Zali, 2020). Therefore, based on the main findings of the present study, it is suggested that:

- Due to the importance of the professional development and training of school administrators as knowledge leaders, it is suggested that the Ministry of Education, in cooperation with the faculties of educational sciences compile programs for the preparation and professional development of school principals based on the literature of school management and knowledge leaders.

- The policies related to the selection and appointment of school administrators should be revised in accordance with the changes in the roles and skills which are required of the school administrator as a knowledge leader.

- Due to the necessity of proper infrastructure for the creation of knowledge in schools, knowledge leaders should place the renovation of libraries and other public spaces in schools on their agenda.

The findings of this study led to the identification of the characteristics of the school administrator as a knowledge leader in the context of the schools under study; therefore, it helped to develop the literature on school management in the country. It is also noteworthy that this research was planned to study secondary schools in Tehran; but in practice, the researchers were not given permission to attend boys' schools, and research data was collected only from girls' schools. Accordingly, the future researchers are suggested to investigate the issue of gender and the characteristics of knowledge leaders in schools.

**Ethical Considerations**

During the implementation of this research and the preparation of the article, all national laws and principles of professional ethics related to the subject of research, including the rights of statistical community, organizations and institutions, as well as authors and writers have been observed. Adherence to the principles of research ethics in the present study was observed and consent forms were consciously completed by all statistical community.

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**Conflict of Interest**

According to the authors of the present article, there was no conflict of interest.

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Appendix

**Table 1. Demographic characteristics of study participants**

| Participant code | Field/ Degree | Work experience | Position |
|:---:|:---|:---:|:---|
| 1 | Educational Administration/ MA | 5 | Principal |
| 2 | Educational Administration & planning / BA | 24 | Principal |
| 3 | Biology / PhD. | 7 | Principal |
| 4 | Educational Administration / MA | 11 | Principal |
| 5 | Educational Planning / MA | 6 | Principal |
| 6 | Math / MA | 8 | Principal |
| 7 | Philosophy / PhD. | 7 | Principal |
| 8 | Educational Administration / MA | 23 | Principal |
| 9 | psychology / PhD. | 25 | Principal |
| 10 | Educational Administration & planning / MA | 5 | Principal |
| 11 | Physics / BA | 15 | Teacher |
| 12 | Chemistry / BA | 13 | Teacher |
| 13 | Chemistry / BA | 29 | Teacher |
| 14 | Arabic literature / MA | 22 | Teacher |
| 15 | English language / MA | 18 | Teacher |
| 16 | English language / PhD. | 28 | Teacher |
| 17 | Theology/ BA | 27 | Teacher |
| 18 | Arabic literature / BA | 27 | Teacher |
| 19 | Persian the literature / MA | 26 | Teacher |
| 20 | Persian the literature / BA | 25 | Teacher |
| 21 | Educational Administration / MA | 9 | Teacher |
| 22 | Sociology/ MA | 12 | Teacher |
| 23 | Theology/ MA | 11 | Teacher |
| 24 | Theology/ BA | 10 | Teacher |