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How Should Innovative Schools Be in the 21st Century?*

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ABSTRACT

In the 21st century, rapid technological advancements and digital transformation have significantly impacted education, making innovation a central component of modern educational systems. Creating a school culture that values and sustains innovation has become increasingly important. This study explores the structural characteristics of innovative schools from the perspectives of school administrators who are actively leading innovative efforts. Employing a qualitative research design based on the phenomenological method, data were collected through focus group interviews. The participants consisted of 11 school administrators specializing in educational management, selected through criterion sampling. A semi-structured interview form with open-ended questions was developed by the researchers to guide the focus group discussions. The data obtained were analyzed through content analysis using the MAXQDA 2020 qualitative data analysis software. The findings of the study were categorized under six main sub-dimensions: the defining characteristics of innovative schools, the roles of innovative school managers, the contributions of teachers and parents to the innovation process, the outcomes of innovative educational practices, and practices that should be adopted or avoided in innovative school environments. The study contributes to the understanding of how school leadership shapes and sustains innovation, offering insights for policymakers and practitioners aiming to foster innovation in educational settings.

Keywords: Innovative Schools, Innovation in Education, Innovation, 21st Century Skills, Focus Group Study

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1. INTRODUCTION

In the 21st century, there have been technological improvements and digital transformations in every field of our lives together with the changing and improving world order. In an information age where societies go from agriculture to industry and then become information society and where technology is at the center nowadays, rejuvenescence and innovations have become inevitable in all branches such as education, health, industry, environment, politics. Information develops the basis of innovation and innovation develops the production of information (Kermally, 2004, p. 105). The key to achieving organizational differentiation and productivity in this process lies in creativity and organizational innovativeness. Organizations, who succeed in adopting innovative culture and establishing such a structure, acquire important achievements related to adaptation with their environment and developments (Erdoğan, 2012, p. 2).

Innovation is the process of creating a new product, process, service, method, technique and practicing the aforesaid innovations. (Bodur, 2019). Innovation is the key to economic growth, increasing employment and life quality. All kinds of companies operating in all sectors need innovations in all business lines (Elçi, 2010). Innovation seems to be an important building stone in the agenda of all countries, governments and organizations in the 21st century. Governments and businesses allocate more resources to research-development and innovative strategies in almost all business lines to hold their positions in the market and, even, to move further and to increase their power of competition. (Gül, 2018). Products put forth because of innovative studies ensure the fulfillment of the needs of people in a more effective way. For example, innovations in the medical field make people benefit from health services in a better way, the innovations in the automotive sector make transportation easier (Aslaner, 2010).

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Innovativeness is very important to ensure sustainable growth, social welfare and employment in a country. For that reason, the setting needed for innovation should be created in a country. Innovativeness policy has emerged as a mixture of science & technology policy and industrial policy. Innovativeness has become the focus of governmental policies as its importance has been understood in so many countries, developed countries being in the first place. Countries, which have noticed the importance of innovativeness at the present time, provide necessary investments with legal and administrative regulations needed for the companies to conduct their innovativeness operations successfully and by promoting resource allocation for innovativeness (Açıkgöz Ersoy & Şengül, 2008).

Changes and innovations in technology alone are not sufficient for social transformations to be productive and effective. Education, as the fundamental structure of society, should also be updated in coordination with the aforementioned factors (Öztemel, 2018). Education has always been important across all societies. It requires not only reflecting on the past but also moving beyond the present and focusing on the future, thereby guiding the next generations in this direction. In this sense, education serves as a means of reconstruction for both individuals and society (Balay, 2004). The process of transition from an industrial society to an information society and the corresponding changes in education are presented in the following table.

Table 1.
Changing Education Model

Criterion	**Industrial Society Education Model**	**Informational Society Education Model**
Teacher	Knowledge Transmitter	Leading, Advisor
Student	Passive, Individual Study	Active, Cooperation
Manager	Management Leader	Educational Leader
Learning Method	Class learning	Individual research
Learning Form	With Individual Studies	Teamwork
Training Programs	Standard Programs	Changing Programs
Development	In-service Education	Organizational Learning
Success Criterion	Measurement of Memorized Information	Multidimensional Thinking

Resource: (Aytaç, 1999, p. 75).

In modern ages as summarized above in Table 1; it is aimed that measurements would be made by thinking with changing programmes and multi-dimensional concepts where the student is active ever after, the teacher is the leader, the manager is the teaching leader, and the teamwork is dominant.

Schools are open systems that are in a considerable amount of interaction with the individual, society and its surroundings. While rejuvenescence is aimed at all lines and organizations with the developing science and technology, schools which are open for development, change and innovations are also affected as there are innovations in the field of education. (Aslan & Beycioğlu, 2010). In schools, innovation requires innovative individuals, culture, climate, structures, and processes, together with continuous development, risk-taking, and the creation of new products (Watt, 2002). Schools that resist innovation cannot develop or adapt to their environment and therefore risk becoming isolated (Bodur, 2019). A supportive social environment, adequate resources, and a common culture with a shared vision and mission should be provided in order to ensure continuous renewal in schools and to integrate them into an innovative school culture. All stakeholders should be involved in this process of innovation, under the guidance of a strong leader who can create such an environment and foster intrinsic motivation to overcome barriers (Kirkland & Sutch, 2009). Innovation also requires changes in the structures of schools and learning environments. Schools, as educational institutions, must have a multi-functional structure that is always open to innovation, where knowledge is produced, used, and developed; where teamwork provides confidence; ensuring accessibility at all times; and where the information needs of society are met while fostering students' original and creative thinking.

Developing science and technology bring about change and innovation to the various areas of society. Bringing change into life and its adaptation are included in the change and innovation in terms of practice, in schools. For that reason, innovative schools are organizations who have adopted innovation as a vision and who have already created an innovative climate (Tezcan, 1998). Innovative schools contribute to the development of the educational system and thus, they help for the growth of highly qualified talents. Raising individuals, showing and developing their talents, transferring social values, culture and functions to future generations are some of the important functions of a school. Educational organizations are expected to bring those functions into practice by developing and renewing themselves (Özçiçek, 2016). An innovative school could be defined as an institution which shows tendency for being open to change and development, where a new idea, practice, teaching principles and methods, teaching technologies and understanding of all life learning are adopted (Kocasaraç & Karataş, 2018). Generally, if we are to list the characteristics of innovative schools, it should be thought of as a sum of structure of the school, learning areas, managers, teachers, students and parents. Structure, goals, learning areas, learning and teaching processes should be designed according to these characteristics in order to raise teens who would be able to keep pace with the changing speed of world.

A school manager should be a leader who is openminded, initiator and pragmatic at the learning environment, in need of innovation, aware of needs, setting new goals for education, bringing technological developments to the school by following them, providing flexibility for studies, able to see the school as a whole with everything in it and attempting for the changes (Aslan & Beycioğlu, 2010). Teachers teach students how to reach the information and how to benefit from the same, within the process of innovation. The teacher should aim and support learning of the student. He should take action in accordance with the learning style of each student and by taking his/her talents into consideration. They should organize a learning environment of students, which would motivate individual interests of students, and which is enriched by technology where students would be able to evaluate their own goals, learning and processes (Cansoy & Turan, 2021, p. 51).
Numanoğlu (1999, p. 348) defined innovative teens of 21st century as the ones who are able to use technology in the best way, have the spirit of teamwork, could take place in different projects, could think in a different and unique way, could think, research and question continuously while having respect for other ideas with high level of imagination. If we would like to raise teens who will change the world, we should take care of how we take action as mothers and fathers and we should not make this according to the past times and the period we lived, rather, we should prepare and raise them according to the future where they will have a voice.

In addition to structural and cultural dimensions, innovative schools also need to be examined through the lens of curriculum development. Program development principles—consistency between objectives, content, learning processes, and assessment—provide a framework that can integrate 21st century skills into educational practice (Ornstein & Hunkins, 2018). Skills such as critical thinking, creativity, collaboration, communication, problem solving, and digital literacy require curricula that emphasize active learning, interdisciplinary approaches, and project-based or inquiry-driven methods (Trilling & Fadel, 2009; Voogt & Roblin, 2012). Similarly, assessment in innovative schools should move beyond memorization and standardized tests toward alternative approaches such as performance-based evaluation, portfolios, and formative assessment tools that better capture students' ability to apply knowledge in authentic contexts (Pellegrino & Hilton, 2012). While previous studies have highlighted certain features of innovative schools, fewer have explicitly linked these features to curriculum design and instructional practices that directly cultivate 21st century competencies. Addressing this dimension is therefore essential for understanding how innovative schools can systematically support student learning and long-term educational outcomes. This perspective emphasizes that innovative schools should not only adapt their organizational structures but also redesign their curricula to ensure coherence between educational aims and the competencies demanded by the 21st century.

In the direction of increasing need for information and demand of education, as necessities for the educational system and technological developments have increased, there is a need for educational innovations (Çiftçi & Gündüz, 2016). Standards should be increased, new resources should be found, and some changes should be made for the educational innovation, however those would not be sufficient (Özdemir, 2019: 36). The means of educational system, schools, should be restructured in accordance with the needs of each and every period and those should not stand behind the times. Societies are in need of more young people who have skills of 21st century in the area of science, technology and engineering, who do not memorize information, rather who is able to produce information and make difference with innovation (Wagner, 2016). Governments should transform schools into innovative schools by adopting the educational system and schools to innovate. A deep analysis is needed in order to define innovative school characteristics of schools and related to how all stakeholders should be.

Although both national and international studies have examined the concept of innovative schools (Beycioğlu, 2004; Giles & Hargreaves, 2006; Aslaner, 2010; Bülbül, 2012; Mishra, 2014; Aslan & Kesik, 2016; Morente et al., 2018; Bodur, 2019; Dağhan, 2019; Vincent-Lancrin et al., 2019; Lewis & Basford, 2020; White & Noble, 2020; Yaşar, 2020), many of these works focus on specific elements such as teacher practices or technological applications, and only a limited number consider the perspectives of different stakeholders together. There is still a need for studies that discuss the structural features of innovative schools in relation to the roles and responsibilities of administrators, teachers, students, and parents in a more integrated way. Unlike prior studies that have examined innovation primarily from a technological or instructional perspective, this study highlights the organizational and stakeholder-related dimensions of innovative schools, thereby offering a more holistic framework.
In this context, the present study aims to contribute to literature by combining findings from previous research with qualitative data gathered from school administrators who are directly involved in innovation processes. Through this approach, the study offers a more comprehensive view of the characteristics of innovative schools and sheds light on the ways in which various stakeholders can support and sustain innovation. This contribution is expected to enrich both the theoretical discussions and the practical understanding of innovation in educational settings.

2. METHODOLOGY

The pattern of phenomenology (phenomenological) of qualitative research methods has been used in this research. Qualitative research is a mode of study where data is obtained by the researcher directly from its source, according to the understanding and interpretation of participants in order to understand facts and events deeply (Büyüköztürk et al., 2016). In research on phenomenology, researchers analyze perspectives of individuals towards a specified matter of fact, one to one, and reach conclusions according to their individual experiences and practices. In this research method, data is generally collected from interviews (Fraenkel et al., 2012). Phenomenological studies may not yield entirely accurate results according to the structure of qualitative research methods; however, conceptualization of the data and achievement of themes according to the facts are

aimed at analysis (Ak, 2020). The focus of these studies, which are conducted within the concept of phenomenology, is represented by "innovative schools."

2.1. Participants

As qualified and enriched data is aimed to be reached for the sampling selection of the research, parameter sampling method was used for the specification of sampling and working group. Intentional sampling gives chance to deeper research by selecting equipped people or cases in terms of information and experience depending on the purpose of the study. In criterion sampling, individuals, events or cases, intended with specified characteristics in terms of the area to be reviewed in the research, are formed (Büyüköztürk, 2016). According to the parameter sampling, 11 school managers composed of 4 males and 7 female managers who are found at city center of Istanbul and who are experienced at education and teaching with at least ten years of experience and who are professionals at the said area, are selected. The number of participants (11 school managers) was determined in accordance with the methodological standards of focus group studies, which generally include between 6 and 12 participants (Krueger & Casey, 2000). This range ensures that the discussion remains manageable while still allowing for the inclusion of diverse perspectives. In this study, the selection of 11 participants enabled the representation of managers from different school types (public and private, as well as primary, secondary, and high schools) and contributed to maintaining a dynamic focus group interaction. The chosen size provided a balance between diversity and depth: a larger group could have made the discussion difficult to manage, whereas a smaller group might have limited the variety of views. Data saturation was considered achieved when recurring codes and themes began to emerge and no new categories or perspectives were identified, confirming that the sample size was adequate for the purposes of this study.

As the focus group interview was conducted, no advance information was given to the managers regarding the questions, and participation was based on voluntary participation. Demographic information of participants is shown in Table 2.

Table 2.
Demographic Information

Participant	Gender	Age	Professional Seniority	Educational Background	Corporation of his/her Job	Title at School
K1	F	46	23	Postgraduate	Government-High School	Assistant Manager
K2	M	45	22	Postgraduate	Government-High School	Assistant Manager
K3	M	43	21	Postgraduate	Government-Primary School	Manager
K4	F	39	18	Postgraduate	Government-Primary School	Assistant Manager
K5	F	47	19	Postgraduate	Government-Kindergarten	Assistant Manager
K6	F	41	21	Postgraduate	Private-Primary School	Manager
K7	F	38	17	Postgraduate	Private-Second. School	Manager
K8	M	47	22	Postgraduate	Government-High School	Manager
K9	M	42	18	Postgraduate	Government-High School	Manager
K10	K	47	24	Postgraduate	Private-High School	Assistant Manager
K11	K	38	16	Postgraduate	Government-Primary School	Assistant Manager

As seen in Table 2, there are four male (36.3%) and seven female (63.7%) school managers in the working group. The ages of school managers in the working group range between 38 and 47, and their professional seniority ranges between 16 and 24. All school managers in the working group are postgraduates. Eight of them work in government schools and three in private schools. Finally, the working group is composed of 11 managers, six of whom are assistant managers and five are managers.

2.2. Data Collecting Tool

In the research, focus group interview was made in order to analysis structure and characteristics of innovative schools deeply according to the opinions of school managers. In this interview, semi-restructured interview form developed by researchers was used. Semi-restructured interview form is composed of two sections. In the first section, demographic information was asked to define gender, age, professional seniority, educational background of school managers, the institution they work and

their job descriptions at school. In the second section, six different open-ended questions which were developed as a result of the scanning of the literature were asked. Prepared questions were analyzed by a professional and a professional opinion was taken, and a pilot practice was made with 2 participants and questions were finalized by taking care of issues such as clarity of questions, competence of responds.

2.3. Data Collection: Focus Group Interview Process

Research data was made by taking approval from Istanbul Provincial Directorate for National Education for the work permit in the teaching period of 2020-2021 and on the basis of, especially, voluntariness. The interview form prepared for the research was made in the form of focus group interview together with 11 school managers selected in accordance with purposeful sampling and by preferring the pattern of phenomenology of qualitative researching methods. The aim of the focus group interview is to obtain deep and multi-dimensional qualitative information related to the point of view, experience, attitude, thought and habits of participants in respect of any subject matter. According to Krueger & Casey (2000); focus group interviews could be explained as a discussion platform planned for learning ideas of a group of participants who were selected beforehand in respect of any subject which was also determined beforehand.

Following steps were taken for the focus group practice process in the research (Şahsuvaroğlu & Ekşi, 2013):
Step 1: Researcher designates the subject, agenda and plan.
Step 2: Researcher determines with whom the interview would be made, who would be selected and questions and order of questions for the interview.
Step 3: Place, time of the focus group interview, the professional and supervisor who would be managing the interview are determined. According to the plan, the session is completed within the course 2-3 hours with 3-4 general and 2-3 deeper questions.
Step 4: In the last part, the interview is summarized, and the content analysis of obtained data (supervisor's short notes, voice or image records) is made and then the research is reported (Akşit, 1992).

While focus group interview questions were prepared for this research as a data collection tool, draft questions were developed by the researcher based on a review of the literature related to innovative schools. The questions were analyzed by a professional, and his/her opinion was taken into consideration to ensure the validity of qualitative analysis questions. A pilot study was conducted with two participants. The interview form, composed of six open-ended questions, was prepared by considering the clarity of questions and the competence of responses. The following questions were designed to serve the purpose of the researcher.

1. Have you heard of the concept of an innovative school? What do you think about this concept?
2. What should be the difference of development model of an innovative school from other classical schools, in terms of the relation between curriculum, operation, parents, students, teachers and managers?
3. What should be the manager's and teacher's role in the concept of innovative school?
4. What should be the role and share of parents in the concept of innovative school?
5. What are the short-, mid- and long-term achievements aimed for the students in the innovative school model?
6. What should/should not be done in innovative schools?

Before collecting data with focus group interview in the direction of the study conducted, interviews were organized with all participants by contacting them through telephone, e-mail or short message. As there are an extraordinary situation and Covid-19 epidemic around the world, group interview was made with ZOOM application in the direction of all necessary permits. Before the interview began, aim of the research was explicitly told to the participants and it was said that they could leave the interview at any time they would like and withdraw their participation in the research, by paying regard to the conscious consent. No participant left the interview in this context. Interviews were recorded by taking consent of participants, without any name and identity information, to contribute to the study.

Questions related to the innovative schools were asked to the managers and they were guided by making necessary explanations where needed. Responses of all participants were taken for each and every question. An environment was established for each participant for the discussion of concepts and subjects, in such a way that they would present their opinions freely; therefore, different aspects of the subject could be discussed. After the session was ended, data was put down on paper by the researcher by analyzing the camera records.

2.4. Data Analysis

Qualitative data analysis involves the systematic transformation of raw data into meaningful findings and their interpretation (Patton, 2014). In this study, the collected data were analyzed using the content analysis technique, guided by the principles of thematic analysis (Braun & Clarke, 2006). The main purpose of content analysis is to reach concepts and relationships that can explain the data in depth.

The analysis followed several systematic stages. First, the interview transcripts were read repeatedly for familiarization, and initial notes were taken. In the stage of open coding, the text was examined line by line and meaningful units were labeled with preliminary codes, aiming to capture the richness of participants' expressions without imposing pre-defined categories. These codes were then compared and organized during axial coding, where conceptual similarities were grouped, overlapping codes were merged, and relationships among codes were established. This process corresponded to Braun & Clarke's generating and reviewing codes steps (Braun & Clarke, 2006). In the subsequent stage, broader categories were developed into themes and sub-themes, representing the central patterns that explained the data (selective coding). These themes were reviewed, defined, and named in line with the thematic analysis framework, ensuring both internal coherence and external distinctiveness. Finally, the analysis was reported with illustrative quotations, tables, and visual models to strengthen the interpretive validity of the findings.

To support systematic analysis, the qualitative data analysis program MAXQDA 2020 was employed. Transcribed data were imported into the program, where codes were systematically assigned, retrieved, and organized. The software was further used to conduct frequency analyses, examine co-occurring codes, and generate visual outputs such as code maps, matrices, and models. These functions enhanced transparency, enabled the traceability of analytical decisions, and supported the clear presentation of themes in the findings section (Çakır & Saritas, 2017).

2.5. Validity and Reliability

In qualitative research, validity and reliability are strengthened through strategies that enhance the accuracy, consistency, and credibility of the findings. In this study, several measures were implemented to ensure methodological rigor. First, focus group interviews were conducted on a voluntary basis, and participants were fully informed about the purpose of the research and their right to withdraw at any stage. Informed consent was obtained, and confidentiality and anonymity were guaranteed. The session was both video- and audio-recorded with participants' permission and monitored by the moderator and a rapporteur simultaneously, ensuring that no data was lost. These procedures encouraged participants to provide authentic and candid responses, thus enhancing the credibility of the data (Yıldırım & Şimşek, 2011).

To preserve participants' voices, the interviews were transcribed verbatim and systematically documented. Member checking was applied by sharing summary notes with selected participants to confirm that the interpretations reflected their perspectives accurately (Lincoln & Guba, 1985). Furthermore, data analysis was conducted with MAXQDA 2020, and coding was performed by the researcher and reviewed by an independent qualitative research expert. In order to ensure coding reliability, the transcripts were independently coded by the researcher and a second qualitative research expert. After comparing the codes, discrepancies were discussed until a consensus was reached. Inter-coder agreement exceeded the 80% threshold generally accepted in qualitative research (Miles & Huberman, 1994), indicating a high level of consistency in the analysis.

Methodological rigor was further enhanced through prolonged engagement and persistent observation. Participants were contacted and briefed before the session, and sufficient time was devoted during the focus group to explore themes in depth (Krueger & Casey, 2000). Reflexivity was also maintained, as the researcher continuously reflected on her own role and potential biases throughout the process. Finally, the consistency of emerging themes was cross-checked with the literature to establish both internal coherence and external validity. Taken together, these strategies contributed to the credibility, transferability, dependability, and confirmability of the study (Lincoln & Guba, 1985).

2.6. Researcher's Role

In this study, the researcher undertook responsibility for the overall design and implementation of the research process. She identified the research problem, developed and refined the semi-structured interview form, secured official permissions, and organized the focus group interview. During the session, the researcher assumed the role of observer and rapporteur, ensuring ethical compliance and systematic documentation of the discussions. In the analysis phase, interviews were transcribed verbatim, coded, and thematically analyzed using MAXQDA 2020. Reliability was enhanced through collaboration with an independent qualitative research expert. Throughout the process, the researcher-maintained reflexivity, critically evaluating her own assumptions and minimizing potential biases, thereby contributing to the methodological rigor and integrity of the study.

3. FINDINGS

In this section, questions of the research are presented under six themes by analyzing responds of participants to open-ended questions which were asked in focus group interviews. These themes are as follows: (1) characteristics of innovative schools, (2) innovative manager, (3) innovative teacher, (4) innovative parent, (5) achievements in innovative schools, (6) what should/should not be done in innovative schools. This figure 1 presents the hierarchical code–subcode structure that emerged from the focus group interviews. It visualizes how participants conceptualized the characteristics of innovative schools by grouping related codes under broader categories, thereby illustrating the main dimensions of innovation in educational settings.

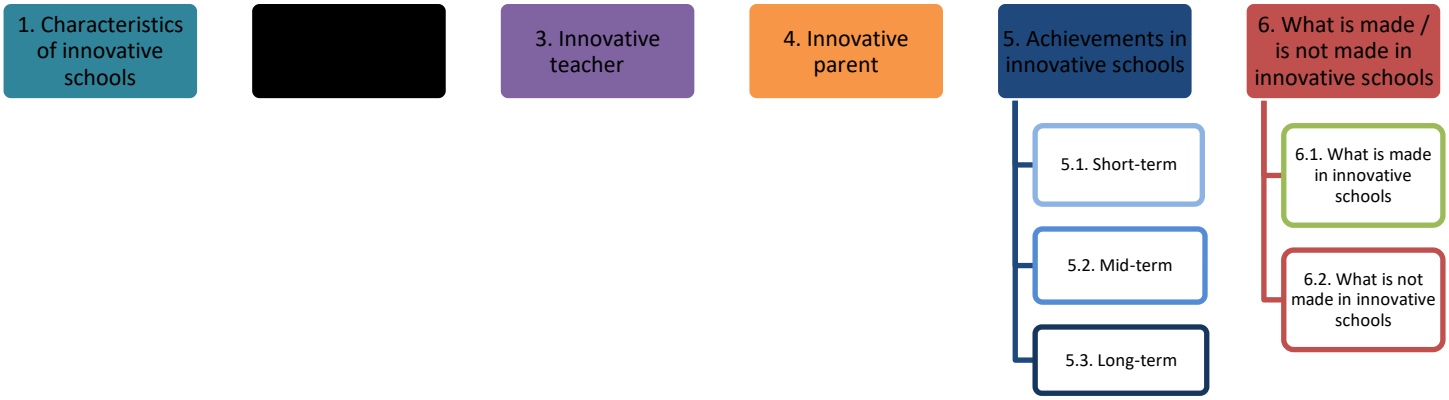


Figure 1. Main themes and sub-themes

Characteristics of Innovative Schools: The codes derived from participants' responses to the question "What are the characteristics of the concept of an innovative school?" are presented in Figure 2 according to the hierarchical code–subcode model.

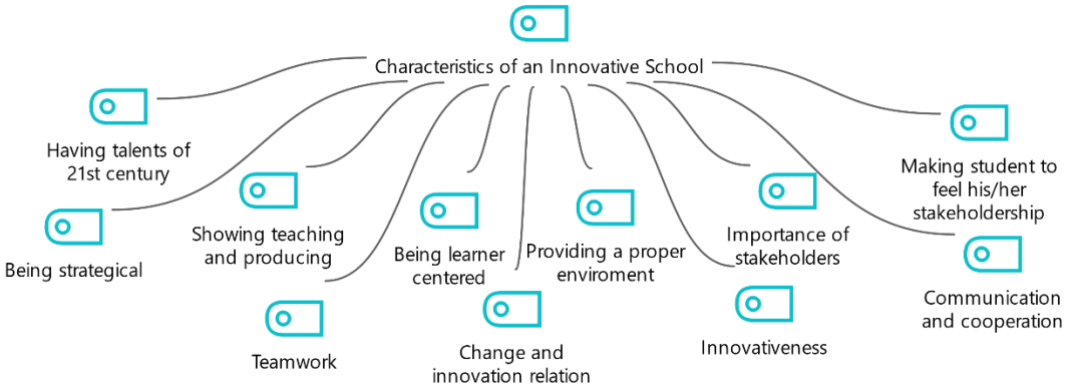


Figure 2. Characteristics of an innovative school

Figure 2 presents the hierarchical code–subcode model derived from participants' responses, showing how school managers conceptualized the characteristics of innovative schools. The figure highlights dimensions such as 21st-century skills, strategic orientation, teamwork, learner-centered approaches, stakeholder involvement, and effective communication.
The participants' views provided deeper insights into these characteristics. Some illustrative quotations are presented below:

> *K5: ...I think a school which is open to new ideas when one says innovative school. And I think this should be a free school which ensures people production new ideas by suggesting debates.*
> *K8: This could be a school and a manager who have new approaches, who are able to say different things by taking support of the classical one, who are open to development, who can adopt themselves to developments and who are leading new developments.*
> *K7: Children should not be raised according to the period you lived; they should rather be raised according to the period they will live. And with this saying, they should be innovative, each school manager, instructor, and even parents could take a share from this cake. It would be beneficial if innovations are made by taking care of our national and moral values.*
> *K11: Innovative schools should be productive instead of transferring information. We should raise generations who have the ability of solve problems and analyze problems. We should understand the information and carry this to the process of analyzing ... Other than that, we should produce new ideas, and these ideas should be put into practice. Risks should be taken.*

These findings suggest that innovative schools are perceived not only as institutions that adopt technological tools but also as holistic learning environments where collaboration, stakeholder engagement, and learner-centered approaches are prioritized.

Innovative Manager: The codes created from participants' responses to the question "How should managers and teachers be in innovative schools?" are shown in Figure 3 according to the hierarchical code–subcode model.

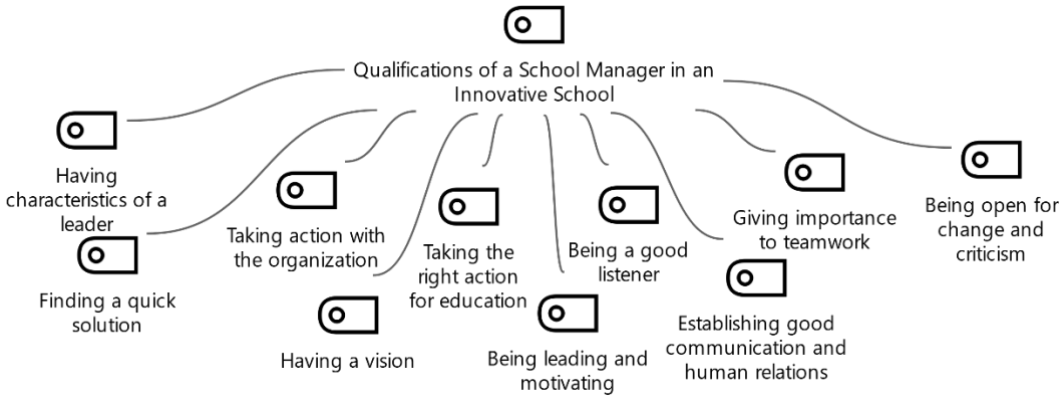


Figure 3. Qualifications of a school manager in an innovative school

Figure 3 illustrates the key qualifications attributed to managers in innovative schools. It visualizes how participants emphasized leadership, openness to change and criticism, effective communication, teamwork, problem-solving, and vision as essential managerial qualities to sustain innovation in educational settings.
The participants' views provided deeper insights into these qualifications. Some illustrative quotations are presented below:

> *K3: Manager of an innovative school should have a good communication and human relations. He/she should take decisions together with the whole organization. He/she should be giving accounts. Both school managers and teachers should give importance to feedback. Managers should give importance to teamwork at school. They should be cooperative. Especially, school managers should have control over the corporate organizational memory.*
> *K7: I think an innovative manager should always be open to change. At the same time, he/she should be open to criticism. He/she should add his/her own vision and point of view into the system and should specify the management system.*
> *K10: Manager should first of all be a good listener. He/she should be motivating and giving confidence, I have always believed that. He/she should create opportunities. He/she should improve himself/herself. He/she should not lose his/her respectability. He/she should see and appreciate good works and should set an example where necessary. He/she should know her team very well. And he/she should absolutely have goals.*

These findings highlight that the role of an innovative manager extends beyond administrative duties, emphasizing leadership, vision, and the ability to foster teamwork and open communication, which are essential for sustaining a culture of innovation in schools.

Innovative Teacher: The codes created from participants' responses to the question "How should managers and teachers be in innovative schools?" are shown in Figure 4 according to the hierarchical code–subcode model.

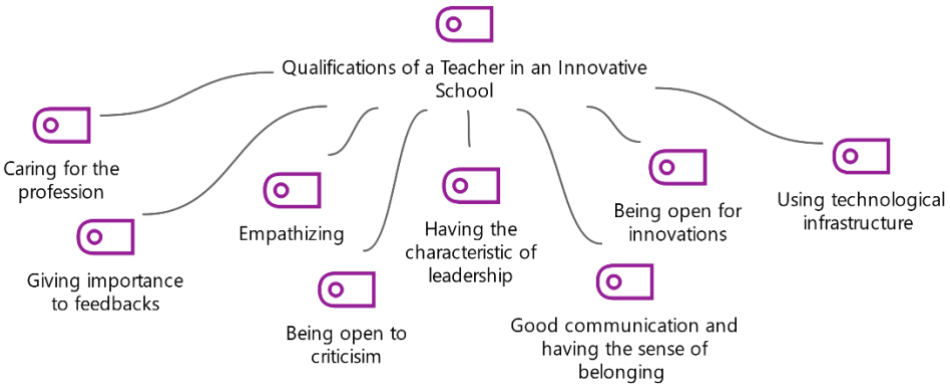


Figure 4. Qualifications of a teacher in an innovative school

Figure 4 presents the main qualifications attributed to teachers in innovative schools. It highlights dimensions such as professional commitment, sense of belonging, effective communication, empathy, openness to criticism, receptiveness to feedback, use of technological infrastructure, and willingness to embrace innovation. These qualities illustrate how participants perceive teachers as central actors in shaping and sustaining innovative school culture.

The participants' views provided deeper insights into these qualifications. Some illustrative quotations are presented below:

> *K9: Innovative teacher should absolutely care for his/her profession and should embrace his/her institution …If teacher feels that he/she is valuable, he/she will embrace. Precondition of innovative teacher is, again, reading. The one who is not reading could not bring any innovation.*

K6: Teacher should be able to produce projects, open to innovations, self-confidence, compatible with the team, embrace the institution, open to improvement, embrace his/her job at the same time and again he/she should be open to empathy and criticism. Both manager and the teacher should be open to empathy and criticism and embrace the institution.

These findings indicate that innovative teachers are not only defined by their openness to change and technological integration, but also by their strong professional commitment, empathy, and collaboration, which position them as central actors in fostering an innovative school culture.

Innovative Parent: The codes created from participants' responses to the question "How should parents be in innovative schools?" are shown in Figure 5 according to the hierarchical code–subcode model.

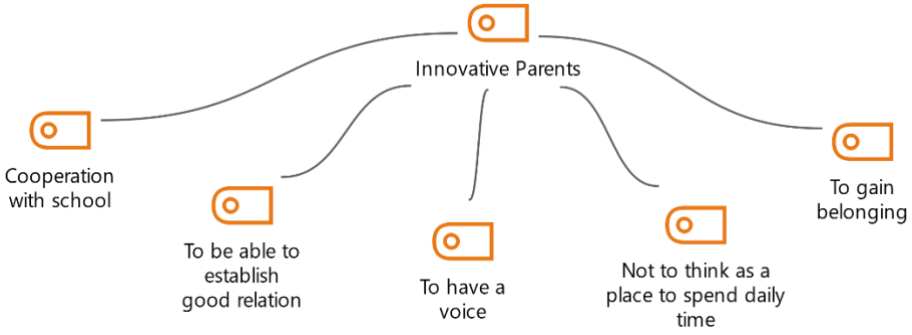


Figure 5. Innovative parents

Figure 5 illustrates the qualities attributed to parents in innovative schools. It highlights their role as stakeholders who build a sense of belonging, participate in decision-making, maintain close cooperation with the school, and embrace technological as well as social changes. The figure emphasizes that parents are expected to go beyond passive involvement and actively contribute to shaping school culture.

The participants' views provided deeper insights into these qualifications. Some illustrative quotations are presented below:

K2: Trainings for parents, projects of the type of parent academies and even parent meetings are held both face-to-face and online in order to make the parent feel as a stakeholder of the school. The parents should have all this technological infrastructure, technology-able education and thought structure.
K5: It should make the parents feel that they have a part to play in this organization and integrate with it. In the success of innovative processes, the parent should be able to take part in the decisions taken and be willing to bear this responsibility. In innovative schools, parents should be willing and prepared to embrace change and differences.
K1: Parents should be ready for development and aware of technological developments. Especially in recent times, parents have been a major stakeholder in school administration. It is intertwined with the school administration, especially thanks to the training programs applied to parents. Since the school carries out its communication with the parents via social media, message and e-mail, it is obvious that it is a stakeholder.

These findings underline that innovative parents are perceived as active stakeholders in school life, contributing to decision-making processes and embracing technological and social changes, which reinforces the collaborative dimension of innovative school culture.

Achievements in Innovative Schools: The codes created from participants' responses to the question "What could be short-, mid-, and long-term achievements aimed to be brought to the students in the Innovative School Model?" are shown in Figure 6 according to the hierarchical code–subcode model.

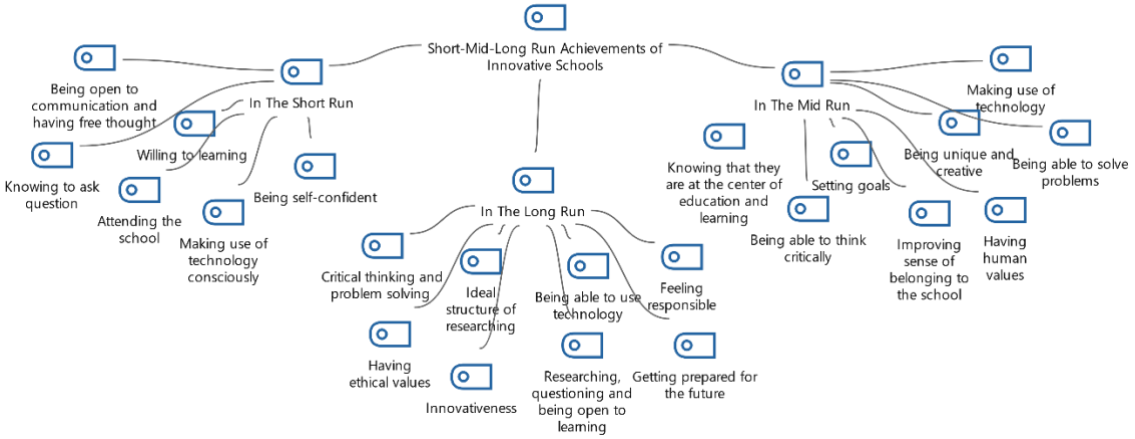


Figure 6. Short-mid-long run achievements of innovative schools

Figure 6 illustrates how participants conceptualized the expected achievements of innovative schools over time. In the short term, students are expected to develop conscious technology use, open communication, curiosity, and self-confidence. Mid-term goals focus on critical thinking, problem-solving, creativity, and a strong sense of belonging. Long-term achievements emphasize responsibility, moral and human values, effective use of technology, and readiness for future challenges. The figure demonstrates the progressive and holistic development trajectory envisioned for students in innovative schools.
The participants' views provided deeper insights into these achievements. Some illustrative quotations are presented below:

> *K11: It will teach the student to use technology in the short term but to use it consciously. Then, in the medium term, he will realize that he is in the education and training center. In the long term, we will see an individual who thinks, questions, research, and is open to learning.*
> *K5: Students in the short term; by arousing interest and desire to learn, it is necessary to enable them to discover ways of learning and to find ways in which they can express themselves. In the medium term, Gains should be targeted to make him realize how to position himself as an individual and to have universal values. It should ensure that it can keep up with the development with changing technology and knowledge. In the long run, it promotes the development of communication, intercultural understanding and global connection skills necessary for 21st century life.*
> *K4: Short: Instead of just hearing the information from the teacher, he should have access to the information himself. He should be able to investigate and draw conclusions. Medium: Be able to solve the problems it encounters and propose solutions. Long: They are individuals who produce, question, wonder and research long-term gains.*

These findings demonstrate that the innovative school model aims to cultivate students' skills progressively across short-, medium-, and long-term horizons, integrating technological literacy, critical thinking, creativity, and social responsibility. This layered perspective highlights how innovative schools contribute not only to immediate learning outcomes but also to the long-term preparation of students as globally competent and future-ready individuals.

What is made / is not made in Innovative Schools?: The hierarchical codes created from participants' responses to the question "What is made / is not made in innovative schools?" are shown in Figure 7 and Figure 8 according to the subcode model.

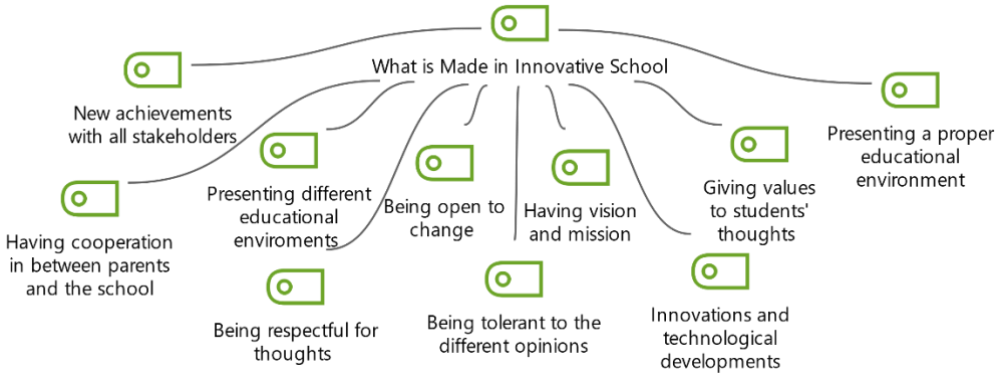


Figure 7. What is made in innovative school?

Figure 7 presents the main practices that participants associate with innovative schools. These include the integration of technology, creating supportive learning environments, fostering tolerance for diverse ideas, establishing cooperation between parents and schools, and promoting democratic and participatory management. The figure highlights how innovation in schools is perceived as both structural and cultural, extending beyond technology to include values, collaboration, and vision.
The participants' views provided further insights into these practices. Some illustrative quotations are presented below:

K11: Innovative schools are open to innovations, ready for the changes, open to new ideas, cooperative and their communication is strong. They know the importance of teamwork. Stakeholders have the sense of belonging. A school which could adapt to the dynamic environment should be built. There should be democratic and participative management understanding.
K2: All kinds of technological infrastructure is built in innovative schools as those make learning easier which is the necessity for the era. While decisions are taken in management process, decisions are made with common mind by taking ideas of all stakeholders. Concepts of respect and politeness are prioritized in top to bottom, bottom to top and lateral communications. Environmental resources which would bring innovation should be provided in schools. School climate which will make innovativeness attractive, and which will encourage the same in schools, should be provided.

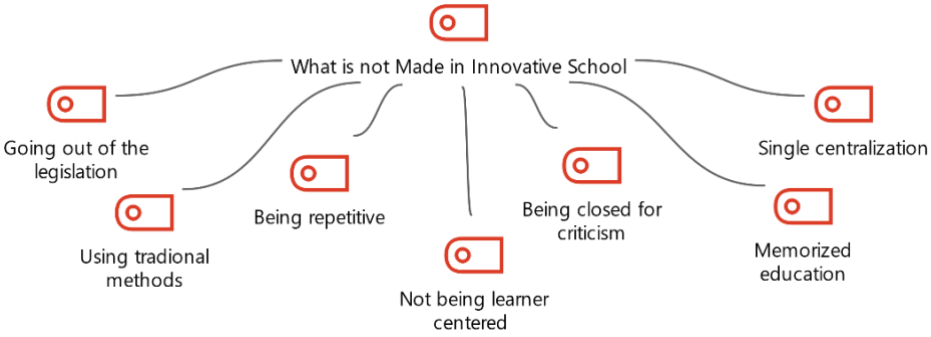


Figure 8. What is not made in innovative schools?

Figure 8 illustrates the practices and characteristics that participants believe should not exist in innovative schools. These include reliance on memorization, centralized decision-making, traditional teacher-centered methods, resistance to criticism and new ideas, and repetitive practices outside legislative frameworks. The figure emphasizes that innovative schools are expected to move away from conventional approaches and instead foster learner-centered, participatory, and flexible models of education.

The participants' views provided further insights into these perspectives. Some illustrative quotations are presented below:

K2: There must not be a centralized management style where one person makes decisions, in innovative school. Traditional structure of mind and one-track mind manager could not be found in an innovative school. With an old expression, course processes are not composed of one teacher and one board. Education should not be teacher centered. There is no resistance to technology and changes.
K5: It does not repeat itself. Traditional methods are not used. It is learner centered. It does not close itself to criticism.
K10: There should not be memorized education, multiple choice examinations and students should not be immersed in test books.

These findings reveal that innovative schools are characterized by openness to change, stakeholder participation, and democratic practices, while rejecting memorization, centralization, and teacher-centered approaches. This contrast underscores the transformative role of innovative schools in shifting from traditional to learner-centered and participatory educational models.

4. RESULTS, DISCUSSION AND RECOMMENDATIONS

This study examined school managers' perceptions of the concept of the innovative school and explored how such schools should function together with their stakeholders. Drawing on qualitative data from 11 school managers selected through criterion sampling, the findings revealed six thematic dimensions: (1) characteristics of innovative schools, (2) innovative manager, (3) innovative teacher, (4) innovative parent, (5) achievements in innovative schools, and (6) practices that should/should not be implemented in innovative schools. The results demonstrated that innovative schools are not defined merely by technological integration, but rather represent holistic environments where leadership, pedagogy, stakeholder collaboration, and long-term student development converge.

The findings of this research align with and extend existing literature on educational innovation. Characteristics of innovative schools correspond to Naktiyok's (2007) and Özçiçek's (2016) definitions of schools as open to new ideas and committed to systemic improvement, while also supporting Öğüt, Aygen and Demirsel's (2007) argument that individual creativity within schools is indispensable. Consistent with Cemaloğlu (1999), factors such as organizational culture, leadership, and motivation emerged as enablers or barriers. Blandul (2015) highlighted difficulties with technology integration, and Aydın (2019) emphasized the role of physical infrastructure; however, this study revealed that cultural and pedagogical elements are equally crucial.

The innovative manager emerged as a leader who embraces change, listens actively, and motivates stakeholders. These findings reinforce Develi's (2015) conclusion that shared goals and knowledge-sharing foster innovation, while also resonating with

Çelik's (2017) study on leadership styles and risk-taking behaviors. Moreover, the OECD TALIS 2018 report underlines that leadership for innovation requires participatory decision-making and openness to accountability, both of which were strongly emphasized by participants (OECD, 2019a). The innovative teacher was described as committed to their profession, empathetic, collaborative, and open to feedback and technology use. This is consistent with Özbek's (2014) findings that teachers view themselves as pioneering, and Gürbüz's (2015) study showing mid-level innovativeness among teacher candidates. Kocasaraç & Karataş (2018) and Bodur (2019) also found that teachers associated innovation with technology and cooperation. The current study, however, extends these perspectives by emphasizing empathy, professional belonging, and creativity as central attributes. This aligns with the OECD Learning Compass 2030 framework, which places teachers at the heart of fostering student agency and well-being (OECD, 2019b).

The role of parents was identified as an original contribution of this study. Participants emphasized that parents should not be passive supporters but active stakeholders in decision-making processes. This complements Esen's (2002) findings on the socioeconomic background of innovative families and echoes the 2024–2028 Strategic Plan of the Turkish Ministry of National Education (MEB, 2023), which prioritizes strengthening school–parent cooperation. Student achievements were mapped across short-, medium-, and long-term horizons: responsible use of technology and confidence (short-term), critical thinking and school belonging (medium-term), and responsibility, ethical values, and innovation (long-term). These results align with Thorsteinsson (2014) and Jin et al. (2018), who found that innovative schools cultivate democratic values and problem-solving skills. Similarly, UNESCO's Futures of Education (2021) highlights curiosity, critical thinking, and global citizenship as indispensable outcomes of future schooling.

Practices implemented in innovative schools were associated with openness to innovation, tolerance for diverse opinions, and stakeholder cooperation, echoing Özen & Bingöl (2010) and Könings et al. (2007). Conversely, practices rejected in innovative schools—such as memorization, centralization, and teacher-centered methods—parallel Watt's (2002), Töremen's (2002), and Çelik's (2017) analyses of barriers to organizational innovation. Importantly, participants highlighted that innovation requires not only new methods but also the abandonment of rigid, repetitive, and exam-centered practices. Taken together, this study not only confirms previous research but also contributes novel insights by highlighting the active role of parents, the long-term developmental outcomes of students, and the rejection of traditional hierarchical models. By linking these findings to MoNE strategic objectives, OECD benchmarks, and UNESCO's vision of future learning, the study provides a valuable theoretical and practical framework for understanding and advancing innovative schools.

From a theoretical perspective, future research should conceptualize innovative schools as multidimensional entities that integrate leadership, pedagogy, organizational culture, and stakeholder engagement. Such an approach would allow for a more comprehensive understanding of innovation in education, moving beyond technology-focused definitions. Furthermore, mixed-method studies conducted across diverse regions and populations could test, refine, and generalize the model developed in this study, providing broader insights into how innovative practices adapt to different cultural and institutional contexts.

In terms of practical implications, several points emerge. For school leaders, it is essential to strengthen democratic leadership practices, foster collaboration, and build organizational memory to ensure sustainability of innovation. Teachers, as key agents of change, should engage in continuous professional development that emphasizes technology integration, empathy, and creative pedagogy. Parents should also be positioned as active stakeholders through platforms such as parent academies or digital participation mechanisms, thereby increasing their involvement in decision-making processes. At the same time, students should be provided with enriched learning environments that nurture critical thinking, creativity, and responsibility through learner-centered approaches.

Finally, policy recommendations highlight the need for systemic reform. National curricula should integrate project-based learning and creativity-oriented assessment methods alongside traditional examinations to reduce reliance on rote memorization. Ministries of Education should pilot innovative school models, evaluate their outcomes, and scale them based on evidence of success. Institutionalized professional development programs must equip both teachers and school leaders with innovative teaching and leadership competencies. In addition, legal and institutional frameworks for school–family cooperation should be strengthened, with targeted policies to support disadvantaged communities. Aligning national reforms with international benchmarks such as OECD's 21st-century skills framework and UNESCO's global citizenship and sustainability goals will further enhance the relevance and effectiveness of educational innovation. Finally, disseminating best practices and success stories from innovative schools across the system can foster a culture of shared learning and continuous improvement.

Research and Publication Ethics Statement

Ethical principles were followed in the process of data collection, analysis and writing of the article. Istanbul Sabahattin Zaim University Institute of Educational Sciences Research and Publication Ethics Committee Decision. It is the ethics committee decision dated 30.04. 2021, confirmation number E-20292139-050.01.04-5463.

Contribution Rates of Authors to the Article

Both authors contributed equally to the conduct of the research.

Statement of Interest

The authors of this study do not have any conflict of benefit with any person, institution or organization.

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