



Investigation of Administrators' Opinions on Virtual Classroom Teacher Applications¹

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Abstract

Today, technological developments and advancements have taken their place in education as in every aspect of life. Face-to-face education in the past has been replaced by online education and hybrid education today. In this context, artificial intelligence applications, which are still in their early stages but will make their presence felt in the future, and virtual classrooms and virtual classroom teachers are also increasing their importance along with these applications. Under these thoughts, the aim of the research is to examine the opinions of school administrators on virtual classroom teacher applications. Phenomenological case design, one of the qualitative research methods, was used in the study. The study was conducted with 8 principals and 8 assistant principals from 16 different schools in Erzurum province. The "General Information Form" and "Interview Form" developed by the researchers were used as data collection tools in the study. As a result of the research, it was concluded that school administrators see virtual classroom teachers as teachers who teach in an online environment virtual classroom teachers will serve the provision of the infrastructure, real teachers care about emotions, and virtual teachers can be supervised with an implementing system. Based on the results obtained from the research, it virtual classrooms and virtual teachers and that necessary initiatives should be taken to provide the infrastructure.

Keywords: Education, School, School principal, Virtual teacher

Jel Classification Code: I20- Z00

¹ It is dedicated to the first anniversary of the death of our beloved Professor Dr. Rıdvan KÜÇÜKALİ.

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1. Introduction

Schools are very important as institutions where education and training take place, which have important roles and responsibilities in the development of societies. Schools, which are one of the first institutions where a child enters a new group after his/her family, can be expressed as an institution where the child understands and learns what is expected of him/her as an adult and is ready to participate in society as an adult (Çalışkan and Ayık, 2015). Moreover, the school is not only responsible for the upbringing of the child it is in, but also holds the potential to change society at all times. As an output it brings society together with science thanks to the services it will offer to society. The education required for the school to realize, what is stated can be expressed as presenting the information that the society needs within a certain system to the individuals who need this information (Duman, 2019; Egorychev et. al. 2014; Gültekin, 2020). School administrators assume very important roles and responsibilities in the successful realization of what is stated.

School administrators are responsible for taking education to the next level by managing the institution they are in the best way possible, demonstrating their leadership skills to the lowest levels in the institution and to families and society that have indirect ties with the institution. The skills that are very important for a successful school administration can be mentioned as communication skills, leadership qualities, and field knowledge (Arar and Salti, 2022; Babaoğlu, Nalbant and Çelik, 2017; Balkar and Kalman, 2018; Baltacı, 2017; Diş and Akbaşlı, 2019; Ekşili and Antalyalı, 2017; Khalil, Iqbal and Khan, 2016; Özkan and Arslantaş, 2019). In addition, it is very important and necessary, especially today, that technological knowledge is compatible with 21st century skills (Çalık, Çoban and Özdemir, 2019; Hassarin, 2022; Raksanakorn et. al., 2020).

In the period we live in, due to the rapid change and transformation in technology, the transformation and change in the field of education continues with the transformation, the development of computer-based educational environments and the dissemination of computer assisted teaching have been observed in recent years (Arslan, Kızılay and Hamalosmanoğlu, 2022; Bayrak and Bayrak, 2021; Lai and Bower, 2019; Metin, 2018; Raja and Nagasubramani, 2018; Ratheeswari, 2018; Şendurur and Arslan, 2017; Tekin and Polat, 2014). The rapid spread of the internet in society has also led to the development of web-based learning environments web-based

learning offers flexible learning environments that can be carried out at any desired time and place using the desired educational materials (Esdeira, 2017). School principals must decide whether these innovations brought by technology can be used in educational environments in the schools they are assigned to (Görgülü et. al., 2013). Küçükali and Coşkun (2021) stated that while this technological development and mobility gives some people hope for the future, it may cause others to worry, but knowing the purpose for which these technological movements are used is necessary to determine the benefit or harm. In order to achieve the stated goals, it is important to obtain the opinions and ideas of school administrators for the survival of schools and these schools. In the studies conducted, no research was found on the opinions of school administrators on virtual teacher applications. Therefore, the aim of the study was to address the opinions of school administrators on virtual classroom teachers. In this way, it will be possible to determine the deficiencies by determining the opinions of school administrators and as a result, it can be predicted that better adaptation to the age can be achieved.

2. Method

The model, study group, data collection tools, data collection method and data evaluation sections of the research conducted to address the opinions of school administrators about the virtual classroom teacher and virtual classroom application are given below.

2.1. Research Model

In the study, a phenomenological case design, one of the qualitative research methods, was used to determine the opinions of school principals about virtual classroom teachers and virtual classroom applications. The phenomenological case design is a method used to determine the opinions of people who have had that experience about a subject (Creswell, 2017).

2.2. Study Group

The study group of the research is the school principals working in the schools in the districts of Erzurum province. 87,5% of school principals are male and 12,5% are female. 37,5% of school principals have 6-10 years of professional seniority and 37,5% have 11-15 years of professional

seniority. 81,3% of principals have a bachelor's degree, 50% serve as school principals and 50% as assistant principals.

2.3.Data Collection Tools

Data in the study was collected using the "General Information Form" and "Interview Form" developed by researchers.

2.3.1. General Information Form

This is a form created by researchers to determine the sociodemographic characteristics of school principals. The form includes questions to determine the gender, years of service, educational status and career status of school principals in the institution on they work in.

2.3.2. Interview Form

This form was created to determine the opinions of school principals on virtual classrooms and virtual classroom applications. After the form was created, it was presented to the opinions of faculty members who were experts in their fields and the experts were asked to evaluate the items in the form in terms of meaning and content. A total of 9 expert opinions were received from the form, 7 in the field of educational administration, 1 in the field of philosophy and 1 in the field of sociology, and the items below .78 were removed and the form was given its final form. The questions in the form include the opinions of school principals about the virtual classroom, the applicability of virtual classrooms, the differences between real teachers and virtual teachers, and how to supervise virtual teachers.

2.4.Data Collection Methods

In order to the data, firstly ethical permission was obtained from Erzurum Atatürk University Ethics Committee with the decision number 30 on 25.05.2023. After the ethical permission was obtained, the necessary work permit was obtained from Erzurum Provincial Directorate of National Education. After the work permits were obtained, the schools were determined with the convenience sampling method. The schools were selected from schools affiliated to the city center of Erzurum. Within this scope, 16 schools were determined. The schools consisted of 10 primary schools, 3 secondary schools and 3 high schools. After determining the schools, the schools were visited and the school principals were informed about the purpose of the research. The researchers

conducted individual interviews with the school principals who agreed to participate in the research voluntarily. A 10-minute interview was conducted with a school principal. After all interviews were completed, the audio recordings were deciphered by two independent researchers.

2.5.Data Analysis

A content form consisting of categories and subcategories was created for the answers given by school principals in the analysis of the data. The content form was presented to the opinions of faculty members who are experts in the field (1 associate professor, 1 assistant professor in the field of Statistics, 1 assistant professor in the field of Information Processing Technology, 2 associate professors, 2 assistant professors in the field of Education). The content analysis form was finalized according to the expert opinions. The categories and subcategories of the content analysis form are presented in Table 1.

Table 1. Categories and Subcategories of the content analysis form

Categories	Subcategories
Thoughts on the virtual classroom	Thoughts on the method of application Thoughts on the person who performs the application and the person on whom it is applied Thoughts on the result of the application
Applicability of virtual classroom	Applicable Applicable with precautions
Thoughts about virtual teachers	Thoughts on the learning process Thoughts on the learning outcome
Differences between real teachers and virtual teachers	Personal characteristics Domain specific characteristics
Supervision of virtual teachers	With the establishment of infrastructure

With feedback

The answers given by the school principals were analyzed by two independent researchers. The reliability between the researchers was found to be 100%. The answers given by the school principals are presented as $X_1, X_2, \dots, X_{15}, X_{16}$.

3. Findings

The findings of the research conducted to address the opinions of school administrators on virtual classroom teachers and virtual classroom applications are given below. First, school administrators were asked what they thought about the virtual classroom. The distribution of the answers given by school administrators is presented in Figure 1.

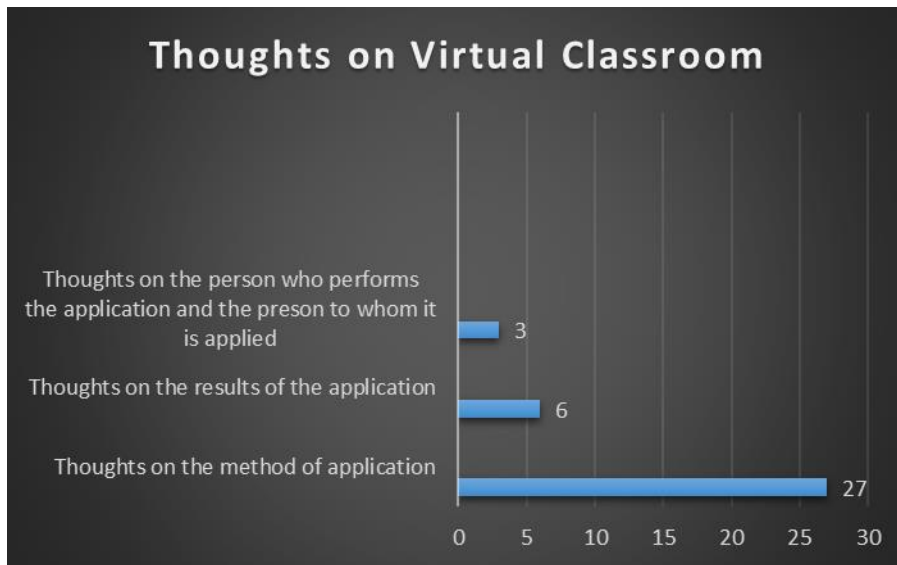


Figure 1. Distribution of School Administrators' View on Virtual Classroom

Figure 1 shows the distribution of school principals' opinions on the virtual classroom. As can be seen in the figure, school principals expressed their opinions mostly on the method of application ($n=27$). This rate was followed by thoughts on the results of the application ($n=6$), and thoughts on the person who performs the application and the person to whom it was applied ($n=3$). X_5 , one of the school principals, expressed his thoughts as follows, "Based on our experiences from the pandemic period, I don't see it very positive. We had many problems in practice-based lessons."

Since we were teaching practical lessons with the logic of See- Examine- Do- Repeat, this was very difficult in the virtual environment. For example, in a flute lesson, a child could not fully grasp the notes, in art lessons, children could not fully perceive while doing handicrafts, I cannot think of many good things when we think about such lessons. But I find it positive for verbal lessons. It saves time and increases learning.”

School principals were asked what they thought about the feasibility of virtual classrooms. The distribution of responses given by school principals is presented in Figure 2.

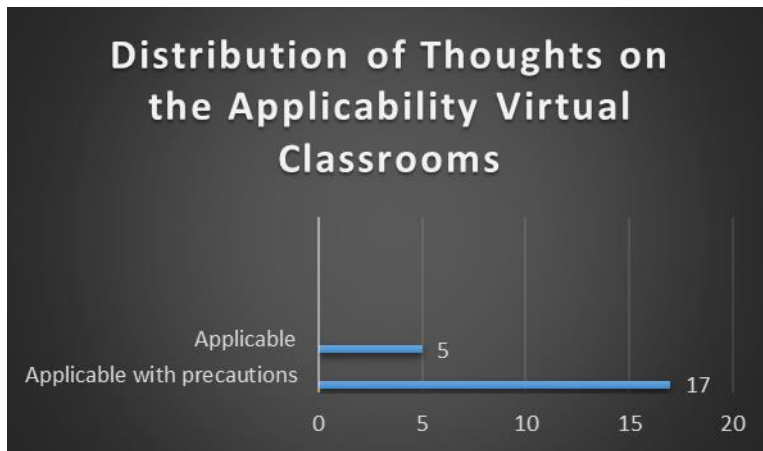


Figure 2. Distribution of School Administrators’ Views on the Applicability of Virtual Classroom

Figure 2 shows the distribution of school principals’ views on the applicability of virtual classrooms. As can be seen in the figure, school principals stated that virtual classrooms could be applicable with precautions at the thought highest rate (n=17). This rate was followed by the applicable (n=5). X₁₃ one of the school principals, said “*Virtual classes can be implemented. In fact, they can be implemented today. For example, we can say that the meetings we hold during the distance education period, the education given during the pandemic period, are actually a virtual classroom.*” X₁₆ said, “*Of course, if desired, it can be implemented by the state in any way. But it is necessary to calculate what it will bring and what it will take away.*”

School principals were asked what they thought about virtual teachers. Distribution of responses given by school principals is presented in Figure 3.

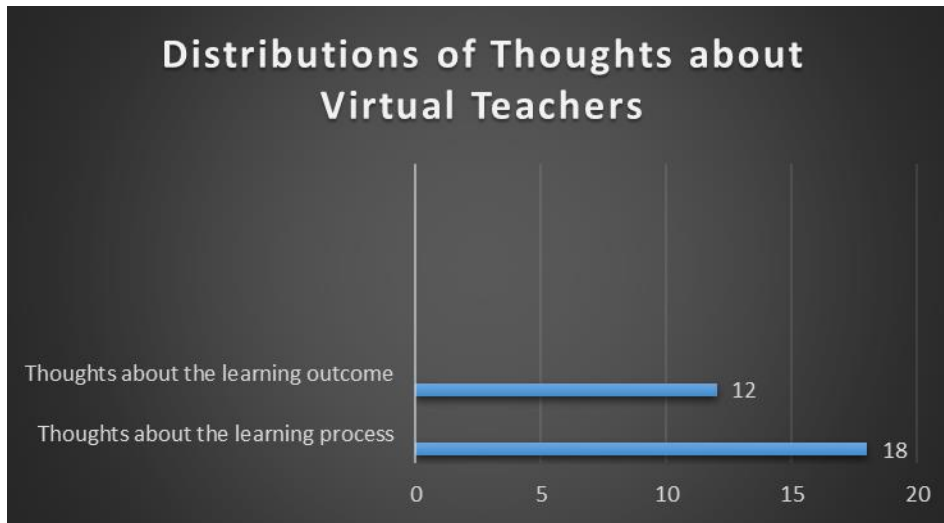


Figure 3. Distribution of School Principals' Opinions about Virtual Teachers

Figure 3 shows the distribution of school principals' opinions about virtual teachers. As can be seen in the figure, school principals shared their opinions about virtual teachers mostly about the learning process (n=18). This rate was followed by opinions about the learning outcome (n=12). X₆ from school principals stated that, *“Virtual teachers are probably more technologically equipped teachers. They are teachers who use computers well, teach online, and prepare programs. In this respect, I find virtual teachers positive. Because our age is the age of technology, developments are in increasing every day, virtual teachers are teachers who know and use this technology.”* And X₉ stated that *“If the teacher connects to their homes and teaches in this system, it can happen. But I do not believe that doing it completely with applications in a computer environment will be successful. It may be effective and beneficial, but the job cannot be left to programs and software alone.”*

The question “What are the differences between real teachers and virtual teachers?” was asked to school principals. The distribution of the answers given by the school principals is presented in Figure 4.

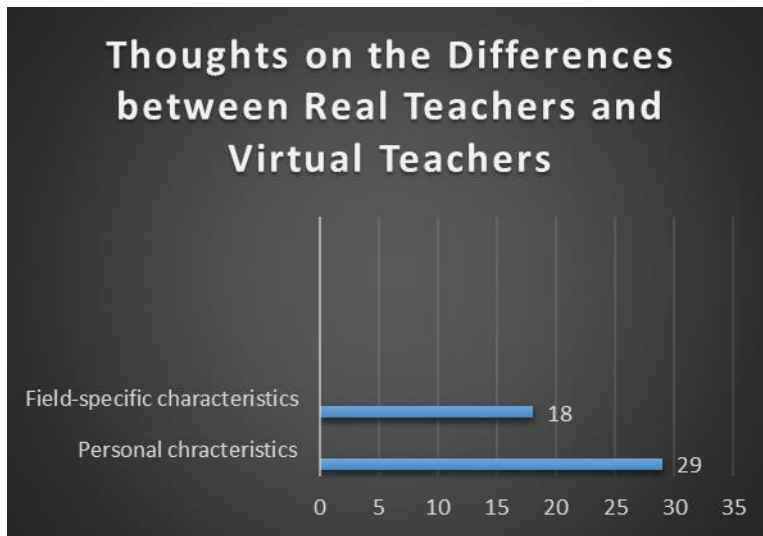


Figure 4. Distribution of School Principals' Views on the Differences between Real Teachers and Virtual Teachers

Figure 4 shows the distribution of school principals' views on the differences between real teachers and virtual teachers. As can be seen in the figure, school principals gave the highest rate of personal characteristics (n=29), regarding the difference between real teachers and virtual teachers. This rate was followed by field-specific characteristics (n=18). X₂, one of the school principals, stated his thoughts as follows, *"I think the main difference is that while there is face-to-face communication with one, we can communicate with the other remotely. However, if the education program is video-recorded or something like that, the communication is very limited and one-way. The difference due to communication can lead to big differences. For example, if a child does not understand something face-to-face, he can ask the real teacher immediately and get feedback, but this is impossible with a virtual teacher. He can only stop and listen again. A negative aspect of a virtual teacher is class dominance. He cannot provide it, but a real teacher can easily provide it. A teacher who has developed capacity is more capable than a virtual teacher. However, in terms of variety and richness, a virtual teacher offers more richness. If a program is video-recorded or something like that, the student can repeat it as much as he wants."*

School administrators were asked how they thought virtual teachers could be supervised. The distribution of answers given by school administrators is presented in Figure 5.

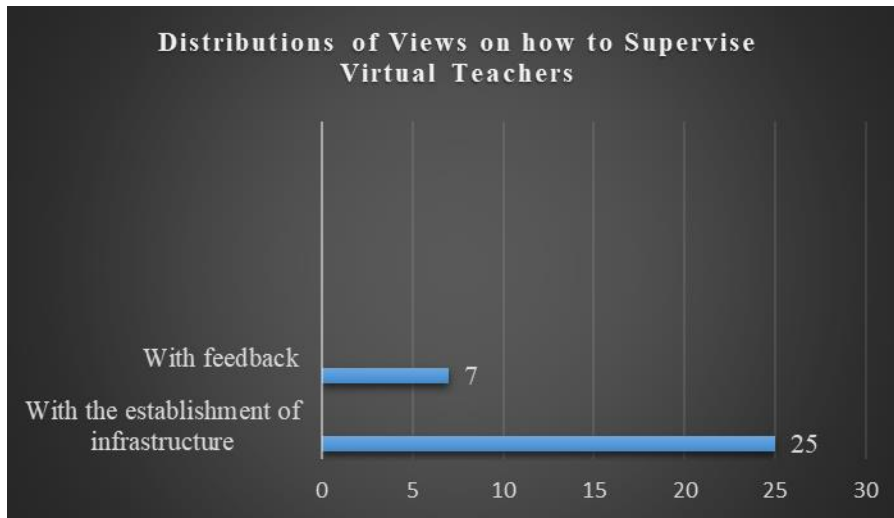


Figure 5. Distributions of School Principals' Views on how to Supervise Virtual Teachers

Figure 5 shows the distribution of school principals' views on how to supervise virtual teachers. As can be seen in the figure, school principals stated that virtual teachers can be supervised by establishing the infrastructure (n=25). School principals (n=7) stated that supervision will be done with feedback. X₇ from school principals stated their views as follows, *“First of all, a control system needs to be developed. In this system, educational goals are included, and a tick is placed on the virtual teacher according to whether he/she achieves these goals. If he/she cannot, the virtual teacher and programs are updated. Feedback can be received from student for this.”* and X₁₅ stated their views as follows, *“The possibility of controlling a virtual teacher is very difficult. However, by listening to the recorded lessons.”*

4. Discussion

As a result of the research conducted to determine the opinions of school administrators about virtual classroom teachers and virtual classroom applications, it was concluded that school administrators see virtual classrooms as lessons held in an online environment and as classes managed by artificial intelligence, they think that it eliminates face-to-face interaction, it provides freedom for teachers and students, increases learning, saves time, creates a more technological and multiple learning environment, negatively affects applied lessons, brings about problems of class

control and failure, subject explanation is loaded, provides repetition, should be used at later ages, moral values cannot be given, some think that it should be increased, while some state that it cannot be a virtual classroom. It is possible to explain the thoughts expressed by school administrators about the virtual classroom by relating them to the activities related to the virtual classroom implemented in Türkiye. Although the virtual classroom application has been implemented as open lesson for a long time in Türkiye, the virtual classroom style application, especially for younger individuals, has become possible with the COVID-19 pandemic. In the trainings expressed, the lessons were generally criticized for removing face-to-face interaction, it was stated that success was not achieved, the subject was mostly explained, and it could be watched again after being recorded. However, it has been frequently emphasized that the lessons taught in virtual classrooms are technology-intensive and can cause problems with classroom control, especially at younger ages. It is known that it is not suitable for the attention spans of especially young children and therefore failure may occur, and therefore it should be used in later years. However, at the same time, online education provides freedom to both the educator and the students. Giving lessons only on the condition that there is a connection also brings with it flexible way of working from home, thus lessons can be taught without the hassle of travel and as a result, it brings with it a freer environment. However, since an interactive environment cannot be provided, especially in lessons that require practice, it is not understood whether the student understands the subject or not, and this can create problems within the scope of practical lessons (Atabay, Gülloğlu and Şimşek, 2023; Can, 2020; Ergüzen and Erol, 2017; İzmirli and Akyüz, 2017; Martin and Parker, 2014; Yaşlıca, 2020). It is thought that the expressions are reflected in the thoughts of school administrators and the answers are shaped in this direction. In the studies conducted, while there are school administrators who think that virtual classrooms are appropriate (Can and Ozan, 2023; Demirdağ, 2022; Halisdemir, Parlar and Çetin, 2022; Joshi et. al., 2022; Kancharlo, Komisetty and Dudekula, 2022; Kудay and Akpınar, 2020; Yeşil and Karaboğa, 2023), there are also school administrators who think that this practice is not appropriate (Akyavuz and Çakın, 2020; Joshi et. al., 2022; Kудay and Akpınar, 2020; Özdağ and Ertem, 2022; Tiritioğlu and Kılıçoğlu, 2019; Wannapiroon and Pimdee, 2022; Yeşil and Karaboğa, 2023) this supports the research results.

As a result of the research, school administrators think that virtual classes can be implemented as a result of providing the infrastructure and the necessary initiatives by the state, some school

administrators state that its applicability is low, and some state that a balance of benefits and costs should be provided. The implementation of online courses, in other words, virtual classes require a good infrastructure. It is obvious that participation in virtual classes can increase thanks to the technological infrastructures that will be delivered to every place and every person (Saritaş and Barutçu, 2020; Telli and Altun, 2023). However, providing only the infrastructure does not bring success. Students should also be provided with the necessary tools such as computers and tablets to connect to virtual classes. This can undoubtedly be done by the state. Türkiye has a heterogenous distribution in terms of student profile. In other words, students can be found in the most remote areas and in poor socioeconomic situations. In such a case, equal opportunities should be provided to all students for the continuity of education (Kara and Bozkurt, 2021, Özdoğan and Berkant, 2020, Sarı and Nayır, 2020; Telli and Altun, 2023). It is thought that these situations are reflected in the answers of school administrators. As a result of the research, research results similar to the opinions of school administrators were reached (Kara and Bozkurt, 2021, Kruszweska, Nazaruk and Szewczyk, 2022; Mahyoub, 2020; Mautuk et. al., 2022; Özdoğan and Berkant, 2020; Rasmitadlia et. al., 2020; Sarı and Nayır, 2020; Sasan and Baritua, 2022; Tarkar, 2020).

As a result of the research, it is seen that school administrators think that there cannot be a virtual teacher, they understand the term artificial intelligence with virtual teacher, some school administrators welcome virtual teachers positively, however, they think that they should be increased they think that they are eye-catching, they state that they are practical, some school administrators do not welcome them positively, in parallel with this idea, they state that they lack emotions, they are not concrete, it would be more appropriate to use them in the future, they state that they cannot be used in all lessons. In the definitions made about virtual teachers, it is known that they are products of artificial intelligence, they can carry out educational activities with the necessary coding and programming. At the same time, it is stated that the lack of emotions is seen as a major disadvantage in the criticisms made towards virtual teachers, and that their use is controversial, especially in the younger student profile. However, some scientists also think that virtual teachers should exist by making the necessary arrangements for virtual teachers especially considering the potential of today's and future societies and the technological world relations (Çokyaman and Ünal, 2021; Hamarat and Dallı, 2023; Peterson- Ahmad, Pemberton and Havey, 2018; Pressley, 2021; Rana et. al., 2021; Solak and Polat, 2022; Zhang and Lin, 2020). This situation is also reflected in the opinions of school administrators. While some school

administrators support virtual teachers, some do not. The opinions of school administrators were a remarkable finding in terms of revealing their level of knowledge about virtual teachers.

In the study, school administrators stated that there is a difference between real and virtual teachers in terms of emotions. In addition, they stated that the virtual teacher will provide progress at an individual pace, communication will be one-sided, the virtual teacher can focus on different dimensions, save-time and space, there will be differences in terms of culture, morality and social values, it will provide more repetition opportunities, there may be problems in classroom management permanent learning will be provided, and there is the use of artificial intelligence. As stated before, it is possible to explain these thoughts of school administrators by attributing the virtual teacher to being a product of artificial intelligence. The virtual teacher, who is product of artificial intelligence, can be devoid of emotions today, as in the real teacher. The virtual teacher, who is created only for his job, can provide progress at the student's individual pace and provide more repetition opportunities. In addition, it can save time and space due to the potential to always be with the learner, especially in terms of learning. However, since class control is not established for the same reasons and the given coding will only be in the extent of processing the subject, it can bring about problems in both classroom management and communication (Atal and Kızılışıkoğlu, 2022; Can and Gündüz, 2021; Cooper et. al., 2019; Erbaş and Karakaş, 2021; Gültekin, 2020; Karadoğan, 2019; Karagöz, Mirçık and Sakan,2016; Richer et. al., 2022; Stavrouila et. al., 2019; Theelen et. al., 2020).

The final finding of the research is that school administrators can supervise virtual teachers with an implementing system. However, school administrators stated that virtual teachers can be supervised by law, by determining criteria, by listening to lessons, by experts, through parents, by comparing with normal classes, while some of them stated that they cannot be supervised. Supervision can be considered as an important mechanism in the successful completion of education. In this supervision, in traditional classes, the participation of school administrators in lessons, the provisions of supervision by law, and parent satisfaction are important. It can be considered that the answers given by school administrators are a reflection of this situation. On the other hand, it is also obvious that experts should initially determine criteria for auditing artificial intelligence, especially in education, and that auditing should be carried out according to these criteria (Alaca et. al., 2021; Calvert, Deane and Barrett, 2020; Çankırlı, 2022; Çetin and Konan,

2020; Durak, 2017; Jencius and Baltrinic, 2016; Karadağ, 2021; Kaya, Dilekçi and Limon, 2023; Vito, Brunskill and Lindsey, 2023; Yang et. al., 2021). It is thought that the answers given at this point reflect this situation.

5. Conclusion and Recommendations

As a result of the research concluded to examine the opinions of school administrators about virtual classroom teachers and virtual classroom applications, it was concluded that school administrators stated that the virtual classroom was carried out in an online environment, that the infrastructure needed to be provided, that they throughout that there could be no virtual teachers, that virtual teachers would not have emotions, and that supervision should be done with an implementing system. It is possible to make the following recommendations regarding the results obtained from the research.

- Providing school administrators with the necessary information about virtual teachers and virtual classrooms,
- Providing technological infrastructure,
- In particular, testing the hybrid education system in the education system can be recommended.

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Conflict of interest

There is no conflict of interest among the authors or with any institution.

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