

## EXAMINING THE VIEWS OF SCHOOL ADMINISTRATORS IN TRNC WORKING AT PRIMARY EDUCATION LEVEL ON THE USE OF ARTIFICIAL INTELLIGENCE

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### ABSTRACT

This study aims to investigate the views and perspectives of primary school administrators affiliated with the Ministry of National Education in North Cyprus regarding the use of artificial intelligence (AI) technology in education. A qualitative research approach was employed, utilizing a case study design. The study group consisted of primary school principals and assistant principals working under the Ministry of National Education. Data were collected using a semi-structured interview form, and the data were analyzed through descriptive and content analysis techniques.

The findings indicate that school administrators believe artificial intelligence should be used more effectively and efficiently in education. However, they also emphasized that the areas in which AI could be integrated in schools need to be expanded and supported by improving the physical and technological infrastructure. Consequently, it is suggested that the roles of school administrators in promoting the use of AI should be strengthened through in-service training programs, and that further studies are needed to encourage the broader adoption of AI by teachers.

Additional research could focus on enhancing the existing physical and technological infrastructure of public schools in North Cyprus. Moreover, further studies could be undertaken to design AI applications developed by the Ministry of National Education to support school administrators, teachers, and students in practice. Researchers are encouraged to replicate this study with a larger sample using mixed research methods and to compare the results with the findings of the present study. Finally, more comprehensive studies could be conducted to examine the opinions and attitudes of teachers and students regarding the use of artificial intelligence in education under the same research theme.

**Keywords:** North Cyprus, Primary Education, School Administrator and Artificial Intelligence.

### INTRODUCTION

As technology advances rapidly, the concept of artificial intelligence has recently entered our lives and started to manifest itself in the field of education. Artificial intelligence, in the shortest and simplest definition, is a set of systems that can imitate human intelligence and improve itself by repeating the information that it collects with new inputs. The most important feature that distinguishes artificial intelligence from other technologies is its ability to imitate human intelligence. The term artificial intelligence, coined in the 1950s, was first used for the development of algorithms and calculations. According to many theories, the aim of artificial intelligence is to imitate human intelligence through computers.

The concept of artificial intelligence was first introduced by John McCarthy in 1956. According to his definition, cognitive behaviors of human nature can also be performed by machines. High-level cognitive skills such as problem solving, reasoning, and reasoning reveal artificial intelligence through effective computer programs. The first commercial robot built in 1961 can be given as an example of a computer program. The artificial intelligence robots developed in 1968 began to be able to read or translate in foreign languages. Between 1986 and 1993, Honda company started the first humanoid robot studies and formed the basis of robots that can communicate with their environment. In 1997, Deep Blue, an artificial intelligence engine developed on chess, defeated Kasparov, the world number one in chess tournaments, which was considered revolutionary in the development of artificial intelligence technologies. In

2001, again through Honda, artificial intelligence robots with movement capabilities were produced. This work, which again represented the pioneering of humanoid robot work, was the most important leader of all artificial intelligence technologies to be developed in the coming years. Between 2009 and 2015, Google experimented with driving without a driver, pedals and steering wheel. In 2017, the AlphaGo artificial intelligence robot produced through the DeepMind company defeated Lee Sedol, the world champion in this field. The chronological ranking of artificial intelligence from past to present is shown in the form of a table in Figure-1.

**Figure 1. Stages of Artificial Intelligence**

Year	Artificial Intelligence Robot	Enhanced Features
1952 - 1957	IBM 704	The first computers that could play chess.
1961	UNIMATE	Industrial robot enabling automation.
1968	OCR -MT	Computer robots capable of scanning printed and written texts and translating into foreign languages.
1986 - 1993	E series - EO	Humanoid robots with human characteristics.
1997	DEEP BLUE	AI-powered chess engine capable of completing complex strategy games at an advanced level.
2000	ASIMO	A humanoid robot that can perform human movements and is an improved version of its predecessors.
2009	WAYMO	A vehicle that can go completely driverless with autonomous driving technology.
2017	ALPHAGO ZERO	Unlike others, the artificial intelligence robot built as a Go player is the first robot to create strategies through trial and error.

Three concepts stand out for future artificial intelligence, which are *artificial general intelligence* that is not limited to certain areas, *artificial super intelligence*, which refers to artificial intelligence with a higher level of intelligence than humans, and *singularity*, which refers to artificial intelligence producing more intelligent and autonomous artificial intelligence and becoming autonomous. Based on these three concepts, it is possible to state that artificial intelligence may be cognitively superior to humans in the future (Çetin, 2021).

Ensuring the most effective use of artificial intelligence applications in education is one of the important issues discussed today. The fact that artificial intelligence applications offer students the opportunity to learn as per their own level and learning speed is considered as the biggest advantage of these applications (İşler, 2021). Artificial intelligence increases educational diversity, educational equality, educational experiences, and the opportunities available in education. Such technologies can support educational administrators to a certain extent in their administrative work. Hence, administrators can use their time more effectively and find more time for the necessary endeavors for better education while improving the quality of education.

Artificial intelligence technologies allow the customization of educational materials based on student abilities, habits and learning styles to ensure better individual progress with the right analysis, results and steps. Tailor-made materials would help to save time by creating the necessary materials easily. Among the prominent benefits of artificial intelligence applications are that they offer excellent observations and results very quickly and at minimal cost (Uzun and Öztürk 2021).

### AIM OF THE RESEARCH

This study aims to evaluate the way and level of artificial intelligence of primary school administrators affiliated to the Turkish Republic of Northern Cyprus (TRNC) Ministry of National Education (MEB), their usage areas and their opinions on this issue respectively. Therefore, the objective is to reveal the effects of school administrators' use of artificial intelligence on students, school and environment, the aspects reflected on education and the purposes of artificial intelligence technologies in education. Thus, the general research question of the study was determined as "What are the opinions of school administrators working at the primary school level on the use of artificial intelligence?". In this context, based on the general research question, the sub-objectives of the study can be listed as follows:

### Sub Objectives

1. What are the opinions of school administrators working in schools affiliated to the TRNC Ministry of National Education in the 2024-2025 academic year on the use of artificial intelligence technologies in the field of education and educational administration?
2. What do they think about the areas in which artificial intelligence can be used in educational administration?
3. What are the areas where artificial intelligence is most needed in educational administration?
4. What advantages and disadvantages can artificial intelligence bring when used in educational administration?
5. What are the roles of school administrators in the use and dissemination of artificial intelligence?
6. What changes may occur in the duties and responsibilities of school administrators with the use of artificial intelligence in the management of education?

### METHOD

#### Research Model

This research was conducted to examine the views of school administrators working at the primary level in the TRNC regarding the use of artificial intelligence using a qualitative research method. Qualitative research seeks to understand the underlying reasons behind social realities and human behavior, employing qualitative data collection methods such as observation, interviews, and document analysis (Gürbüz & Şahin, 2014). Unlike quantitative research, qualitative research emphasizes the process rather than the outcomes, aiming to uncover the deeper realities embedded in human behavior and phenomena. In this study, a case study design was adopted as the qualitative research approach. A case study is a methodological approach that involves an in-depth examination of a bounded system, using multiple data collection tools to systematically gather information about how that system operates (Chmiliar, 2010). Accordingly, this study focused on obtaining rich and detailed information about the topic through in-depth analysis.

#### Study Group and Sample

A study group is formed where it is not possible to collect information from the entire population. While quantitative research focuses on generalization and large samples, qualitative research aims to conduct in-depth studies on smaller and more specific sample groups. In this type of research, sample selection focuses on identifying individuals who can best explain the research problem and contribute to its solution (Baltacı, 2019). Moreover, it is important to establish a trust-based relationship with participants in qualitative research.

In terms of this study, the sample was selected with "purposive sampling" method that allows the selection of participants who can best answer the research questions and is a common approach in qualitative research (Yıldız, 2017). In addition, "Snowball Sampling" method was also preferred to expand the study group and reach the appropriate participants. The study group of the research consists of 20 school administrators working in the Nicosia district of the Ministry of National Education in the TRNC.

#### Data Collection Tool

In this study, semi-structured interviews—one of the common interview techniques in qualitative research—were used as the primary data collection tool. Although the questions in semi-structured interviews are prepared in advance, they can be adapted and expanded during the interview based on the direction of the conversation. This flexibility allows the researcher to obtain more in-depth and relevant responses. The aim of using the semi-structured interview form in this study was to determine the views of school administrators working at the primary level in the TRNC on the use of artificial intelligence. The questions in the interview form were designed as open-ended, allowing respondents to express their thoughts freely and in as much detail as they wished. In addition to the semi-structured interviews, a literature review was also conducted to support the data collection process. The interview form included the following guiding questions: Are artificial intelligence technologies used in the field of education and educational administration in your school?; In which areas do you think artificial intelligence can be used in educational administration?; What are the areas where artificial intelligence is most needed in educational administration?; What advantages and disadvantages might artificial intelligence bring when used in educational administration?; What are the roles of school administrators in the use and dissemination of artificial intelligence?; and What changes may occur in the duties and responsibilities of school administrators with the integration of artificial intelligence? The interview form was developed with input from five experts in the field, ensuring its relevance and clarity. With the approval of the Ministry of National Education, a total of 20 school administrators were interviewed as part of this research.

#### Data Collection

The required permissions were obtained from the TRNC-MEB Primary Education Department, and an application with complete documents was submitted to the University of Mediterranean Karpasia Institute of Social Sciences Ethics Committee for the ethical approval. Following the approval of the Ethics Committee (Annex-1), twenty

administrators of the various primary schools in the Nicosia district were contacted within the scope of the study and their interviews were conducted with the relevant forms.

### Data analysis

The interviews were analyzed with qualitative data analysis method as one of the data collection tools. Descriptive analysis was chosen for systematic, understandable and direct monitoring of study data. Content analysis method refers to the in-depth examination and organization of qualitative and quantitative studies conducted independently of each other on a particular subject or field. Thus, general trends in that subject or field are determined. The results obtained in this method are expected to guide future studies planned for the targeted topics (Ültay & Akyurt, 2021). The study data were thematized to be analyzed in detail depending on the questions used in the interview process. The emerged themes were obtained by evaluating the data collected after the interviews with school administrators and were analyzed in 7 different dimensions through seven different tables.

### Validity and Reliability

Qualitative research aims to clarify a specific topic in depth. The universal rules on validity and reliability under qualitative research requires the objective judgments for such research. The study data was analyzed with the aim to ensure the validity of the data, and the experts were consulted accordingly. Since qualitative methods are not based on numerical values and objective criteria, the answers in this method are generally not objective and the findings cannot be tested numerically (Houser, 2016). The absence of a strategy that can ensure the reliability and validity of qualitative research leads to criticism whether information from such research is scientific (Coşkun, 2022). Hence, the study information generated with data was revised and the results were described.

### FINDINGS

This section covers the findings obtained by the in-depth analysis of the study data. The relevant information was divided under seven themes, which are presented as the following tables.

**Table 1.** Assessment of demographic information of the school administrators in the study group

Themes	F (n:)	%
<b>Gender</b>		
Male	8	40
Woman	12	60
<b>Age</b>		
Below 30	-	-
between 31-35	2	10
between 36-40	4	20
between 40-45	7	35
Above 46	7	35
<b>Position</b>		
Principal	8	40
Deputy Principal	12	60
Branch Teacher	3	15
Classroom Teacher	17	85
<b>Post-Graduate Education</b>		
Yes	9	45
No.	11	55
<b>Experience as School Principal</b>		
0-5 years	6	30
6-10 years	2	10
11-15 years	-	-
16-20 years	-	-
21-25 years	-	-

**Experience as deputy principal**

0-5 years	10	50
6-10 years	1	5
11-15 years	-	-
16-20 years	-	-
21-25 years	1	5

**Participation to Seminars on the Use of Artificial Intelligence**

Yes	1	5
No	19	95
<b>TOTAL</b>	<b>20</b>	<b>100</b>

In the study, the characteristics of school administrators working in different primary schools in Nicosia district were analyzed. Data on demographic information of school administrators are given in Table 1. It was determined that 60% of the administrators were female and 40% were male. 40% of the participants were principals and 60% were deputy principals. Among the participants, 30% of the principals' years of service were between 0-5 years, 10% between 6-10 years, 50% deputy principal's years of service were between 0-5 years, 5% between 6-10 years and 5% between 21-25 years. While 15% of the school administrators worked as branch teachers, 85% of them worked as classroom teachers. School administrators with postgraduate education constitute 45%, while those with bachelor's degree constitute 55% of the total. School administrators who attended a seminar on artificial intelligence were found to be 5%.

**Table 2.** Evaluation of the Use of Artificial Intelligence in Education and Administration in the Century We Live in

<b>Themes</b>	<b>F (n:)</b>	<b>%</b>
Effective and efficient use in education	10	23,8
Limited area of use in management	4	9,5
Use in management is necessary and efficient	12	28,6
Learning processes should be controlled	4	9,5
Use of artificial intelligence in homework should be controlled	1	2,4
There should be a principle of student relativity	4	9,5
Positive learning environment for the teacher	3	7,1
Use of artificial intelligence in education should be improved	4	9,5
<b>TOTAL</b>	<b>42</b>	<b>100</b>

As seen in Table 2, most of the school administrators stated that the use of artificial intelligence in education and management is necessary, efficient and effective. A certain number of them agree that the area of use in management is limited, learning processes should be controlled and there should be a principle of student relativity. A minority stated that it provides a positive learning environment for the teacher and that artificial intelligence should be controlled in homework assignments.

When the table is analyzed, 28,6% of the school administrators stated that the use of artificial intelligence in management is necessary and efficient, 23,8% stated that it is effective and efficient, 9,5% stated that the area of use in management is limited, it should be controlled in learning processes and there should be a principle of student relativity. 7,1% of the participants stated that artificial intelligence provides a positive learning environment for the teacher and 2,4% stated that the use of artificial intelligence in homework should be controlled.

**Table 3.** Evaluation of the Areas where School Administrators Use Artificial Intelligence in the Management Dimension in their Schools

<b>Themes</b>	<b>F (n:)</b>	<b>%</b>
Preparation of the curriculum	8	16,3
Teachers' course allocations	4	8,2
Communication and decision-making processes		
Language education practical courses	1	2,1
Increasing the use of educational technologies	4	8,2
Communication and decision-making processes	8	16,3

Execution of school management economy	4	8,2
Tracking students' attendances	6	12,2
Entering students' exam grades into the system	2	4,1
Making official correspondence	3	6,1
Monitoring and evaluating the education process	9	18,4
<b>TOTAL</b>	<b>49</b>	<b>100</b>

According to Table 3, school administrators stated that they mostly use artificial intelligence in monitoring and evaluating the educational process, preparing curricula, communication and decision-making processes and creating student attendance schedules.

However, the distribution of the areas where school administrators use artificial intelligence is as follows. 18.4% of the participants stated that they use artificial intelligence in following and evaluating the education process, 16.3% in preparing the curriculum and communication and decision-making processes, 12.2% in following students' attendance schedules, 8.2% in teachers' course distributions, increasing the use of educational technologies, executing school management economy, 6.1% in official correspondence, 4.1% in entering students' exam grades into the system and 2.1% in language education applied courses.

**Table 4.** Evaluation of the Areas Where School Administrators Need Artificial Intelligence in the Schools Where They Work

Themes	F (n:)	%
Providing facilities related to educational technologies	6	15
In-service training on the use of artificial intelligence	1	2,5
Data entry of school staff	3	7,5
Preparation of course programmes	3	7,5
Monitoring and evaluation of student performance	14	35
Data entry of student families	4	10
Evaluation of teacher's performance	9	22,5
<b>TOTAL</b>	<b>40</b>	<b>100</b>

According to Table 4, most of the school administrators stated that artificial intelligence is most needed in monitoring and evaluating student performance and evaluating teacher performance.

When the table is examined, 35% of them reported that they needed in the areas of monitoring and evaluating student performance, 22,5% in the areas of evaluating teacher performance, 15% in the areas of providing facilities related to educational technologies, 10% in the areas of data entry of student families, 7,5% in the areas of data entry of school staff and preparation of course programmes, and 2,5% in the areas of organizing in-service training on the use of artificial intelligence.

**Table 5.** Evaluation of the Advantages and/or Disadvantages of the Use of Artificial Intelligence in the Educational Management Dimension in the Institutions where School Administrators Work

Themes	F (n:)	%
<b>Advantages</b>		
Time management	13	16,9
Evaluation	6	7,8
Follow up of the education technologies	5	6,5
Facilitating the follow up for the teacher	7	9,1
Increasing the effectiveness in education	12	15,6
<b>Disadvantages</b>		
Cyber Security	2	2,6
Protection of personal data	3	3,9
Being outdated	6	7,8
Decrease in thinking and creativity	8	10,4
Addiction of artificial intelligence technologies	7	9,1
Decrease of the effectiveness of the human factor	8	10,4
<b>TOTAL</b>	<b>77</b>	<b>100</b>



When Table 5 is analyzed, it is seen that the advantages of using artificial intelligence in the dimension of educational management are mostly stated as time management and increased efficiency in education. On the other hand, the disadvantages are mostly defended as the decrease in thinking and creation skills, the decrease in the effectiveness of the human factor and the dependency of artificial intelligence technologies.

When the table is analyzed, regarding the advantages of using artificial intelligence in the educational management dimension, 16.9% stated that it provides time management, 15.6% stated that it increases efficiency in education, 9.1% stated that it provides ease of follow-up for teachers, 7.8% stated that it provides evaluation, and 6.5% stated that it facilitates the follow-up of educational technologies. As for the disadvantages, 10.4% stated that it decreases thinking and creation skills and reduces the effectiveness of the human factor, 9.1% stated the addiction on artificial intelligence technologies, 7.8% stated being outdated, 3.9% stated the protection of personal information and 2.6% stated that syber security might not be ensured.

**Table 6.** Evaluation of the Roles of School Administrators Regarding the Use and Dissemination of Artificial Intelligence in the Century We Live in

Themes	F (n:)	%
Organization of in-service trainings	11	32,4
Increasing the use of AI by teachers	12	35,3
Guiding the teachers and students	7	20,6
Ethical and effective use of AI	4	11,8
<b>TOTAL</b>	<b>34</b>	<b>100</b>

When Table 6 is analyzed, it was mostly reported that school administrators has the biggest role for the use and dissemination of artificial intelligence on increasing the use of artificial intelligence by teachers and organising in-service trainings.

When the table is analyzed, 35,3% of the participants stated that the roles of school administrators are to increase the use of artificial intelligence by teachers, 32,4% in the organization of in-service trainings, 20,6% in guiding teachers and students, and 11,8% in the ethical and efficient use of artificial intelligence.

**Table 7.** Evaluation of the Change that the Use of Artificial Intelligence in the Field of Educational Administration will Create in the Duties and Responsibilities of School Administrators

Themes	F (n:)	%
Saving time for education	9	20,5
Reducing the workload of the manager	8	18,2
Providing fast access	4	9,1
Following and using technology closely	12	27,3
Increasing supervision	3	6,8
Data being easily accessible	5	11,4
Giving importance to communication	3	6,8
<b>TOTAL</b>	<b>44</b>	<b>100</b>

When Table 7 is examined, it is seen that the use of artificial intelligence in the field of educational administration is mostly reported by school administrators as the necessity to follow and use technology closely, saving time for education, and changes in their duties and responsibilities.

When the table is analyzed more closely, 27.3% of the participants stated that it is necessary to follow and use technology closely, 20.5% stated that it saves time for education, 18.2% stated that it reduces the workload of the administrator, 11.4% stated that data is easily accessible, 9.1% stated that it provides fast access, 6.8% stated that it increases supervision and gives importance to communication.

## DISCUSSION

It was reported by the school administrators participating in the research that the efficient use of artificial intelligence in the field of education and management in our schools in the current century is necessary and effective in education. However, while using artificial intelligence technologies, learning processes should be controlled, homework should be supervised, and the principle of student relativity should be taken into consideration. In its current state, the use of artificial intelligence technologies in administration remains limited, and its use should be improved in education.

School administrators can use artificial intelligence technologies in schools to monitor and evaluate the educational process, and can use them in preparing lesson programmes, communication and decision-making, and follow-up schedules for student attendance. Artificial intelligence will provide various benefits such as autonomous execution of archive work and procedures, elimination of problems related to personnel change, accurate, fast and easy access

to archives (Öztürk, H. 2021). Benefiting from these factors in education will carry us forward. Increasing the use of educational technologies can also show itself in other areas such as executing school management economy, conducting language education applied courses and conducting official correspondence.

Artificial intelligence is seen as a technology needed in the evaluation of teacher performance in schools when the opinions of school administrators are analyzed. It enables in-service trainings, data entry of school staff, preparation of course programmes, student follow-up and evaluation, and data entry of parents.

Artificial intelligence technologies have various advantages in education. Today, in research on artificial intelligence in education, a wide variety of applications are encountered in almost every field, not only knowledge-based, but also data and logic-based artificial intelligence and artificial intelligence applications. These include personalized teaching systems, exploratory education, data mining in education, student article analysis, intelligent agents, chatbots, education for children with special needs, child-robot interaction, assessment system based on artificial intelligence, automatic test creation systems. These areas are primarily related to supporting learning (İncemen and Öztürk 2024). In the educational management dimension, the participants reported that these applications provided advantages in time management and increased productivity in education.

On the other hand, as one of the weaknesses of artificial intelligence technologies, it has been stated that it reduces the effectiveness of the human factor and causes a decrease in thinking and creation skills. Protection of personal data, inadequacy of cyber security, dependency of artificial intelligence technologies are considered as other disadvantages. According to the participants in the study, it is among the duties of school administrators to ensure ethical and efficient use of artificial intelligence technologies in the use of artificial intelligence technologies, to organise in-service trainings on the subject, to provide guidance to teachers and students to increase the use of artificial intelligence and to provide support to teachers.

When artificial intelligence is used in the management dimension of education, it saves time for school administrators and education by providing fast access and increases the ability to follow and use technology closely. One of the strengths of artificial intelligence technologies is to be able to access data easily by alleviating the workload of the administrator.

With artificial intelligence systems, changes have occurred both in the type of people expected to be trained by the education system and in the way education functions. With this change, educators are the most important segment that needs to adapt to new educational goals and the way of functioning. All stakeholders involved in the education system, especially school administrators, branch teachers, and classroom teachers, should have the skills to use artificial intelligence systems and work in harmony with artificial intelligence systems (Demir, 2019).

Since artificial intelligence systems used in education analyze big data obtained from students, they can provide more detailed results than classical evaluation methods (Coşkun & Gülleroğlu 2021). While the use of systems based on artificial intelligence provides many advantages in terms of the quality of education, a system in which teachers are out of the way and based only on artificial intelligence will not be functional. Because although artificial intelligence systems act as personal teachers, they can sometimes give incorrect results for more specific situations because they are based on big data analysis (Chassignol et al., 2018).

## RESULTS

In this study, the opinions of school administrators, principals and deputy principals working in primary schools affiliated to the Ministry of National Education in TRNC were analyzed. Within the scope of the research, data were collected from 8 school principals and 12 deputy principals working at the primary education level to reveal the 'Researching of the Opinions of School Administrators Working at the Primary Education Level in TRNC on the Use of Artificial Intelligence'. In the study, the case study model, one of the qualitative research designs, was adopted to examine the situation in schools. In the data collection process, a semi-structured interview form prepared for the participants to answer the interview questions as well as demographic information was used. The analysis of the data was carried out by coding and analyzing the themes using qualitative data analysis techniques.

According to the results of the research, school administrators think that artificial intelligence should be used more effectively and efficiently in the field of education. In addition, in the educational management dimension, they stated that the necessity of the use of artificial intelligence in the century we live in is increasing day by day and when it is used correctly, they think that it will increase efficiency in the management dimension of educational institutions. Considering the differences between male and female participants and years of service, it is observed that everyone generally has an opinion that the use of artificial intelligence in the field of education increases student and administrator motivation.

It has been concluded that the areas where school administrators use artificial intelligence in the administrative dimension in the schools where they work are the preparation of course programmes, determining the course



distributions of teachers, monitoring and evaluating the education process, following the attendance schedules of the students, entering the exam grades of the students into the system, and making official correspondence.

The school administrators stated that the areas where they need the use of artificial intelligence in the schools where they work; the opportunities related to educational technologies should be improved based on the physical and technological infrastructure of the schools related to educational technologies. It was concluded that data on monitoring and evaluating student and teacher performance should be accessed.

The advantages of using artificial intelligence in the schools where school administrators work, especially in the management dimension of educational institutions; It has been concluded that it increases efficiency in education, enables them to reveal time management more effectively and efficiently, and provides the teacher with ease of follow-up in the process. From this point of view, it was concluded that the decrease in the effectiveness of the human factor related to the disadvantages, the increase in the dependency of artificial intelligence technologies, and the decrease in thinking and creation skills occurred.

It was mentioned that in-service trainings should be organized for the roles of school administrators regarding the dissemination of the use of artificial intelligence and new studies should be carried out to increase the use of artificial intelligence by teachers. In addition, teachers are expected to guide students more actively in the learning and teaching process based on the constructivist learning approach.

It has been concluded that the changes that will be created on the duties and responsibilities of school administrators due to the use of artificial intelligence at the level of education management will ensure that the technology is closely followed and used, the loss of time in education is eliminated, as well as the reduction of the workload of school administrators, and finally, the access to data will be faster and easier.

## Recommendations

### Recommendations regarding the Research

- Studies can be carried out to improve the existing physical and technological infrastructure of schools.
- In-service training processes that can be effective and efficient can be planned to improve the skills of school administrators regarding the use of artificial intelligence.
- Studies can be carried out to design artificial intelligence applications that can be used by school administrators, teachers and students in schools by MoNE and to support them in practice.
- The process can also be supported by in-school trainings organized by school administrators for teachers.

### Recommendations for the Researcher

- The results and findings obtained by addressing the same and similar research topics in a larger sample of participants using mixed research method can be compared with the findings determined in the current study.
- A more differentiated and comprehensive study can be conducted by measuring or examining the opinions or attitudes of teachers and students regarding the use of artificial intelligence in education under the same study title.

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