

Evaluation Of School Administrators 'Views On The Use Of Technology In Education: A Content Analysis

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Abstract

In this research, the studies of school administrators examining the thoughts about technological integrations in the field of education and training; how it is distributed according to the types of research and data collection tools used according to the number of institutions and their distribution. The main purpose of the study is to examine school administrators' views on the use of technology in education through different variables. The content studies of the school administrators conducted in our country, published between 2008 and 2020 on the use of technology in education were examined. The data were obtained from studies in which school administrators had opinions on technology. These studies 39% of these studies are quantitative, 35% qualitative and 26% are mixed-method studies. In accordance with the data obtained, distributions for different variables are categorized. This current study was designed with content analysis research pattern from qualitative research approaches and according to the findings of the study, it was classified according to teachers' technology-oriented analysis in education, the subjects and year of the articles. According to the index it was scanned, the tags were created in excel tables and their characteristics such as article type, method, data collection tools, data analysis were determined and classified as graphics and tables. Analysis of graphics and tables, comparison and interpretation of the results were made.

Keywords: *Spatial relations, spatial abilities, geometric habits of mind, geometry education.*

Okul Yöneticilerinin Eđitimde Teknoloji Kullanımına İliřkin Görüşlerinin Deđerlendirilmesi: İerik Analizi

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Öz

Bu arařtırmada, okul yöneticilerinin eđitim ve öğretim alanındaki teknolojik entegrasyonlara ilişkin düşüncelerini inceleyen çalışmalar; kurum sayısına ve dağılımına göre kullanılan araştırma ve veri toplama araçlarının türlerine göre nasıl dağıtıldığı. Arařtırmanın temel amacı, okul yöneticilerinin eđitimde teknolojinin kullanımına ilişkin görüşlerini farklı deđişkenler üzerinden incelemektir. Eđitimde teknolojinin kullanımına ilişkin 2008-2020 yılları arasında yayımlanan ülkemizde okul yöneticilerinin içerik çalışmaları incelenmiştir. Veriler, okul yöneticilerinin teknoloji konusunda görüş sahibi olduđu arařtırmalardan elde edilmiştir. Bu çalışmaların% 39'u nicel,% 35'i nitel ve% 26'sı karma yöntem arařtırmalardır. Elde edilen verilere göre farklı deđişkenler için dağılımlar kategorize edilmiştir. Bu çalışma nitel araştırma yaklaşımlarından içerik analizi araştırma deseni ile tasarlanmış ve arařtırmanın bulgularına göre öğretmenlerin eđitimde teknoloji odaklı analizlerine, konularına ve makalelerin yıllarına göre sınıflandırılmıştır. Tarandıđı indekse göre etiketler excel tablolarında oluşturulmuş ve makale türü, yöntemi, veri toplama araçları, veri analizi gibi özellikleri belirlenerek grafik ve tablolar olarak sınıflandırılmıştır. Grafik ve tabloların analizi, sonuçların karşılaştırılması ve yorumlanması yapılmıştır.

Anahtar Kelimeler: okul yöneticileri, içerik analizi, teknoloji

Introduction

Technology is encountered in almost every field of our day and societies are affected by the ongoing world competition and today's technology. Education is integrating with technology and even in the age we are in, the bile trainings of social media channels have increased, and with these developments, the expectations of educational institutions increase. In order to provide classroom learning learning experiences, it is necessary to apply to learning environments that reach the sense organs. (Dursun, 2006; Nacak, Bağlama, Demir, 2020). Using technological resources, it enables teachers and students to actively use more than one sense organs. Therefore, the necessity of using technology in education emerges. At the same time, the display of technology, which is indispensable in daily life, in the educational environment, in order to daily life with education, enables the student to achieve the targeted achievements. The motivation of the student, the formation of permanent tracked behavior change enables the teacher and student to develop their skills in using technology. However, it is possible to provide students with learning difficulties to learn with technological support. For example, by preparing a visual and rhythmic presentation for a student whose verbal intelligence is not sufficiently developed, it can be ensured to display permanent track behavior.

When used in teaching and learning, technology makes learning easier to learn and avoids difficulties for teachers. Technology used in schools today, from textbooks to a positive learning climate, to contribute to the equal reach and thinking of the rest of the world (Öznacar, 2018; Demir, 2020; Yücesoy, Demir, Bağlama, Baştaş, Öznacar 2020). Therefore, technology has become a necessity in education. In order to take educational services to a wider audience in a better quality, it is necessary to use all the opportunities of modern educational technologies effectively (Yüksel, 2003). This situation requires teachers to have knowledge and skills about instructional technologies. Increasing and facilitating learning activities in schools, in short, requires them to use these technologies for realization.

Today, both technological developments and information coverage are developing at a very rapid and accurate rate. In the face of this situation, learning-teaching styles are also affected. Some of the qualifications that school principals should have about educational technologies are under-

standing the basic concepts of computer and technology, recognition of basic software and hardware, knowing the features to be considered in the selection and evaluation of software and hardware, develop vision for using technology in school, search and find resources for technology acquisition and identifying the areas of use of technology (Yucesoy and Dagli, 2019).

From the preparation of the materials to be used in the teaching environment to the process of presentation, comprehension and evaluation, it is searched for the technology, the indispensability of the educators, new theories and ways of application. Even new branches of contemporary science are emerging (Sahin,2019). The fact that the teachers do not update themselves in the light of these developments and cannot use the current technologies effectively causes them to face various difficulties. One of the most important of these difficulties is to be able to use technology products in the living spaces of students in accordance with the educational purposes (Gok, Turan and Oyman, 2011).

It is also important for teachers to transfer information as much as information. When presented through the acquired materials, they must transfer the information in accordance with the goals and objectives. In other words, it is very important to prepare content that is suitable for the goals and objectives set. The teachers' inadequate level in the face of technological developments affects the adaptation process negatively. Teachers need to develop new learning and teaching techniques in their adaptation to education and integration with these changes. It is necessary to follow the developments closely. This situation is not only limited to teachers, but also needs and interests of school administrators (Loughran, 2013).

School administrators are required to provide the ground for technology to be used in schools and to support technological advances in their schools. At the same time, school administrators fulfilling their responsibilities in the integration of technology with education will enable the development of education and training. For this reason, it will be very useful to investigate and examine ideas and opinions and to create new materials and presentation techniques in the light of these researches. Starting from the primary education level for the use and dissemination of new technologies in education, studies on transition to technology supported education, providing internet access to each school and producing educational materials suitable for education programs are ongoing (Gok, Turan and Oyman, 2011).

Importance to the use of technology in teaching activities of educational institutions in Turkey is seen that large increases in recent years. Studies are carried out to provide technology with a supportive quality in education. It attaches importance to many projects and studies in order to integrate technology into education. The trainers involved in the training projects are aware of this situation and follow the technology in this field. Access to learning materials suitable for these developments, students' access to information at any time without space and time limitation is revealed. This situation is seen not only for public schools, but also in private institutions, technology is seen to be largely in education. Therefore, changes and new responsibilities have emerged in the roles and responsibilities of school principals, who play a critical role in the integration of technology into education, for the efficient use of technology in teaching and learning (Akcil, Altinay, Dagli and Altinay, 2019).

The use of technologies in the education and training process has brought changes to school programs and a new dimension to the information flow. Technology causes changes in the field of education as in all fields. Especially with the widespread use of the internet, this situation has reached an inevitable dimension. There are four critical steps to integrate with the educational process in the maximum use of technology in the education of children: The selection of the appropriate developmental program, the selection of the appropriate website, the integration of the selected resources with the program and the selection of appropriate information technologies to support the learning experiences (Aktas and Arnas, 2005).

It is a priority to ensure that school administrators actively participate in programs and use technology products in education and training through different disciplines. Teachers' approach to information technologies and changing teacher profile should be brought to a level appropriate for the age. Various researches are carried out in this direction. Compiling and evaluating the researches as a whole and compiling the results provides a new human approach in education as well as creating a modern human profile. It is thought that the data obtained as a result of these studies will be known to prevent existing and potential problems.

Aktaş (2016) examined the technology leadership roles of school administrators in secondary education institutions, and a moderate positive rela-

tionship was found between their attitudes towards the use of technology in education and their competence for using technology in education.

Erdem and Uzal (2018) obtained the views of administrators about the use of technology to improve physics education in high schools, and according to their results, there is no difference between school administrators' views on using technology to improve Physics education and some demographic characteristics; Significant differences were found between the views of managers outside of the Physics and Chemistry branches and with medium knowledge of Physics about the use of technology to improve Physics education. In a study in which Olez and Kılıçoğlu (2018) examined the technology leadership behaviors of school administrators in 2018, the strategic goals of school administrators related to educational technologies, to integrate technology into education and management environments, to ensure the professional development of teachers in the use of educational technologies, to encourage them and to provide the necessary support, It has been determined that they try to cooperate while updating or purchasing technologies, taking care of the needs of the school and creating resources in order to ensure excellence in the use process.

Çalık, Çoban, and Özdemir (2019) investigated the relationship between school administrators' technological leadership self-efficacy and personality traits. As a result of the research, a significant positive canonical relationship was found between the personality traits of school administrators and technological leadership self-efficacy skills. Accordingly, it is understood that school administrators who have high levels of extraversion, compromise, self-discipline and openness to experience have higher technological leadership self-efficacy skills. On the other hand, it was observed that as the neurotic personality level of school administrators increased, technological leadership self-efficacy skills decreased.

Topçu and Ersoy (2020) obtained the Opinions of School Administrators on the Use of Technology in Educational Management, and it was found that school administrators mostly use technology for routine but facilitating and time-saving tasks such as student services, personnel services, and office work. When evaluated in terms of using technology in management processes, it was concluded that the managers participating in the study could not use technology effectively.

Considering all these factors, the need for examining the studies of school administrators on the use of technology in education arises. Many studies are carried out, such as how education and training are undergoing technology integration, what kind of problems arise and what kind of path is followed in the face of emerging problems in order to create a more qualified society. But these studies need to be kneaded together and integrated into a whole. In this study, the researchers conducted in recent years are examined and it is thought that some variables that emerge after this study will shed light on education and training.

The general aim of this study is to examine the articles that examine school administrators' views on technology based on various variables. Based on this general purpose, the articles are evaluated on the basis of the following variables.

1. How is the Distribution of the Managers, whose Opinions are Taken in the Articles, by Institution and Number?
2. How is the distribution of articles according to the published indexes, research types used, and data collection tools?
3. At what level is the distribution of articles by years and writing languages?
4. How are the articles distributed according to their citation rates?

Method

Research Model

In this research, where the school administrators' studies on technology were examined, the data were obtained through the content analysis method. Content analysis is preferred because it is a technique that allows the classification, comparison and interpretation of the texts (Cohen, Manion, & Morrison, 2007). In addition to these features, content analysis has been preferred because it enables to transform similar concepts and themes into a format that the reader can understand (Yildirim, 1999).

Content Analysis Criteria

Google Scholar, ERIC, EBSCO, Ulakbim, Web Of Science, Science DirectSpringer Nature, IndexCopernicus was reached by searching the words

"Technology", "School" and "School Administrators" to reach the studies in which school administrators' views on technology were examined.

Data Analysis

The analysis of the studies were created in the Excel tables according to the subjects, year, index of the articles, and the quantities such as article type, method, data collection tools, data analysis were determined and interpreted as graphs and tables.

Results

Distribution of Articles based on Years and Writing Languages

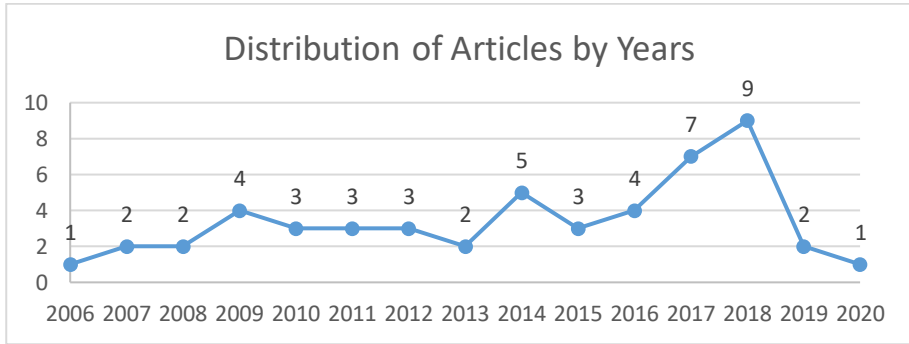


Figure 1. Distribution of Articles by Years

Figure 1 is analyzed, when the distribution of studies where school administrators' views on technology are discussed is analyzed, it is seen that the most published year is 2018. Between the years of 2006-2020, it can be said that 2014 was at a moderate level with 5, and the least publication was 1 and in 2006 and 2020.

Table 1. Distribution of Published Articles According to Writing Language

Language of Articles	Number of Articles Reached	%
Turkish	23	%45
English	28	%55
Total	51	%100

When the distribution of articles in which the school administrators' views on technology are analyzed according to the language of publication is examined, it is determined that the articles in English are more intense with a rate of 55% in Table 1, and articles with Turkish publication language received a rate of 45%.

Distribution of Articles by Published Indexes, Research Types and Data Collection Tools

Table 2. Distribution of the Articles with the Views of School Administrators on Technology

Scanned Index	Number of Articles Reached	%
Ulakbim	23	45,1
ERIC	9	17,6
Science Direct	3	5,9
IndexCopernicus	5	9,8
Web of Science	7	13,7
Springer Nature	4	7,9
Total	51	%100

When we look at the distribution of the articles containing the opinions of the school administrators about the technology according to the indexes they are published, it is seen that the most articles are reached from the Ulakbim index with a rate of 45.1%. The articles in the ERIC index follow the science index with 17.6%. The index with the third highest rate is followed by articles published in Web Of Science with 13.7%. The fourth highest rate was the articles scanned in Indexcopernicus with 9.8. The articles scanned in Springer Nature received the fifth highest rate with 7.9%. The lowest rate is 5.9%, it is seen that the articles scanned in Science Direct index are received.

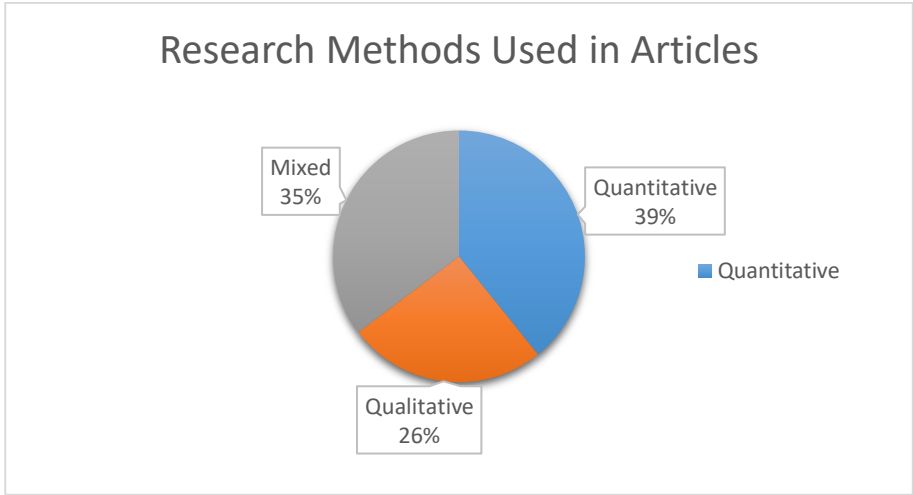


Figure 2. Distribution of Research Methods Used in Articles

When the research methods used in articles containing school administrators' views on technology are analyzed, it is seen that Quantitative researches with a maximum of 39% are included. Quantitative research is followed by Mixed research methods with 35%. The least used research method was found to be qualitative research with 26%.

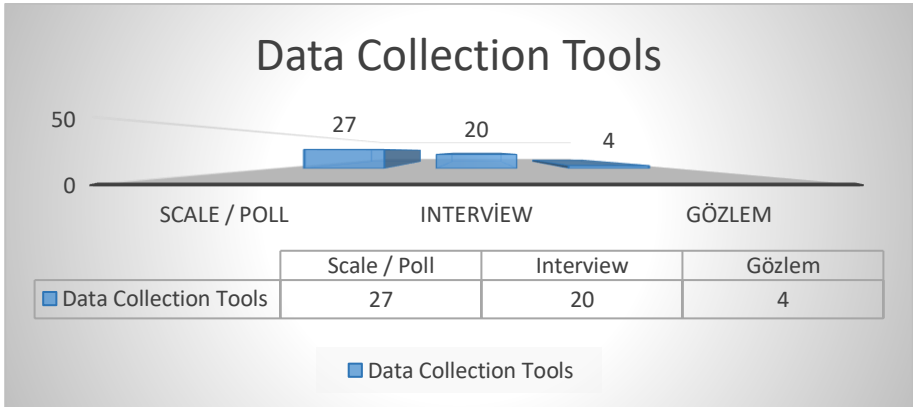


Figure 3. Distribution of Data Collection Tools Used in Articles

Figure 3, the distribution of the data collection tools used in 51 reviewed articles is seen. According to this, the most used data collection tool was determined as Scale / Questionnaire with 27.

Distribution of Managers with Opinions in Articles by Institution and Number

Table 3. Distribution of Managers with Opinions in Articles According to Institutions

Institutions Where Managers Work	Number of Articles	%
Pre-school	7	%13,7
Primary school	10	%19,6
Middle school	16	%31,4
High school	11	%21,6
Higher education	7	%13,7
Total	51	%100

In the studies where school administrators' views on technology are examined, the distribution of the institutions where the administrators work on the articles constitutes the highest rate with 31.4%. The administrators working in secondary schools are followed by the administrators working in High Schools with 21.6%. The third highest rate is the administrators working in primary schools with 19.6%. The lowest rate was determined to be 13.7% with the administrators working in pre-school and higher education.

Table 4. Distribution of Managers with Opinions in Articles According to Institutions

Numerical Range	Number of Managers	%
1-3	8	%40
4-6	11	%55
7-9	1	%5
10 and above	0	%0
Total	20	%100

The numerical ranges of the administrators from the articles in which the opinions of the school administrators about technology are examined are given in Table 4. Accordingly, it is seen that the administrators in the numerical intervals of the administrators in the most articles consist of the administrators in the 4-6 numerical range with a rate of 55%. The second highest rate is seen by the managers in the numerical range of 40 to 1-3%, while the lowest rate is in the range of 5 to 7-9%. In the articles examined, it

was determined that there are no managers in the institutions that the 10 and above range is included.

Distribution of Articles by Citation Rates

Table 5. Citation Rates of Articles

Numerical Range	Number of Cited Articles	%
Citation	35	%68,6
No Citation	16	%31,4
Total	51	%100

Table 5 is examined, it is seen that the citation percentages of 51 reviewed articles are cited by 35 articles containing the views of school administrators about technology.16 The article was determined not to be cited at all.

Conclusion and Discussion

According to the results obtained from the study, it is seen that the least published publication of the year 2018 was made in 2006, while the views of school administrators about technology were examined. (Uzunboylu and Beheshti, 2017), in their content analysis about the infographic, it is seen that the most publication is in 2016. In this study, in which similar years were compared with this study, it was determined that the year of least publication was 2006. the content analysis of master's and doctoral theses in the field of chemistry teaching, he stated that the most published year was 2011, in contrast to the results obtained in this study. It can be said that there are differences in the years of publication according to field studies (Uzunbaz , 2019).

When the publishing language of the articles is analyzed, it is seen that the articles in English are published more predominantly with 55%. In his research on the concept of gamification, (Kunduracioglu, 2018) concluded that, contrary to the result obtained in this study, the Turkish ones of the 42 studies he examined were higher by 57%.

(Konan, 2020) looked at the publication languages of the studies examined in her thesis titled "Content Analysis for Programming Education", concluded that Turkish articles were more intense as the opposite of this research. When we look at the distribution of the articles containing the opinions of the school administrators about the technology according to the

indexes they are published, it is seen that the most articles are reached from the Ulakbim index with a rate of 45.1%. (Konan, 2020), in a study on content analysis for programming teaching, determined that the most publication was in Ulakbim index as if supported this research according to the index published in the studies.

When the research methods used in articles containing school administrators' views on technology are analyzed, it is seen that quantitative research has a maximum of 39 %. (Bicen and Demir, 2020) analyzed the content of the articles in which Augmented Reality in Education and Infographics were used and examined the methods used in the articles, and determined that quantitative researches were used more intensively in the articles as supporting the results obtained in this research. (Rovshenov, 2020) in the study in conducted the content analysis of the studies conducted with programming education, determined that 60% quantitative research was used more intensively, supporting the results obtained in this study.

When the articles were examined, it was determined that 27 of the data collection tools were used the most. (Konan, 2020) In the content analysis in which the studies on program teaching were examined, it was determined that Measurement / Surveys were used to support this study as the most important data collection tools. It was determined that surveys and scales were used the most in the distribution of data collection tools in the studies. (Sert, 2010) Instructional Technology has reached the conclusion that the Field of Publishing were followed Turkey Addressing Articles of content analysis of his research at the most widely used very means that as in arguing for results obtained from research questionnaires and scales.

In the studies where school administrators' views on technology are examined, the distribution of the institutions where the administrators work on the articles constitutes the highest proportion of administrators working in secondary schools with a rate of 31.4%. (Nacak and Yucesoy, 2020) analyzed the content of the studies carried out in the field of Art Education and determined that the studies in the Primary School were more in the opposite direction of this research according to the characteristics of the study groups. In the articles, it is concluded that the ratio of the number of managers in institutions is between 55% and 4-6 numerical ranges. When we look at the distribution of the articles by the number of citations, it is seen that 35 articles have received citations.

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