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To Accept or to Ignore: School Leaders' Reactions to Errors

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ABSTRACT

Errors are present in every organization, or structure involving people. They are inevitable in schools where school leaders, teachers, students, and parents maintain close contact. School leaders are key persons in managing errors effectively. By managing errors, they can turn them into positive consequences like learning, change at school. Error management is not about preventing errors, but about avoiding the negative consequences of errors and reducing their effects. In this regard, this study aims to reveal the views of school leaders regarding error management and strategies in schools through qualitative research administering semi-structured interviews with ten school leaders. Findings indicate that school leaders' dominant perspective on error is that it is accepted, though a few ignore or deny errors. There are individual (neglect, lack of knowledge and skill, state of well-being) and collective (lack of communication, unclear legislation, school culture) sources of errors. The findings of this study have revealed that error management strategies can be categorized before an error (detailed explanation, setting rules, sharing past errors), after an error (immediate intervention, ignorance, enforcing legislation, mediating, taking advice and warning), and in terms of both cases (communicating, tolerant school culture). The participants regard errors as learning, benefit, and change at school. The study concludes that errors can be managed easily when they are seen as a part of human nature.

Keywords: Error management, school leader, sources of errors, error prevention

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Introduction

Error management is an important and concrete element of a healthy organizational culture and is an element that can be included in the culture of organizations. It involves creating an environment where errors are acknowledged, analyzed, and used as opportunities for improvement rather than punished or ignored. In this sense, van Steenbergen et al. (2020) have suggested a framework that includes five key components: Let the group take ownership, engage employees/members, align structure and culture, refocus from person to system, and narrate the best examples. A strong error management culture is critical for organizational success, with key components including the tone, behaviours, and perspective of the management (van Steenbergen et al., 2020). This culture is related to improved employee performance (van Dyck et al., 2005), reduced turnover intentions (Guchait & Pasamehmetoglu, 2016), and increased innovativeness (Fischer et al., 2018). It is characterized by open communication about errors, quick detection and handling of errors, and a focus on system improvement rather than blaming individuals or ignoring errors.

Error management in organizations is a crucial aspect of organizational functioning and can be implemented through culture, which refers to the approach an organization takes towards handling errors within its operations. Seckler et al. (2018) emphasize the need to integrate various perspectives on error management, such as high-reliability organizations and psychological safety. Frese and Keith, (2015) highlighted the differences between error prevention and error management. While error prevention reduces the number of errors in the short term, error management enables long-term learning from errors. While errors decrease quantitatively in a short time in prevention within the scope of error consequences, people discover learning from their errors in the long term with error management. The authors emphasized added that the latter highlights implications for human resources management, job design, total quality management, and organizational culture development. While Frese and Keith (2015) distinguish between error prevention and management, Goodman, et al. (2011) consider the prevention phase as an error management approach. On the other hand, Zhou and Zhang (2024) has underscored the importance of error management in minimizing negative consequences and maximizing positive impacts such as learning and innovation.

Error management strategies encompass a range of approaches aimed at identifying, analyzing, and evaluating errors within an organization. These strategies include preventive, detective, corrective, learning, and cultural aspects. The first aspect focuses on reducing the likelihood of errors occurring in the first place through measures such as training, standard operating procedures, automation, and system redundancies (Reason, 2000). The detective strategies involve actively monitoring for errors through techniques such as peer review, audits, checklists, and incident reporting systems (Leape & Berwick, 2005). Corrective strategies address errors promptly and effectively once they are detected, including actions such as root cause analysis, feedback mechanisms, and process redesign (Carayon & Wood, 2010). The learning strategies emphasize learning from errors to improve future performance, including methods such as debriefing, simulation training, and sharing best practices (Edmondson, 2003). The cultural aspect takes the role of creating a supportive organizational culture that encourages error reporting, transparency, psychological safety, and continuous improvement (Vogus & Sutcliffe, 2007). These strategies are often implemented in combination to create a comprehensive approach to error management within organizations, tailored to their specific contexts and needs.

Organizations with effective error management culture tend to have higher levels of employee engagement, innovation, and resilience, as well as better overall performance. For this reason, making errors is considered a natural phase of progress. As seen, error management culture is an inevitable part of innovation, development, and learning in organizations. In this context, error management at school must be a culture that includes strategies encouraging stakeholders to learn from their errors and to carry the school community forward. In this regard, constructive and encouraging error management strategies like providing support and feedback can enhance a trusting and supportive learning culture at school (Soncini et al., 2022). Divsar and Dolat Pour (2018) also stated that positive error management behaviours contributed to creating a comforting atmosphere and encouraging self-confidence. Therefore, school leaders must provide guidance and support to colleagues by implementing effective error management strategies.

The literature indicates that studies on error management are generally carried out in organizations such as business, health and aviation. However, there is not enough research on error management culture in schools and error management strategies used by school leaders. The school is a dynamic learning environment, where individuals try and make errors. The errors are inevitable at school and must be managed effectively to support stakeholder engagement, innovation, learning, resilience, and better performance. Error management in schools is multifaceted process that falls under the responsibilities of school leaders. Although school leaders can be those who strive for effectiveness in rapidly changing educational contexts, principals no longer function as building managers, being responsible for adhering to rules, carrying out regulations and avoiding errors (Dimmock, 1996). They must be leaders in creating a hospitable climate to ensure safety in education, a cooperative spirit and fruitful interaction, guiding educational stakeholders to assume their parts in realizing the school vision, learning to develop a team delivering effective instruction (Holland et al., 2013). Principals who are responsible for all these areas of duty are referred to as school leaders and in this study, school leader is preferred as a concept that meets principals. School leaders are regarded as key figures in managing errors at educational settings.

Error management culture is a serious issue that needs to be addressed in educational organizations "where the system directly involves human beings and informal relations are highly prevalent. Effective error management supports innovation, creativity, learning and taking initiative in schools, while ignoring or rejecting errors can cause teachers to withdraw, lose their motivation and reduce their commitment (Kurum Tiryakioglu, 2024). Nanto (2021) has also found that effective error management culture in schools positively affects teachers' organizational creativity and work engagement. School leaders' perspectives on errors play a crucial role in effective error management. Principals state that errors sometimes provide learning in schools, but mostly cause negative consequences such as a negative climate, decreased quality of education, loss of labour and time, and punishment (Akuzum & Ozmen, 2013). On the other hand, it is seen that errors in schools are mostly ignored and prevented before they cause a major crisis (Gokturk et al., 2017). Errors are inevitable in a school environment where formal and informal interaction is intense. For this reason, errors can be managed effectively in schools to enable the school community to learn from errors, avoid repetition, and take calculated risks. This study presents a perspective on the change, learning, and innovation understanding of school leaders by revealing the error management process in schools. As a part of error management, school leaders must be role models for teachers on how to take action on errors (Abay& Clores, 2022). Riani and Ain (2022) further underscore the principal's role in improving education quality management, which includes error detection and correction. Hoque et al. (2011) highlight the impact of principals' roles

in school-based management on school improvement, suggesting that strategic planning and comprehensive roles are key in error management. Trail (2000) provides a comprehensive overview of the diverse roles of principals, underscoring their pivotal position in addressing errors and challenges within the school environment. In short, school leaders are key people in managing errors and creating an effective error management culture at school. Their perspective on errors can direct their error management strategies. Their priority should be to turn the errors into innovation, and new learning outcomes and make it sustainable as a school culture. In this context, this study aims to reveal the views of school leaders regarding error management and strategies in schools. The following research questions guide this study:

1. What is the perspective of school leaders on errors at school?
2. What are the sources of errors at school according to school leaders?
3. What strategies do school leaders use in error management?
4. What are the consequences of errors at school according to school leaders?

Method

This phenomenological study aims to uncover the views of school leaders on error management and strategies in schools. This design focuses on phenomena that are known but about which there is no detailed information (Creswell, 2015). Here, this study examines the meaning, structure, and essence of individuals' experiences with this phenomenon. In other words, it is an attempt to describe how people experience the relevant phenomena in a methodological, meticulous, and in-depth manner (Patton, 2014, 104). The phenomenon examined in depth in this research is accepted as the error management strategies of school leaders.

Study Group

The study group consisted of 10 school leaders identified with the criterion sampling method (Patton, 2014, 230-235). The criteria were sought for the participants to have worked as leaders in a public school for at least 5 years to internalize the school culture and know the school community and to study an educational administration graduate program. The study group was reached through voluntary participation. A total of 10 school leaders took part in this study. The personal information of the participants in this study is presented in Table 1.

Table 1. Study group

Participant Code	Gender	Seniority (Total)	Experience as a leader	Education Status	School Level
P1	Male	14 years	Deputy 11 years	Undergraduate	Lower Secondary
P 2	Male	21 years	Deputy 15 years	Undergraduate	Primary School
P 3	Male	26 years	Principal 11 years	Undergraduate	Primary School
P 4	Male	21 years	Principal 13 years	Undergraduate	Upper Secondary
P 5	Female	11 years	Deputy 10 years	Undergraduate	Upper Secondary
P 6	Male	22 years	Deputy 5 years	Undergraduate	Upper Secondary
P 7	Male	10 years	Deputy 9 years	Undergraduate	Upper Secondary
P 8	Female	29 years	Principal 8 years	Undergraduate	Lower Secondary
P 9	Male	23 years	Principal 12 years	Undergraduate	Lower Secondary
P 10	Male	24 years	Principal 16 years	Undergraduate	Lower Secondary

As seen from Table 1, half of the participants are working as principals and the other half are working as deputy principals. Principals and deputies have the role of administration at school. Their point of view on errors can direct the error management strategies at school. Therefore, it was sought to keep the number of principals and deputies as equal as possible. The participants

have administration experience of 11 years on average. Though all of the participants have bachelor's degrees, they are studying at a non-thesis master's degree program in educational administration.

Data Collection

In phenomenological studies, data is usually collected through semi-structured interviews (Biggerstaff & Thompson, 2008). A semi-structured interview form developed by the researcher was used to collect data. The interview form includes personal information, an introductory question, and nine main questions. The questions aim to determine error management strategies and the consequences of errors by revealing the perspective of school leaders on errors. The interviews were conducted via an online meeting platform (Zoom). A pilot interview was conducted to measure the clarity of the questions. The interviews lasted between 20 and 25 minutes. The data were collected between January 16 and February 24, 2022, and this process continued until the data were repeated and saturation was reached (Merriam & Tisdell, 2015). During the data collection phase, participants were given preliminary information about the subject before each interview. In addition, detailed explanations were made regarding ethics. First of all, it was pointed out that participation was voluntary. Participants were informed that personal data were kept confidential and that codes (e.g. P1, P2, etc.) were given to the participant during the analysis, and the interviews were recorded upon their permission.

Data Analysis

Interviews were conducted with school leaders to evaluate their perspectives on errors and error management strategies. The recorded interviews were transcribed, transferred to a computer, and loaded into the NVivo qualitative data analysis program. Since the interview questions were designed based on a review of the literature on error management culture, content analysis was used. Content analysis systematically describes written, oral, or visual materials by organizing them into themes, categories, and patterns in a structured manner (Hanington & Martin, 2019). The themes, categories, and sub-categories created by the researcher were compared and discussed with colleagues until a consensus was reached. These themes and categories are shown in Figure 1.

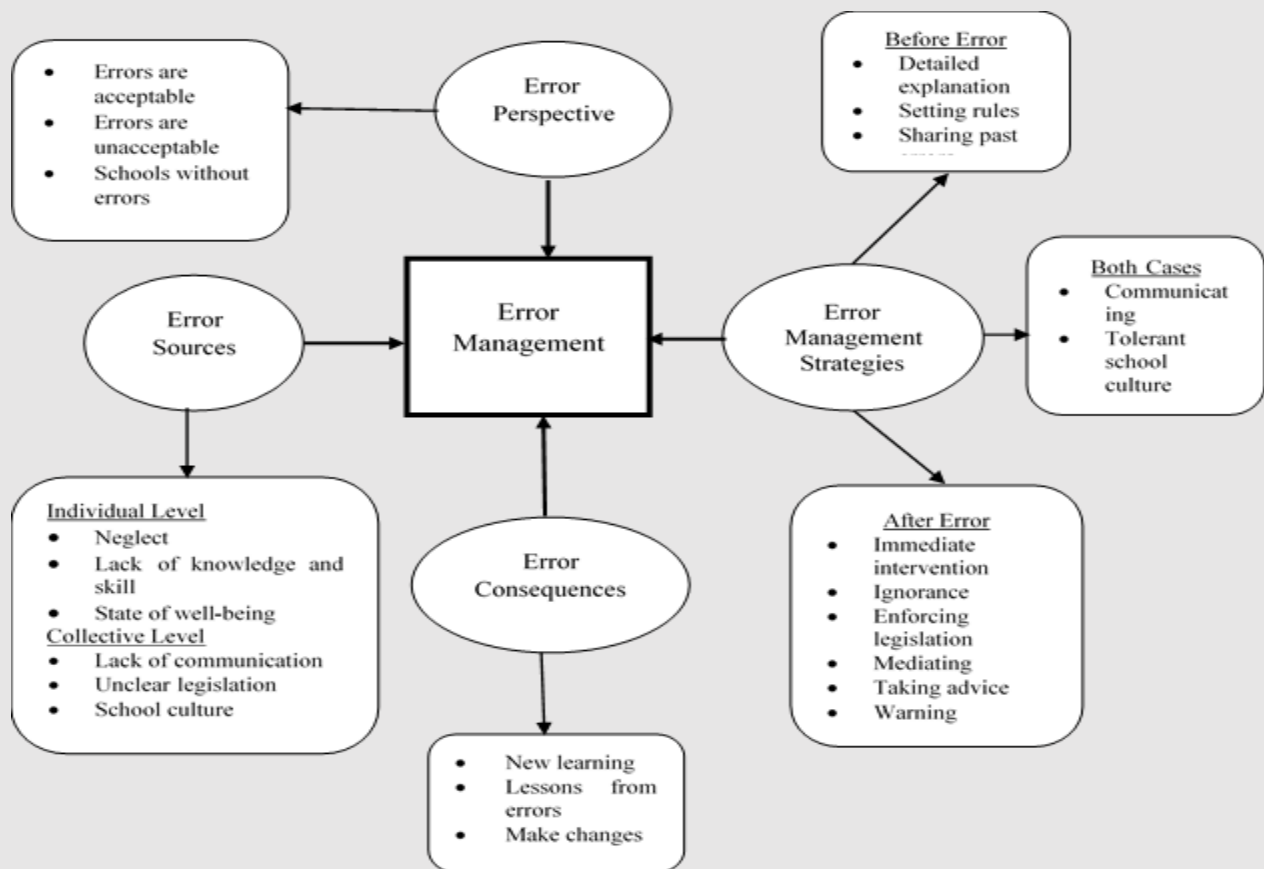


Figure 1. Themes and categories based on analysis

Figure 1 summarizes that there are four themes, 11 categories and 17 sub-categories based on the participants' views. They are interpreted in a descriptive narrative with direct quotations from participants. The quotations are given in italics and the participant's code is presented in parentheses.

Trustworthiness

Ensuring trustworthiness in qualitative research is crucial for credibility and reliability of the results. There are various methods like credibility, transferability, dependability, and confirmability to improve trustworthiness (Ahmed, 2024). Expert opinions were sought for the content validity of the interview form. Additionally, the study group, data collection, and analysis process were clearly explained under detailed subsection. The findings were also supported with direct quotes for the transferability of qualitative research, and the participants were determined using a purposive sampling method. Participants were informed that they could withdraw from the study without giving any reason, based on voluntary participation (Shenton, 2004). In addition, direct quotes from the participants were included while presenting the findings (Yildirim and Simsek, 2011). The data and findings were sent to a participant for review, and feedback was obtained on their accuracy and validity. Member checking (Creswell & Miller, 2000) was also used in the data analysis process to ensure the credibility of qualitative research. During the interview process, the researcher asked questions to the participants as part of the data collection process. To clarify the answers, the participants were occasionally asked to clarify their responses or give concrete examples.

Results

The findings are explained in parallel with the aims. Accordingly, at first participants are asked for their perspective on errors, since error management begins when the school leaders accept the errors. Secondly, the sources of errors are examined based on interviews. According to participants, the errors are resulted mostly from neglect and indifference at school. Thirdly, error management strategies used by school leaders are determined under three categories including before errors, after errors and both cases. Lastly, participants state that errors generally result in new learning for school community. These findings are presented under sub-titles in detail.

Error Perspective

The perspective of school leaders on errors is vital for the operation of the education system, it directly influences their error management strategies. In this context, the participants first responded to the question *“How they reacted to errors in schools”*. Many participants consider that errors are acceptable in schools. In this regard, a school leader (P10) emphasized that *“errors are inevitable. Because here we have approximately 50 teachers working with us. We and our teachers can definitely make errors from time to time”*. Similarly, other school leaders stated that they accepted errors by saying, *“In schools, there is no such thing as a person without errors, it happens everywhere (P2)”*, and *“There are definitely errors where there are people (P5)”*. From this perspective, participants stated that paperwork errors (P1-P4-P10) and system errors (P2-P10) are often made in schools. Teachers can also make errors when entering grades into e-school or school leaders can make errors in official correspondence. On the other hand, not every school leader can be tolerant of errors. Among the participants, there are school leaders who claim that errors are unacceptable or that there are no errors in schools. In this regard, a school leader defends himself with the view that *“errors are not wanted in schools (P6)”*. Another school leader claims that there are no errors in the school with the statement *“... such errors do not come to the agenda. We have not encountered any errors (P1)”*. In short, the participants exhibit three different perspectives towards errors: errors are accepted - errors are not accepted - and errors do not occur.

The Sources of Error

Errors can be made at school. These errors can take different forms such as actions, thoughts, or decisions. The process of managing errors also requires accepting errors and identifying the sources of errors. Participants indicate that errors arise from various factors at individual and collective levels.

Individual sources of error

School leaders believe that errors at school are mostly due to neglect and indifference. Errors are seen especially due to teachers not following the procedures they should do in the e-school system, delaying them and missing their time. Sometimes, neglect cases such as teachers being late for their shift duties or lessons can occur:

P10- *“...it mostly happens in the grades. Teachers enter their exam grades into the e-school system. The system gives them a certain time. Even grades can be entered incorrectly, for example, instead of 100, 10 can be entered”*

The school leaders can also make errors due to disregard or neglect in terms of documents and systems. In this context, the errors made by the participants regarding e-registration, personnel, and extra course payments are as follows:

P2- *“As the school administration, we accidentally enrolled the 42-month-old student in primary school, which is not normally accepted by the system. The student enrolled in first grade. We also missed it. I had not looked at the student's date of birth”*

Teachers or school leaders make errors due to lack of information and skill or technical inadequacy, especially when using the electronic document system, in the e-school process:

P10- *“The Ministry of National Education released a document management system. When there is a new development, there can be technological inadequacies among teachers”*

The state of well-being can negatively affect a person's attention, interest, focus, and comprehension. The person's level of physical and psychological well-being can increase their potential to make errors. It is similar for teachers and school leaders as well:

P4- *“The individual, physical or psychological state of teachers. The same goes for the student. They may make errors because of a problem he is experiencing that day and his current mood.”*

Collective sources of error

Communication is at the core of human relations. However, sometimes the lack of communication between the school leader-teacher-student-parent can cause errors. For this reason, communication problems within the school are seen as a serious source of error:

P10- *“We had printed the certificates of appreciation and achievement a few days before the report card day. At that time, the student was receiving a certificate of achievement in the system. On the report card day, the student came and said, teacher, you gave me a certificate of achievement, but it appeared in e-school that I should have received a certificate of appreciation. We looked at the e-school and asked the teacher. The student deserved to receive a certificate of appreciation. Then we understood that the teacher had entered the system with his password after we printed out the certificate and changed the student's score.”*

Students directly tell their parents about the examples given by the teacher during the lesson, the way they call each other, or the problems they experience during the break, and parents come to school and ask the teachers to account for:

P1- *“The hall monitor cannot be everywhere at all times. He is on duty, but when he turns his back, for example, the student hits the friend in front of him. I see this situation from the camera. But the teacher does not see it. Later, the student tells the parents at home that my friend hit me in front of the hall monitor. This time, the parent comes and demands an explanation from us without understanding or listening.”*

The most common source of collective errors can be resulted from unclear legislation. At this point, a participant, who claimed that subjective factors such as school culture, explains the situation as follows:

P4- *“There is only one regulation. The practices are the same for every school in Türkiye, but every school has its own culture. The implementation of the legislation may vary from school to school, depending on the potential of the student at school or the situation of the teachers.”*

School culture closely affects the practices and functioning of the school. Participants exemplify the errors that arise from differences in culture and context in the school as follows:

P9- *“... each school has its structure. There are schools in the centre where exams (LGS) and education are more of a priority. These schools have a success-oriented culture. But we also know that there is a student profile in these schools that does not match this at all. You understand that this student's psychology and the environment they come from do not match the institutional culture here. For example, in such cases, we cannot take the initiative. We have no authority.”*

Error Management Strategies

Error management does not mean eliminating errors, but rather addressing them and pursuing their consequences (Van Dyck et al., 2005). Error management is important for reducing negative consequences and mitigating their impact. In this context, Frese and Keith (2015) addressed the error management process in organizations in the context of the situation before and after the error. In this study, the strategies used in the error management process in schools were shaped within the framework of Frese and Keith's (2015) understanding of error management. In this context, the participants were asked about the strategies they adopted while managing errors. Error management takes place in two stages: before and after error. Error management strategies, identified through participants' perspectives, are categorized under the following subheadings.

Before Error

Strategies used before errors can be considered as preventing the errors. However, Goodman et al. (2011) consider the prevention phase as an error management approach. School leaders have stated that they use such error management strategies as detailed explanations, setting rules, and sharing past errors before errors. Errors may arise from uncertainty or ignorance. For this reason, providing detailed explanations to stakeholders at school ensures that the given task or responsibility is carried out correctly. The school leader (P4) emphasized the error-preventing feature of detailed explanations with the view that *“This is one of the issues I am most sensitive about. If I have requested something from my friends, I am careful to explain it in too much detail. In other words, I do not use a short sentence like bring this. I explain in more detail, it is much more important to be error-proof.”* Similarly, another participant (P6) stated that official documents should be clearer with the view that *“The biggest source of errors is that the texts are not understood by the teachers. I see this as the biggest problem. I think that the margin of error will decrease if the texts are conveyed to the teachers more shortly and concisely.”*

Managing and reducing errors requires establishing clear rules and ensuring compliance with them (Goodman et al., 2011). School leaders also emphasized that they set clear and explicit school rules in the error management process. This category is exemplified by a school leader: *“The rules need to be clear and explicit. There is no confusion. ...the rules should be clearly and explicitly shown to the teacher. When there is consensus and there are no dual practices, there is no problem (P5).”* Accepting errors and sharing them in meetings are also considered a preventive error management strategy and the participants use this strategy widely. An example from a school leader:

P9- *“We talk about these errors to other friends as a positive example so that similar errors are not made. Our teachers also share their experiences in different schools in this sense. We try to ensure that our teachers learn from errors and be more careful”*

After Error

School leaders have used such strategies as immediate intervention, ignorance, enforcing legislation, mediating, taking advice, and warning after errors. When school leaders encountered errors they first determine the impact of the error. They then intervene and attempt to correct them. This category is explained as follows:

P2- *“Error is not something that is done regularly and intentionally. Since it is something that every teacher can do, we try to solve it without offending. We correct the errors that come to us. Teachers, school administration, parents, students, and everyone who is affected by the error, all sit down*

and think together about how to fix it. Because our first goal is to fix this error as soon as possible with the least damage.”

The implementation of legislation or rules is widely used in error management. This situation can be evaluated as an autocratic managerial style that prefers to use its legal power instead of taking initiative. School leaders have emphasized that they cannot go beyond the legislation in the centralized education system:

P2- *“So now we are here to realize the goals of national education. As you know, those regulations, laws, and rules are generally binding on us. This is also the case for errors made in this school.”*

P9- *“There is already a regulation, legislation. This is something that teachers also know. Of course, we are in a certain position of authority here as school principals. We do not have the chance to act outside the legislation or individually take the issue to a different place.”*

Ignorance is another error management strategy. Ignoring reflects the school leader's perspective on errors. Ignoring can also be considered an indicator that there are no errors in the school or that errors are not accepted. In this regard, one participant (P7) emphasized that school leaders do not take responsibility in error management stating that, *“I think school leaders ignore this issue too much. When our colleagues make errors, they do not go after them. In other words, they always pass the buck to someone else because they think they not to be the pioneer in this matter”* Another participant (P1) stated that they do not react to minor errors in school with the view that, *“It depends on the severity of the error that affects us. We can ignore errors that arise from misunderstandings or we do not face any sanctions.”* However, regardless of the size of the error, ignoring errors can increase the negative consequences of the errors by ignoring them.

School leaders act as mediators between teachers, students, and parents while managing errors. In this regard, participants stated that when there is an error at school, they listen to the parties separately to understand the situation and mediate between the parties to correct the error. In this regard, a school leader (P1) explained teacher-parent mediation stating that *“We definitely do not confront the parent and the teacher. We first calm the parties down ourselves. We do not confront the parties (teacher-parent). Then we confront the teacher and listen. When I look at the video recordings of the situation, I see that there is nothing the teacher can do. We corrected the error by using communication channels between the parties.”* Another participant (P8) has also presented the error management strategy with the view that *“There may be raised voices due to a misunderstanding at school. In this case, I call the parties individually. I meet with the person individually. I try to find peace between the parties. I try to reveal the misunderstanding.”*

Error management can be considered as a comprehensive process. School leaders, as decision-makers, prefer to take advice from their colleagues while managing errors. In this way, they think that they can make more objective decisions regarding error management. In this regard, one participant (P7) stated that he consults with his colleagues regarding error management at school stating that *“When we, as school principals, look at errors, since there are 3-4 school principals, we generally try to act by consulting with each other in our school.”* Similarly, another school leader (P8) emphasized that he tries to be objective stating that *“We hold meetings with students together with the guidance teacher or vice principal as much as possible. We also criticize them. Then we criticize each other.”*

Warning is another commonly used strategy in error management. Warning can also be included in other error management strategies. When school leaders talk about errors in meetings or give detailed explanations about any task, they actually warn their stakeholders not to repeat these errors. A participant (P5) explained this situation as follows: *“The principal acted moderately and*

met the parent who made a complaint. The teacher was warned by the principal not to repeat it, and it did not happen again. The principal did not take this incident to a further level". The warning strategy may sometimes not be very successful in error management. People may continue despite all warnings, especially if they have made these wrong behaviours a habit. In addition, participants think that there is no deterrent sanction for repeated errors in the education system. A school leader explained this situation as follows:

P7- "If an error is made, we warn our colleagues or teachers about it. First, we warn our teachers verbally. After the verbal warning, we also warn them in writing. After we warn our teachers, when there is a problem, we convey this to the inspectors. They also give a penalty depending on the situation, but it is never such a high penalty. They are just warned and similar errors are repeated."

Another participant has stated that people cannot know everything or may forget some information by nature. This school leader thinks that he can direct people to the right behaviour by warning them with appropriate language:

P9- "Humans can forget by nature. In other words, forgetting is one of the most basic characteristics of humans. People need to constantly refresh their knowledge. They need to remind them and they need to warn them with a method specific to the person."

Both Before and After Error

Error management is a process that covers both before and after errors. There may be common strategies used both before and after making errors. School leaders have stated that they use communication and tolerant school culture strategies both before and after errors. Interpersonal relationships, where errors are discussed openly, are important in the error management process. Because the error management process starts when errors are discussed. In this context, school leaders stated that they start the error management process by communicating with the parties. This strategy is expressed by a participant as follows:

P6- "There is no person without errors. Everyone makes errors. Teachers can also make errors, but what is important is to have a communication language. Since we are leaders, we must always be open to communication and approach errors in a solution-oriented way. We must allow the parties to express themselves so that we can find out what caused the error."

Error management is implemented through culture at the organizational level, thus school culture is a prominent factor. The perspective of school leaders and teachers on errors and human relations in the school determines the error management culture. The oppressive and punitive attitude of autocratic leaders towards errors may cause stakeholders to hide their errors and repeat them. On the other hand, a tolerant school culture where errors are openly discussed provides new learning from errors. The school leader has summarized what can be done within the framework of the school culture as follows:

P4- "School culture and trust are very important to prevent errors and to carry out a healthy education process at school. Our school culture includes the idea that we have to meticulously carry out the task given to us by the school principal in the way he shows us. Because the school principal will be careful about this task and will follow us. Because he makes the necessary explanation and preliminary information before the task and then checks it."

Consequences of Errors

Error management aims to mitigate negative outcomes while providing new learning from errors. School leaders were asked what consequences they reached from errors made in school. Participants have generally stated that they learn from errors, benefit (lessons) from errors, and make some changes in the school within this scope. School leaders generally think that errors provide teachers with new learning. In this regard, one participant (K10) stated that new learning occurs by talking about errors at school with the following view *“We generally talk and discuss in meetings what can be done to avoid such errors. Our colleagues also gain a different perspective from the errors”*. Similarly, another school leader (K6) stated that errors have positive results stating that *“We should not see errors as the source of the problem. We see errors as learning and improvement. This situation also leads to a positive result such as activating the learning processes in the school”*. A participant (K9) who has stated that errors mobilize the school organization explains this situation as follows: *“In a sense, errors are things that teach and actually add dynamism to the school. Because it saves us from being mechanical. I also see that it contributes a lot from time to time because it supports new learning by making the other party see that they are deficient at certain points.”*

Participants emphasized that errors are shared among teachers at school unless there is a very special situation. Thus, school leaders think that stakeholders learn lessons from errors as they are discussed at school. This also mitigates the negative consequences of errors. A participant (P9) has explained the situation at school as follows: *“Errors are shared with other friends at school to prevent similar errors from being made. In other words, let's say we all learn the necessary lesson from errors.”* Another school leader (P1) has emphasized that the necessary lesson is learned from errors shared among colleagues within the framework of confidentiality with the view that *“If this error happened to me, it somehow gets heard at school. Unless it is a very secret situation, errors made are generally heard in institutions. These errors definitely cause a lesson to be learned among colleagues.”*

While errors provide new learning in school, they also bring positive changes when the school leaders accept and adapt to change. Otherwise, in an organization where there is no change, errors and their negative results may continue to increase. A school leader has exemplified this change in the shift system as follows:

P3- *“As you know, shifts are made monthly. One of our teachers suggested turning monthly shifts into weekly shifts. Because the weather is very cold, especially in the winter months. When the same teachers keep watch in the garden for a month, they get cold and get sick. So, we organized the shifts weekly. In this case, we, as the school administration, accepted our error and immediately switched to weekly shift practice in the first week of December.”*

Discussion and Conclusion

This study explored the views of school leaders on error management and error management strategies at school. First, it presents three different perspectives on errors: error is acceptable - error is not acceptable - error does not occur. The framework presented by the participants suggests that school leaders' error perspective determines the strategies they have used while managing errors at school. The process of error management begins when organizations accept that errors are inevitable. Next, the source of the error must be identified immediately, and errors must be openly discussed in the organization. After school leaders accept that errors occur in schools, they should investigate the sources of errors as stated by Frese and Keith (2015).

The findings of this study highlight that there are individual error sources, including neglect, lack of knowledge and skill, well-being, and collective sources of errors, including poor communication, the unclear legislation, and school culture. The individual and collective-level sources of error are supported by the literature. Lei et al. (2016) explain the sources of error in terms of individual characteristics. Openness to innovation, proactive behavior, and taking initiative significantly influence error occurrence. Similarly, Akuzum and Ozmen (2013) have revealed that errors in schools are mostly caused by such individual factors as inexperience, lack of knowledge, indifference to work, inattention, and personal attitude. The finding of lack of knowledge and skill is parallel with the study by Prümper et al. (1992), which pointed out that novice employees usually make errors because of limited knowledge and work experience. However, more experienced and expert individuals also make errors. As their work becomes routine, they behave automatically with limited attention. Additionally, the state of well-being is also an individual antecedent of making errors, which is similar to the study by Hunter et al. (2011). They have expressed that when people are physically or mentally fatigued, the possibility of making errors gets higher.

A prominent factor in arguments about errors at the collective level is the culture, particularly the error management culture. The current study builds on this by identifying similar sources of errors, such as lack of communication and school culture at the collective level, as found by Hunter et al. (2011) in school leaders. As Khan (2023) has stated communication in the organization has a key role in reaching organizational goals, otherwise poor communication results in confusion, which can direct people to make an error. Apart from these, the unclear legislation can cause errors at schools. Though there is school legislation strictly depending on the central authority in Türkiye, the vague statements outlined in the legislation can be implemented in different ways based on school characteristics. In addition to organizational culture, Akuzum and Ozmen (2013) have emphasized that errors in schools mostly arise from organizational structure including managerial attitudes, hierarchy, lack of planning, and inadequate infrastructure. These findings contribute to the literature by highlighting the prominent role of organizational culture and structure for error management.

Determining the error management culture in organizations requires examining the members' error perception, reaction, and handling methods (Cusin & Goujon-Belghit, 2019). Error management culture in organizations refers to organizational procedures, practices, and attitudes toward errors (Li, 2016). From the findings of this study, it has appeared that error management strategies can be categorized before error, after error, and in terms of both cases. This finding is similar to the study conducted by Frese and Keith (2015), which addressed the error management culture process before and after the error. According to the authors, the stage before the error covers the prevention stage, while the management stage begins after the error occurs, which aims

to turn the consequences of the error into positive. Lei et al. (2016) have also evaluated this process in terms of error management (adaptation, improvisation, flexibility) and prevention (routine, control, standardization) strategies. On the contrary, Goodman et al. (2011) have considered the prevention phase as an error management approach. In this study, the error management process is framed as before (prevention) and after (management) errors. Before errors, school leaders have used such error management strategies as making detailed explanations, setting rules, and sharing past errors. After errors, they immediately intervene to the case and warn them to minimize negative effects. At both cases, school leaders prefer being tolerant and communication. Consistent with this, Moraca et al. (2024) have emphasized direct relationship between leadership, tolerant climate and error management culture. In short, this study has pointed out that school leaders set clear rules and share professional experiences in meetings, provide detailed explanations with teachers about their duties or responsibilities because they think that errors in schools are mostly resulted from misunderstanding of official documents, uncertainty or inexperience.

During the error management process, positive or negative reactions can be given to errors. In this study, it is determined that school leaders first evaluate the error. Depending on the severity of the error, participants have stated that they use error management strategies such as immediate intervention, ignoring, enforcing legislation, mediating, and warning. Among these, warning is the most commonly used strategy. Because school leaders talk about past errors in meetings, ceremonies, or informal conversations and warn their stakeholders not to repeat them. When errors become widespread, school leaders are also warned by top management or subjected to legal sanctions (Ozdogru & Guclu, 2021). According to school leaders, errors are usually made regarding exam dates, grades, and official correspondence. At this point, participants emphasize that they correct errors by extending the dates related to the system or re-entering the grades. On the other hand, school leaders, who do not accept the error, prefer to ignore it or put the responsibility on someone else by enforcing the legislation. A similar understanding is also seen in the study conducted by Gokturk et al. (2017). In order not to cause conflict, school leaders often ignore errors and punish those responsible for errors by the legislation without talking about them. Similarly, Nanto (2021) has revealed that school leaders give harsh reactions such as blaming the teacher for the error and shouting. Errors in schools can be related not only to the school leader and teacher but also to the student and parent. Especially in errors caused by parents and teachers, school leaders take on the role of mediator. When school leaders get stuck in the error management process, they take advice from their colleagues. The finding of mediation and taking advice as an after error strategy is also supported by other studies (Akuzum & Ozmen, 2013; Nanto, 2023; Ozdogru & Guclu, 2021) in the literature. As can be seen, school leaders benefit from the experiences of their colleagues by establishing a network in error management, as in other issues.

This study has revealed that communication and a tolerant school culture are two important strategies used both before and after the error in schools. It has also been emphasized in different studies (Fischer et al., 2018; Klamar et al., 2022; Van der Byl & Vredenburg, 2023; Van Steenbergen et al., 2020) that communication and culture are indispensable elements in the error management process. Klamar et al. (2022) has drew attention to the fact that communication is a prerequisite for culture. For this reason, talking about errors is inevitable for an effective error management culture (Van Steenbergen et al., 2020). Similarly, Fischer et al. (2018) have emphasized that effective error management culture requires organizational practices such as talking about errors, sharing errors, and quickly detecting and addressing errors. Van der Byl and Vredenburg (2023) have also stated that a culture focused on correcting errors contributes to organizational development. Additionally, teachers' understanding of error management in the

classroom is affected by the error management culture in the school (Demirdag, 2015). All told, communication and organizational culture are seen as the cornerstone of the error management process in every context.

Whether school leaders accept it or not, errors are made in every setting where people are present. These errors have consequences that can lead to insignificant or catastrophic losses, the dissolution of organizations, the collapse of countries, and even the extinction of people (Guo & Liu, 2018, 1). At this point, effective error management comes into play in turning the consequences of errors into benefits for the organization. The findings of this study show that school leaders generally learn from errors, benefit (lessons) from errors, and make some changes in the school within this scope. This finding aligns with the research (Akgun et al. (2023; Ozdogru & Guclu, 2021; Zhao et al., 2024) in the literature, which points out that errors lead to creative solutions (Arenas et. al., 2023). Ozdogru and Guclu (2021) have also revealed that errors contribute to the professional development and learning of school leaders. Akgun et al. (2023) and Zhao et al. (2024) also have found a positive relationship between error management culture and organizational learning. Although errors provide learning, they sometimes cause negative consequences in the school such as a negative organizational climate, a decrease in the quality of education, and loss of labour and time (Akuzum & Ozmen, 2013).

As a conclusion, this study on school leaders' views about error management and error management strategies presents the fact that errors are inevitable at school, where multifaceted, complex, and informal relationships are intensely experienced, though some participants have refused errors. School leaders have faced individual or collective errors, which resulted mostly from neglect, lack of knowledge and skill, poor communication, and school culture. This study highlights the error management process can be conducted before or after errors at schools. It has been revealed that before the errors, school leaders mostly used prevention strategies such as sharing past errors, setting rules, and making detailed explanations for error management. After the mistake, it is seen that school leaders evaluate the impact of the error and sometimes ignore it, mediate, and sometimes apply sanctions in line with the legislation. However, the general stance of school leaders towards errors is constructive. They have adopted the basic principle of communicating and showing tolerance both before and after the error. In line with this understanding, it has been determined that errors in schools result in new learning, lessons from errors and making a change.

Suggestions and Limitations

As this study has mentioned, errors can be made at school because of individual or collective sources as given above. Thus under any circumstances, school leaders should accept errors instead of refusing or ignoring them since error management begins when the errors are accepted. This study is limited to school leaders' views on error management. The researchers can conduct studies with various stakeholders to determine the error management culture at the school. For this purpose, case studies with triangulation can be a good design to comprehend the school culture on errors. Apart from this, in centralized education systems like Türkiye, unclear legislation can cause systemic errors or school leaders can misinterpret the legislation. To mitigate this, school leaders can be given more initiative and autonomy. In addition, all stakeholders should be informed about their rights, duties, and responsibilities at the beginning of the term meetings. Setting clear schools also facilitates the error management process. Errors may be inevitable in school, but it is possible to direct them positively. Finally, for practitioners communicating errors, being tolerant,

and learning from errors are indispensable for creating an effective error management culture at school.

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Conflicts of Interest

The author conducted the study alone. There is no conflict of interest.

Ethics

The ethics application for the study was made on 30/07/2021 and the research was carried out with the approval of Trakya University Ethics Commission dated 08/09/2021 and numbered 07/07 (E-29563864-050.04.04-117952).

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