



## Literature Review on the Effectiveness of E-Presence in Enhancing Teacher Discipline

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### ABSTRACT

This study aims to analyze the role of e-presence in improving teacher discipline through a literature review. The research uses qualitative methods, including formulating research problems, collecting relevant literature, reviewing the materials, and analyzing the data. The primary data sources are national journal articles published from 2012 to 2022, with six articles deemed relevant to the topic. The findings indicate that e-presence effectively enhances teacher discipline by facilitating accountability, accurately tracking attendance, and promoting punctuality. Additionally, the use of e-presence systems is associated with better time management and adherence to institutional policies. This research highlights the importance of adopting technological solutions, such as e-presence, in educational institutions to address disciplinary issues among teachers. By ensuring transparent monitoring and fostering professionalism, e-presence serves as a valuable tool to improve teacher performance and institutional efficiency. These findings provide significant insights for policymakers and educational leaders in implementing innovative strategies to optimize teacher discipline.

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## **INTRODUCTION**

Discipline in education is one of the crucial factors determining the quality of teaching (Liu & Pásztor, 2022). With discipline, all planned activities can be executed according to schedule and achieve optimal results. This includes structured learning, effective time management, and the achievement of both academic and non-academic targets. Conversely, without discipline, these programs will encounter numerous obstacles, both in terms of implementation and goal attainment (Ssemugenyi, 2023). Discipline is defined as a state formed through adherence to rules and behaviors that reflect the values of order. An internalized disciplined attitude makes the behavior feel like a habit rather than a burden. On the other hand, if someone deviates from the disciplined routine, it will cause discomfort and imbalance in daily activities (Julius et al., 2021).

In the educational world, discipline is one of the most visible aspects of a teacher's professionalism (Calavia et al., 2023). One of the indicators is the habit of arriving and leaving on time (Putri et al., 2024). A disciplined teacher not only fulfills their responsibilities as an educator but also sets an example for students in terms of compliance with rules. In contrast, indiscipline, such as being late or leaving early, can create a negative impression and reduce the teacher's credibility in the eyes of students. Furthermore, this can affect the overall learning environment. Therefore, teacher discipline is not only an individual responsibility but also an essential element in creating an effective and productive learning environment.

The main function of discipline in the school environment is to create a conducive atmosphere that allows the entire learning process to run smoothly (Stevenson et al., 2020). A conducive environment supports student concentration, active teacher involvement, and overall school management effectiveness (Siswanto et al., 2024). In this case, the role of the school principal as a leader is significant. The principal is responsible for ensuring that all school elements, including teachers, adhere to the existing rules. If a low level of teacher discipline is found, the principal needs to take strategic steps, such as providing direction, motivation, or even implementing supporting technology to help improve discipline. Thus, the principal not only acts as an administrative leader but also as an inspirer who fosters a culture of discipline.

The development of technology in the modern era opens up vast opportunities for various sectors, including education, to leverage innovations to improve efficiency and work quality (Pisriwati et al., 2024). In the context of education, technology plays an important role in supporting time management and administration, including teacher attendance management. The use of technology enables data and information to be managed more quickly, accurately, and transparently (Syah et al., 2024; Afandi et al., 2024). With the integration of technology, activities that previously took a long time can be completed more efficiently, thus positively impacting the overall quality of education.

One relevant technological innovation in attendance management in schools is the e-presence system (Yogyanto et al., 2024). E-presence is an electronic-based attendance recording and processing system (Nungu et al.,

2023). This system offers several advantages, such as ease in recording attendance, high data accuracy, and protection against manipulation. Additionally, it allows for real-time data management, making it easier for schools to monitor teacher discipline. With e-presence, teachers are expected to be more motivated to arrive on time, as their attendance is automatically recorded. In the long term, the use of this system can help create a better discipline culture in the school environment.

The presence of e-presence not only provides a practical solution in administrative management but also directly contributes to improving teacher discipline (Rapanta et al., 2020). With e-presence, teachers are aware that their attendance is transparently and accurately recorded, motivating them to be more consistent and responsible with time (Pisriwati et al., 2024). On the other hand, this system also helps the school to monitor teacher attendance comprehensively and take corrective action if violations are found. In the long run, e-presence is expected to support the creation of a disciplined work culture, not only among teachers but also among all school staff.

Various studies have been conducted to explore the effectiveness of using e-presence in improving teacher discipline (Siswanto et al., 2024). These studies generally show that e-presence can create transparency, accountability, and efficiency in attendance management. For example, some studies have found that the use of e-presence can significantly reduce teacher absenteeism. However, there is still room for further research to enrich perspectives on how this system can be optimized in various school contexts, especially in areas with limited access to technology.

To gain more comprehensive insights, this research will conduct a literature review of relevant scientific journals (Alghiffari et al., 2024). The main focus of the study is to analyze the relationship between the use of e-presence and the improvement of teacher discipline from various perspectives. Additionally, this study aims to identify challenges that may arise in the implementation of e-presence and provide recommendations for overcoming them. The results of this study are expected to make a significant contribution to the development of policies and practices in the field of education, especially in enhancing teacher discipline in school environments.

## **LITERATURE REVIEW**

### **E-Presence**

The use of technology in education continues to evolve, one of which is the implementation of e-presence to support attendance management in schools. According to Aguilar (2021), e-presence is an electronic-based attendance recording system designed to improve efficiency and accuracy in managing teacher and student attendance data. This system enables faster, more transparent, and real-time recording compared to manual methods. In the context of education, e-presence helps ensure the timely attendance of teachers, contributing to improved discipline. This is crucial since teacher discipline is one of the determining factors for the success of the learning process in schools.

Previous research has shown that e-presence has a positive impact on administrative management and the culture of discipline within schools. For

example, Widyatnyana & Rasna (2022) and Suwarta et al. (2024) found that e-presence not only facilitates attendance recording and data processing but also helps school principals monitor teacher attendance accurately. Additionally, e-presence is considered to improve accountability, as the recorded data cannot be manipulated. This system also simplifies attendance reporting and analysis, which can be used as a basis for evaluating teacher performance. In other words, e-presence functions not only as an administrative tool but also as an instrument to enhance school management quality.

However, the implementation of e-presence is not without challenges. One common issue faced is the limited technological infrastructure, especially in areas with limited internet access. Moreover, some studies have noted resistance from users, such as teachers or staff, who are not yet accustomed to new technology (Ng et al., 2023; Siswanto et al., 2024). To address this, training and support are essential steps to ensure the successful implementation of e-presence. Therefore, this literature review emphasizes that while e-presence offers various advantages, its success heavily depends on the school's readiness to adopt technology and support its sustainable use.

### **Teacher Discipline**

Teacher discipline is one of the key aspects in creating an effective educational environment. According to Khofifah et al. (2023), discipline is defined as a state formed through obedience and compliance with applicable rules, as well as behaviors that reflect the value of orderliness. Teacher discipline plays a crucial role in ensuring that teaching activities proceed as planned. A disciplined teacher not only arrives on time but also adheres to rules that contribute to creating a conducive learning atmosphere, which in turn enhances the quality of education in schools.

Research by Tran & O'Connor (2023) shows that teacher discipline directly impacts the success of the learning process. Disciplined teachers tend to have good time management, are able to plan and implement lessons effectively, and serve as role models for students in terms of discipline (Astiwi & Siswanto, 2024). This is also related to the professionalism that teachers must demonstrate in all actions, both inside and outside the classroom. In this context, teacher discipline is not only related to adherence to working hours but also to a commitment to continuous self-development through learning and improving teaching quality.

However, maintaining and improving teacher discipline is not always easy. Research by Stevenson et al. (2020) reveals that low teacher discipline is often influenced by external factors such as excessive workload, lack of appreciation for teacher performance, and insufficient supporting facilities. In some cases, teacher indiscipline may also be caused by a lack of effective supervision from the school. Therefore, it is important for school principals to create policies that support the improvement of discipline and to use technologies such as e-presence to monitor and encourage teacher discipline in schools.

## METHODOLOGY

This study uses a qualitative approach with a literature study method to collect and analyze data. Literature study involves a series of activities related to the collection of library data, reading, note-taking, and managing research materials (Siswanto et al., 2023). This research was conducted from June to July 2022, using secondary data sources obtained from documents such as books, scientific articles, and journals relevant to the research topic. The data collection techniques used are literature study, note-taking, and observation, where note-taking is employed to obtain quotes that will later be used as references in the research (Alam et al., 2023).

The research procedure consists of four main steps: (1) formulating the research problem; (2) searching for and collecting relevant literature; (3) reviewing the literature gathered; and (4) analyzing the data. The data analysis technique used is qualitative analysis based on the Miles and Huberman model, which includes three stages: data presentation, data verification, and conclusion drawing (Putri et al., 2024). Therefore, this research relies on literature review to develop a deeper understanding of the topic under study through systematic data analysis.

## RESEARCH RESULT

The attendance system is a management system that automatically records the attendance data of individuals or organizations, which can then be used to generate reports that support the managerial needs of individuals or institutions (Mogas et al., 2022). Another perspective states that attendance is an activity aimed at measuring the level of attendance performance and discipline of members within an institution, organization, or company (Siswanto & Andriyani, 2024). Attendance is crucial because it serves as a tool to calculate the presence of individuals within an organization or company.

In this context, the letter "e" in e-presence refers to electronic, meaning that e-presence is a method of measuring the level of attendance and discipline of members by utilizing technology for attendance recording. The use of e-presence has proven to be effective in improving teacher discipline because this system facilitates attendance recording and is difficult to manipulate (Ewulley et al., 2023). Based on these findings, the researcher will conduct a further literature review on the use of e-presence to enhance teacher discipline. The articles used in this study as data sources are presented in the following table.

Table 1. List of Articles

| No | Journa<br>l code | Article Title in<br>English                                                                               | Author                               | Year | Name of<br>Journal   | Research<br>Methods |
|----|------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------|------|----------------------|---------------------|
| 1  | Journal<br>1     | Improving the discipline of Khoiru Ummah Rejang Lebong IT Vocational School teachers with the "Renkehatu" | Rajab Effendi;<br>Jumira Warlizasusi | 2021 | Jurnal Literasiologi | Qualitative         |

| No | Journal code | Article Title in English                                                                                                                           | Author                                                            | Year | Name of Journal                                          | Research Methods                                                 |
|----|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|------|----------------------------------------------------------|------------------------------------------------------------------|
|    |              | Finger Print Program                                                                                                                               |                                                                   |      |                                                          |                                                                  |
| 2  | Journal 2    | Implementation of Electronic Presence to Improve Teacher and Staff Discipline in Islamic Elementary Schools                                        | Maulidatul Khasanah; Walid Fajar Antariksa                        | 2021 | Journal of Islamic Educational Management                | Qualitative                                                      |
| 3  | Journal 3    | Using Fingerprints to Improve Teacher and Student Discipline                                                                                       | Immatal Fiiazah; Firda Okta Safitri; Rani Nurul Laili Herzegovina | 2020 | Idarotuna: Journal Administrative Science                | Qualitative descriptive                                          |
| 4  | Journal 4    | Efforts to Improve Teacher Discipline Through the Implementation of Finger Print Attendance at State 1 Junior High School Ciparay, Bandung Regency | N. Lisnur Solihah                                                 | 2020 | Jurnal Inovasi dan Riset Akademik                        | School Action Research                                           |
| 5  | Journal 5    | Effectiveness of Implementing a Teacher Attendance System Using Fingerprint on Discipline Levels                                                   | Dwi Ismawati; Lia Mazia                                           | 2016 | Bina Insani ICT Journal                                  | Quantitative with the TAM (Technology Acceptance Model) approach |
| 6  | Journal 6    | Implementation of Finger Print Attendance to Improve Employee Work Discipline                                                                      | Desmarini; Kusman Rukun                                           | 2020 | Jurnal Manajemen, Kepemimpinan, dan Supervisi Pendidikan | Qualitative Descriptive                                          |

Based on an extensive literature review of several scholarly articles that are highly relevant to the research topic concerning the application of e-presence in improving teacher discipline, the researcher has identified a consistent pattern across most studies, which suggests that the use of e-presence systems can significantly contribute to enhancing the discipline of teachers. The research highlights that e-presence not only facilitates more accurate attendance tracking but also fosters greater accountability among educators, thereby improving their overall punctuality and adherence to school regulations.

After carefully reviewing and thoroughly analyzing the findings from Journal 1, it was revealed that the implementation of a fingerprint-based e-presence system at IT Khoiru Ummah Vocational High School has proven to be highly effective in promoting and enhancing teacher discipline, particularly in terms of ensuring punctuality. This system, which utilizes fingerprint technology to record attendance, has led to a noticeable reduction in instances of tardiness among teachers. As a direct result of the implementation of this e-presence system, all teachers at the institution have become more consistent in arriving on time, demonstrating a significant improvement in their overall attendance behavior. The shift towards punctuality is attributed to the increased accuracy and security provided by the fingerprint-based attendance system, which eliminates any opportunities for manipulation or misreporting of attendance data.

The success of e-presence in improving teacher discipline is also supported by the findings of Journal 2. The research showed that the implementation of electronic attendance can improve the discipline of teachers and staff at schools. The use of electronic attendance via fingerprint technology is easy to use and safer for recording teacher and staff attendance. The evaluation of electronic attendance is conducted by the principal once a month. Teachers or staff who are absent or late can be identified through the electronic attendance records using fingerprint technology. Teachers or staff who are late or absent without a clear reason will face sanctions in accordance with previously agreed-upon rules.

Furthermore, the success of e-presence was confirmed by the findings in Journal 3, which showed that fingerprint technology improved both teacher and student discipline at 3 Lumajang State Senior High School. Teachers and students at 3 Lumajang State Senior High School are familiar with how to use fingerprint e-presence and are aware of the rules and sanctions for non-compliance. With fingerprint-based e-presence at 3 Lumajang State Senior High School, teachers and students cannot manipulate attendance or cheat, unlike with manual attendance machines, which could still be tampered with. However, there are still some obstacles, such as late arrivals by teachers and students.

The next study supporting the notion that e-presence can improve teacher discipline is by N. Lisnur Solihah, found in Journal 4. The research results indicate an improvement in teacher discipline at 1 Ciparay State Junior High School after implementing fingerprint-based e-presence. The tool used for e-presence in this study was a fingerprint scanner to record teacher attendance. The results showed that 23.81% of teachers arrived at school less than 15 minutes late, 14.29% arrived 15 to 30 minutes late, and 61.90% arrived on time. Regarding teachers' departure times, 38.10% left on time, 50% left less than 15 minutes before the scheduled time, and 11.90% left earlier than the scheduled time, between 15 and 30 minutes.

In Journal 5, similar findings were noted, with the use of fingerprint e-presence positively influencing teacher discipline at 06 Pagi Lenteng Agung State Elementary School. Based on partial hypothesis testing (F-test), the

calculated F-value was 26.006 with a significance value of 0.000. Since the significance value is less than 0.05, the null hypothesis ( $H_0$ ) is rejected, and the alternative hypothesis ( $H_1$ ) is accepted. This indicates that the independent variable, perceived usefulness, statistically influences the dependent variable, discipline. The coefficient of determination ( $r^2$ ) for perceived usefulness was found to be 6.49%, calculated from the partial correlation coefficient  $(0.806)^2$ .

In Journal 6, the results also mirrored those in previous studies, with e-presence improving teacher discipline. The use of fingerprint e-presence prevents cheating because each teacher has a unique fingerprint, so no one can substitute for another during attendance. Teachers can easily use the fingerprint e-presence system, as it simply requires placing their finger on the scanner, and the attendance data will be stored in the database. Although the use of fingerprint e-presence has positive impacts, some challenges remain, such as certain staff members still arriving late or leaving the school during class hours.

The analysis of these articles further strengthens the idea that e-presence is effective in improving teacher discipline. This improvement occurs because all arrival and departure times are recorded in a database and cannot be manipulated. This system forces teachers to arrive and leave on time to avoid penalties. While teachers may initially feel compelled to be punctual due to the e-presence system, continuous use will help form the habit of punctuality, eventually embedding discipline within teachers. The ease of use of e-presence encourages teachers not to procrastinate, and clear regulations help them better understand their responsibilities and the penalties for non-compliance, which include arriving and leaving on time.

Another factor contributing to improved teacher discipline through e-presence is the system's resistance to manipulation, forcing teachers to maintain discipline to avoid penalties. In conclusion, this study demonstrates that the use of e-presence can enhance teacher discipline, as evidenced by the literature review of several studies conducted. The articles reviewed did not show any failures in the application of e-presence to improve teacher discipline in Indonesia.

## **DISCUSSION**

Based on the literature review conducted, the use of fingerprint-based e-presence has been proven to have a significant positive impact on improving teacher discipline. Several studies outlined in various related journals show that the implementation of this e-presence system not only facilitates the attendance recording process but also enhances teacher accountability, as attendance data is automatically recorded and cannot be manipulated. This e-presence system reduces the potential for absenteeism abuse that was often seen in manual systems, where teachers or staff could falsify their attendance or be late without clear records. Research conducted in several schools, such as IT Khoiru Ummah Vocational High School, 3 Lumajang State Senior High School, 1 Ciparay State Junior High School, and 06 Pagi Lenteng Agung State Elementary School, provides consistent evidence that the use of fingerprint-based e-presence technology can significantly improve teacher discipline. These findings indicate

that fingerprint-based e-presence is an effective solution to address issues of tardiness and indiscipline among teachers.

In the study conducted at IT Khoiru Ummah Vocational High School, the implementation of fingerprint-based e-presence proved effective in reducing teacher tardiness. Before the system was implemented, the rate of teacher lateness was relatively high. However, after the introduction of the e-presence system, teacher tardiness significantly decreased, with many teachers arriving on time. A similar finding was made at 3 Lumajang State Senior High School, where the use of e-presence with fingerprint technology successfully reduced attendance manipulation that previously occurred in the manual attendance system. In manual systems, there was sometimes the possibility of attendance manipulation, such as teachers arriving late but being marked as present on time, or vice versa. However, with the fingerprint-based e-presence system, this could not happen because attendance data is automatically stored in a database that cannot be altered. At 1 Ciparay State Junior High School, the implementation of fingerprint-based e-presence also yielded positive results. The majority of teachers were present on time, with only a few teachers arriving late, indicating that the e-presence system had successfully improved teacher discipline at the school.

Additionally, the use of e-presence also facilitates the process of evaluating teacher discipline by the principal. The principal can easily monitor teacher attendance records directly without having to rely on manual reports, which are prone to errors. With e-presence, any teacher absenteeism or tardiness is immediately recorded in the system, allowing the principal to take necessary actions promptly, including imposing sanctions on teachers who are absent without a valid reason. In the study conducted at 06 Pagi Lenteng Agung State Elementary School, statistical tests also showed that teachers' perceptions of the usefulness of e-presence significantly affected their discipline. This indicates that the teachers at the school felt that e-presence provided clear benefits in supporting their discipline, ultimately increasing their awareness of the importance of being on time.

The success of using e-presence in improving teacher discipline is also supported by the ease of use of the system. The fingerprint system ensures that each teacher can only record their attendance using their own fingerprint, which cannot be substituted by someone else. This eliminates the possibility of attendance manipulation, which often occurred in manual attendance systems, where one teacher could record the attendance of another. However, some challenges remain, such as occasional tardiness among a few teachers, but the frequency of such occurrences is much lower compared to the previous manual attendance system. This indicates that fingerprint-based e-presence can be an effective tool in improving teacher discipline, although there are still challenges that need to be addressed.

Overall, the results of this study reinforce the idea that fingerprint-based e-presence is a highly effective solution for improving teacher discipline. In the long term, although there may be initial reluctance among teachers to arrive on time due to strict monitoring, the habit of discipline will form naturally.

Teachers will begin to realize the importance of being on time and how discipline affects their performance as educators. As Khofifah et al. (2023), Nugraheni et al. (2020), and Rivaldo & Nabella (2023) suggested, to establish good work discipline, clear regulations and a well-managed control system are necessary. In this context, fingerprint-based e-presence serves as an effective tool to ensure the creation of discipline among teachers.

Thus, the implementation of e-presence has been proven to successfully improve teacher discipline in Indonesia. Based on the literature review conducted, no significant failures have been found in the implementation of e-presence across various schools. On the contrary, this system has been shown to have a significant positive impact on teacher discipline, as well as improving transparency and accountability in attendance recording. The application of this technology not only addresses absenteeism issues but also contributes to the enhancement of teaching quality in the schools that implement it.

## **CONCLUSIONS AND RECOMMENDATIONS**

Based on the findings from several articles on the use of e-presence to improve teacher discipline, it can be concluded that the use of e-presence can enhance teacher discipline, as observed from the comparison of teacher discipline before and after the implementation of e-presence. With the adoption of e-presence, teachers become more disciplined because everything is recorded electronically and cannot be manipulated. As a result, to avoid sanctions, teachers improve their discipline. Although some challenges have been encountered in the use of e-presence, such as the difficulty in providing equipment for schools in certain remote areas and teachers' lack of familiarity with how to use the e-presence tools, these issues can be addressed.

## **ADVANCED RESEARCH**

The next researchers are expected to explore more effective solutions to address these issues, such as providing more intensive training for teachers and finding ways to facilitate easier access to e-presence devices in hard-to-reach areas. Additionally, further research could broaden the understanding of other factors that may support or hinder the implementation of e-presence in improving teacher discipline, by considering deeper social, cultural, and technological aspects.

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