

E-Leadership Analysis during Pandemic Outbreak to Enhanced Learning in Higher Education

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Abstract – In the current pandemic period, every formal education institution needs to update its digital learning process and design a curriculum that is relevant to the needs of today's and next generation. Leaders have to overcome these challenges before they can empower individuals to become technology users who will be able to apply multiple technologies. This study aims to identify digital leadership processes used by leaders in higher education to lead to increased effective learning during the COVID-19 pandemic. This study collected data using a qualitative research design with semi-structured interviews and data analysis using the six phases of Braun and Clark. Our study involved 24 respondents according to pre-selected criteria, and they were divided into four categories: rectors, deans, junior high school principals, and senior high school principals. The results of this study's findings can be implemented to support various stages of educational program development from the educational technology adoption cycle and promote e-leadership initiatives during the COVID-19 outbreak.

Keywords – E-leadership, ICT, pandemic outbreak, higher education.

1. Introduction

The global health crisis caused by the COVID-19 was felt almost everywhere and affected social life. Since Covid-19 entered Indonesia in early March 2020 and has spread so rapidly, the Indonesian government has subsequently implemented Work from Home (WFH) to minimize the spread of COVID-19 in areas that have been exposed to the virus and are included in the red zone category. As a result of the COVID-19 pandemic, several different changes have occurred in the education sector, mainly how lecturers teach. It is customary for lecturers working from home to use learning management systems or learning platforms to teach online [1]. In addition to the internet connection facilitating the learning process, online learning is considered a new paradigm in the learning process since it does not require face-to-face interaction and can be done without relying on a traditional classroom environment [2].

Based on this, innovation needs to be carried out and integrated with ICT in supporting learning activities during the pandemic. Due to the requirements, a significant focus is on the rapid adoption of technology to support distance learning and working from home. Leadership is faced with a complex task while supporting and uplifting team morale. The development and implementation of technology-based learning require time and improvement in distance education. The use of technology in the learning process is a challenge for those who have not used it before [3]. Educational leaders have to empower individuals to become technology users to implement various technologies with a team of individuals with multiple abilities [4].

DOI: 10.18421/TEM112-56

<https://doi.org/10.18421/TEM112-56>

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Received: 14 April 2022.

Revised: 15 May 2022.

Accepted: 21 May 2022.

Published: 27 May 2022.

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The leadership of schools has been identified as a critical stakeholder role that affects ICT transformation in schools [5]. Many factors contribute to ICT transformation, including government policy, leadership, and personal factors [6]. During the pandemic, leaders have to see the development of adaptive strategies so that everyone can carry out digital transformation. Limited facilities and infrastructure incompetent human resources in fully implementing technology have caused a paradigm shift so that a leader's role is needed in realizing a digital functional culture.

2. Literature Review

Leadership definitions vary significantly since each leader is unique and takes on an approach consistent with his or her beliefs [7]. Leadership and management are often used simultaneously as concepts [8]. According to Avolio et al. [9], e-leadership is how technology leads to social influence information and communication technologies (ICTs) grow. A new leadership style is required to bring remote employees together. The concept of e-leadership is introduced when leaders learn how to adapt to the virtual environment [10].

To make the process of educational transformation successful, leadership is required at all stages, from vision to mission, to the master plan, to the implementation, to measuring results, and finally to the program's performance [6]. Using technological tools to integrate educational technology into the classroom could enhance student engagement and Learning, report Chang et al. [11]. Several studies investigated the importance of E-leadership, which is the process of leading to implement e-learning visions and goals [5]. E-leadership is an essential factor driving the rapid progress in technology and its application to the pandemic. However, it also challenges companies to adopt the technology to use its advantages during this crisis [12].

Fonstad [13] defines the concept of e-leadership as a combination of ICT skills and leadership skills that enable organizations to succeed. Learning leaders' intention to use ICT is influenced by their awareness of specific tools, their ability to evaluate the tool's value, and their willingness to exert effort on acquiring the device personally. After adopting ICT and enhancing its use, e-leaders have to maintain the necessary commitment to reshaping their skills by investing time and emerging ICT resources into the process [14], [15]. Liu et al. [12] have found that virtual communications play a vital role in e-leadership, yet progress in this area has been slow. They also recommend that e-leadership be explored not only regarding technology adoption but also regarding technology quality. E-leaders may not be

able to lead effectively in virtual environments if they lack social skills, such as the characteristics of face-to-face communication [16]. Cortellazzo et al. [17] suggest that e-leaders should create communication that encourages employees to express themselves freely by allowing them to participate in the decision-making process and helping them feel empowered, collaborate, and take responsibility for creating a positive organizational environment. Employees can be more independent because the information is easier to access and share in this new workplace. The company benefits from the employee's good performance and reduces the need for supervision [18].

3. Material and Method

Assessment of the learning process is carried out using a qualitative approach in various spaces of the learning process in Indonesia, which consists of junior high schools, high schools, and universities. According to Creswell 1998, qualitative research is understanding an issue or problem related to human existence [19]. In this study, semi-structured interviews were used to explore participants' perceptions of diversity and leadership and digital guidance during a reflection on the pandemic and education. During the interview process, the question called up some standard views regarding e-leadership as leadership in times of technological change. Based on this, Table 1 shows a description of the demographic characteristics of the interviewees.

Table 1. Demographic data from qualitative interviews

Groupings	Amount	Gender		Age (yrs)	Experience (yrs)
		F	M		
Rector (R)	4	1	3	40 - 56	< 20
Dean (D)	9	5	4	28 - 45	10 - 25
High School Principal (H)	6	3	3	38 - 52	10 - 30
Junior High School Principal (J)	5	3	2	40 - 50	10 - 35

A. Participant

This study involves four types of participants. The first category is the rector; the second category is the dean; the third is the high school principal, and the last is the junior high school principal. Study participants were selected according to pre-selected criteria relevant to the study. Study participants in this research were coded, and the functional categories described here have been employed throughout the manuscript. All these procedures were carried out according to school/university instructions.

B. Material and Procedure

In this study, semi-structured interviews were used to collect data. Participants were asked open-ended, semi-structured questions to allow the researcher more flexibility in asking more questions and to help them provide more information. All of the interviews took between 30 and 45 minutes to complete. Some of these interviews took place in school or at the university, while others were conducted online. The e-leadership theory guided the design of the interview protocol; the theory and model were adapted to meet the needs of higher education during the pandemic COVID-19. The interview protocol consisted of five main parts: e-leadership in higher education, lesson from the pandemic, virtual learning and leadership in higher education, e-leadership and ICT in higher education, future demand for e-leaders and engagements with educational institutions in leadership through e-leadership.

C. Data Analysis

The following six phases have been used to evaluate data from interviews and observations, as well as a narrative form for writing a report, applying a systematic analytical approach [20], [21], [22], [23]. The six phases start from introducing data to researchers, the coding phase, theme search, theme revision, definition and naming of themes, and finally report writing [20]. Although the six stages are arranged logically, the researcher should note that moving from phase to phase is not linear. The analysis is recursive and iterative, with the researcher moving back and forth between steps as needed [23]. Based on this, the researchers in this study sought to find out how e-leadership during the pandemic could enhanced learning in higher education, which were collected from leaders of educational institutions through interviews.

4. Results and Discussion

During the COVID-19 pandemic, our analysis revealed four main findings regarding how e-leadership has played a role in learning in higher education.

A. E-Leadership in Higher Education: Lesson from the Pandemic

During the COVID-19 pandemic, changes occurred in almost all sectors, one of which was the education sector. Changes happen in the learning process, which is initially offline then becomes online. This online learning process utilizes digitization such as zoom, Google meet, WhatsApp, and other media [24].

Despite this, digitalization is not without its challenges; many obstacles prevent online learning from being effective because not everyone is ready for the change. Some of the limitations of the Online method are the lack of mastery of information technology by lecturers, teachers, and students, inadequate facilities and infrastructure, and the high cost of the technology support devices [25].

During the COVID-19 pandemic, every higher education in Indonesia enforces an online learning process, which uses media such as zoom, google meet, and WhatsApp. We still encounter many obstacles in the field relating to lecturers and staff who are not accustomed to using digital media for teaching or work, as well as cost constraints which are indeed things that must be addressed with the smooth process of online activities (R2).

A leader needs to play a significant role in continuing his leadership during the COVID-19 pandemic. A high level of leadership emergency is expected in higher education to ensure that the educational process can continue. College leaders and school principals are responsible for the comfort and orderliness of the school environment and school residents. During this time, teachers, students, and parents have to feel a sense of security and amenity. The COVID-19 emergency response should include all aspects of safety and comfort [26]. Studies about e-leadership show that telework has produced benefits for personal and professional lives, such as increased timetables and greater autonomy. Telework can also improve the balance between work and family, improve job satisfaction, and reduce stress [27]. As a result of the pandemic, telework will enter a new era, with many lessons learned over the past few years [28], [29].

The transition of the learning system from offline to online is something new, where many of the teaching staff has to ultimately be able to master technology. This, of course, can improve hard skills in addition to psychologically working from home, making family relationships closer, and reducing stress compared to having to work offline (D2).

I agree there is a new phenomenon arising from this digital world where many new things can be obtained, especially mastering ICT digital tools in organizations. (R3).

In addition, many workers and leaders lacked experience with teleworking. pandemic issues are also included with telework experience in an uncertain and changing environment with digital technologies and a highly congested global city environment [30].

As a result, teleworker risks could be minimized through effective e-leadership. A successful e-leadership strategy would also have positive impacts on an organization. Without effective e-leadership and support for teleworkers, demands like overload, trouble juggling work and non-work, and feeling lonely and socially isolated are likely to increase the chance of fatigue and stress. After Teleworking is implemented, monitoring and evaluation of teleworking should be conducted, including hard and soft skills, to ensure effective e-leadership and their impact on the organization and its workers.

B. Virtual Learning and Leadership in Higher Education

A successful organization needs leaders who are willing to take on leadership roles. Taking high-quality, innovative ideas and spreading them throughout society is crucial to success. Management and quality are related in many ways. Leaders of an organization guide the organization's members based on their understanding of distance education design, management, and leadership.

A strong leadership position enables distance education programs to accomplish their objectives successfully and efficiently while remaining responsive to the needs of their beneficiaries and users. This approach to developing distance education centers on integrating vision, knowledge, design, management, and leadership.

When the distance learning process is implemented, the principal submits it to the teacher; each teacher is asked to plan and choose an application that will be used for online learning while still coordinating with divisional leaders to stay connected with students (H2).

Leaders still carry out evaluation and monitoring meetings due to being able to understand better every progress of online learning, including

discussing existing obstacles where one of the obstacles for every teacher is how to reduce students' anxiety and fatigue during online activities (J3).

According to our findings, virtual learning requires new styles and strategies to supplement or replace traditional understanding essentials. In this case, the virtual leader is responsible for implementing educational reforms both internally and externally so that education itself will be more effective. Lines of authority should be clear, but ideas should flow among all participants, and decisions should be made on a group basis, not on an individual basis. According to Liu et al. [31], virtual communication is essential in the e-leadership process, but surprisingly, there has been a slight improvement in this area of study. Furthermore, they recommend that e-leadership be investigated for technology adoption and effectiveness of technology use. In addition, Chua and Chua [32] conclude that seven core factors are responsible for the quality of e-leadership and provide the basis for its effectiveness, including preparation, practice, support, strategy, culture, overcoming barriers, and learning how to integrate ICT into the leadership function.

C. E-Leadership and ICT in Higher Education

E-leadership is an emerging trend in the 21st century requiring leaders to utilize ICT tools for competitiveness and engage in e-leadership. Research on e-leadership has not been as extensive as that on e-administration. Most people think of e-leadership as a technique to improve communication within a company by utilizing ICT. Still, the term encompasses a much more extensive range of approaches that companies and individuals can take to boost productivity, effectiveness, and efficiency by leveraging ICT [33].

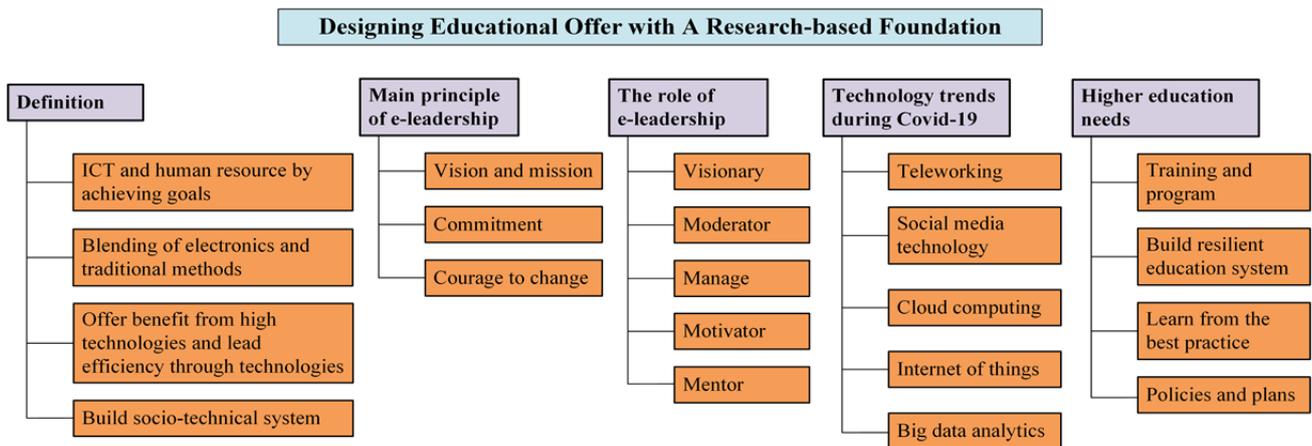


Figure 1. Designing educational officer with research-based foundation

E-leadership in education has begun using ICT extensively. The primary classroom activities include preparing and delivering support and e-mail communications lectures. According to Liu et al. [31], video conferences may lead to the next phase of e-leadership practices, which is transformation through e-communication. E-leadership techniques help transform ICT practices in educational institutions by integrating virtual teams, content management systems, and social media [34].

Every leader in higher education uses an integrated application system, one of which is 'SIKAD,' an online academic system built to provide convenience in educational management and assist and facilitate the dissemination of information (RI).

Every teacher during the COVID-19 pandemic starts to innovate, one of which is by using video as a learning medium. The teacher will more easily convey the material, and students will feel the teacher's assistance in this online learning (JI).

D. Future Demand for E-leadership and Engagements with Educational Institutions in Leadership through E-leadership

Different types of jobs have been considered when constructing the structure for e-leadership. As education for e-leadership includes e-leadership skills, it should serve the first-order purpose by utilizing ICT to foster innovation. Because e-leadership comprises three competency areas, e-leadership programs can cover all three or complement existing core skills and competencies in one or two of these areas. Technology trends are constantly being embraced by e-leadership at all times. To be successful in e-leadership, we must adapt to ICT development and try out its applications. Our research describes e-leadership during pandemic COVID-19 and the future demands for e-leadership and engagement with educational institutions, which need to be examined and updated. By conducting in-depth interviews, we have discovered their skills and needs and the barriers they face to providing these insights into the design of educational offerings. We looked at existing initiatives, offerings, and policies to encourage e-leadership in higher education. To determine e-leadership education gaps and support requests. We are laying the foundation for an educational offering shown in Figure 1.

5. Conclusion

During the COVID-19 pandemic, our analysis revealed four key findings of how e-leadership plays a role in learning in higher education. During the COVID-19 pandemic, changes occurred in almost all sectors, one of which was the education sector. Changes occurred in the learning process, which was initially offline to online. During the COVID-19 pandemic, every university in Indonesia enforced an online learning process, using Zoom, Google Meet, and WhatsApp. A leader has to play an essential role in continuing his leadership during the COVID-19 pandemic. A high level of supervision is expected in universities to ensure that the educational process can continue. It is a new transition for the teaching system from off-line instruction to online instruction, so many of the faculty and staff will ultimately need to become proficient in using technology. In addition, many workers and leaders have no experience with teleworking. Also, standard operating procedures have changed from offline to online, making it difficult for formal education leaders to adapt to online systems requiring monitoring, supervising, and performing other support activities remotely. E-leadership is needed to implement remote work, including hard and soft skills, and disseminate information in a balanced, reliable, and accurate manner to ensure effective and impactful electronic leadership. As a leader, in times of crisis such as the COVID-19 pandemic, formal education has to also provide support and certainty to students, staff, and parents. Taking high-quality, innovative ideas and spreading them throughout the community is critical to success. Organizational leaders are responsible for guiding organizational members based on their knowledge of distance education design, management, and leadership. A strong leadership position enables distance education programs to achieve their goals successfully and efficiently while remaining responsive to the needs of their recipients and users. An integrated approach is being used to develop distance education covering vision, knowledge, design, management, and leadership. E-leadership in education has begun to use ICT widely, where classroom activities include preparing and providing support and communication for lectures using and utilizing ICT. Our research highlights e-leadership during the COVID-19 pandemic and the future demands for e-leadership and engagement with educational institutions, which need to be examined and updated. We look at existing initiatives, offerings, and policies to foster e-leadership in higher education.

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