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Leadership to overcome the limits of virtual education at tertiary level

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Abstract. *The development of technology, increasing innovation in every field and the influx of digital natives into schools and work have inevitably led to dramatic changes in almost every aspect of life. One of the areas where these changes have begun to manifest themselves is leadership. In this study, leadership, which is one of the indispensable prerequisites for an effective education, will be discussed in the context of digital education. For this purpose, the characteristics of a leader who aims to maximize student satisfaction and educational achievement in the digital classroom context are investigated. In addition to the literature review, the opinions of experienced teachers were also taken into consideration while collecting the data. The findings reveal that the skills that a good e-leader should possess can be categorized under six headings. These are consistency, inclusiveness, empathy, technological and pedagogical competence, and strong ethical values. The study also explores what each group encompasses and what skills good digital leadership may require in the coming years.*

Keywords: *Digital leadership, virtual education, skills, tertiary level, achievement*

1. Introduction

Technology which has gained considerable momentum in the last decades has led to radical changes in almost every field of life. Education is one of these fields. The conveniences provided by technology, the demands of people to get education no matter where they are have brought the concept of distance education to the attention of all concerned. Distance education is done in two ways: (1) synchronously and (2) asynchronously. In a synchronous class, students and the educator use the application interactively with each other via a live connection. In this context, students can ask questions, discuss with each other, or solve tests. Asynchronous education is web-based education. In this type of education, students can access courses, take tests, participate in activities, take as many courses as they want, and repeat them as many times as they want [1]. The mixture of face-to-face learning and digital learning is called the hybrid method. This method is proposed as a solution to the limitations of using digital-based methods alone in the education and training process [2].

Whatever the methodology or technology is, if it is not coupled with strong leadership, it is impossible to achieve the intended result. Therefore, leadership is as important in the classroom as the methodology used. As Finch (2019) states, leadership styles change in parallel with the changes in needs and expectations of people, which are determined by some factors such as the environment, the characteristics of the people involved, resources, economic and political factors, technology,

organizational culture, and the characteristics of individuals. The new style of leadership, which gained momentum in virtual learning settings, has been referred to as virtual leadership.

Although the expectations from leaders and the characteristics they should possess have changed over the years due to the changes in the factors listed above, leadership has maintained its importance in every context throughout history. For this reason, leadership in education and training activities in virtual environments has been the subject of many studies. In this study, the characteristics of a leader who aims to maximize student satisfaction and educational achievement in a digital classroom environment will be investigated based on the opinions of experienced instructors and the information obtained from the literature review.

2. Literature Review

Although distance learning started to emerge in the mid-19th century, online education started to appear in the late 1900s. The first online teaching program was used by the University of Phoenix in 1989 [4]. Since then, there have been a considerable number of studies exploring all aspects of online education. In the literature review section of this study, examples from studies after 2015 are taken into consideration.

One of these, focused on the skills a good teacher and classroom leader should have [5]. It was stated that a Virtual Teacher Report prepared for the United States Congress Office of Technology Assessment in 1989 emphasized that the most important element for successful distance education is a good instructor. He/she should have a very good education and have intensive information on the effect of remote education on students. In the study, the researcher collected the literature written about e-leadership in education between the years 1993 and 2010. Based on these, he developed e-leadership strategies with an emphasis on e-charisma, e-ethics, e-trust skill sets, e-culture, e-communication skills, and e-decision-making skills.

Then, another researcher emphasized the qualities that both students and teachers should have [6]. He said that both teachers and students had some roles concerning leadership in online education. One of the biggest challenges of online education was to increase the level of student engagement. Online education can be both synchronous and asynchronous. In synchronous virtual learning, students are expected to attend classes online, while in asynchronous learning they are expected to watch pre-recorded lectures. It is, therefore, almost impossible to establish reliable live communication. Recently, hybrid learning, which can be interpreted as a mixture of these two forms of learning, has also emerged.

For online education, whether, both the teacher and the learner have tasks that make each of them the leader of the education. The tasks that can make the student the leader of education are; answering questions and even leading conversations, taking part in discussions and collaborating with other students on assigned tasks, and supporting the learning environment with positive contributions. Teachers, on the other hand, should try to reach students in different creative ways, should not allow communication to break down due to the difficulties of the virtual environment, and should carry out the evaluation process meticulously and identify the parts that students do not understand. In this way, a competent online learning environment can be created in which both parties assume leadership roles from their perspectives.

Alotebi et al. (2018) reviewed the studies on virtual learning environments (VLE) with the intention of finding the most effective leadership style [7]. They concluded that interactional and transformational leadership styles are more effective than others. Among these, interactionist leadership, which argues that extrinsic rewards are influential, is more effective in achieving short-term results, while transformational leadership, which uses intrinsic rewards, is seen to be superior and effective in issues such as performance, innovation, creativity, and especially student satisfaction. Clark (2000) states that no matter how good the technology is, if the teacher is not good, it is useless [8].

Some studies on this subject have tried to determine the most appropriate leadership style for

digital education. The research conducted by Minela (2020) showed that although instructors prefer a liberal leadership style in online education, they also benefit from autocratic and democratic leadership styles, which leads to the use of different methods of organization, leadership, and evaluation [9]. Antonopoulou et al. (2020) investigated what type of leadership might be the most effective factor to enable digital transformation in higher education and found that digital leadership is positively related to satisfaction and effectiveness [10]. The study revealed a difference between genders in terms of leadership practices. In particular, the transformational leadership, transactional leadership, and digital leadership levels of male participants were statistically significantly higher than those of female participants. They also found that the top five digital skills that leaders should have are social media, cloud computing, mobile apps, web development and tools, and big data. Another study found that transformational leadership has a positive impact on online learning performance and satisfaction [11]. The research conducted by Sudiana and Saputra (2021) at a higher education institution also found that managers should adopt transformational leadership behaviors so that digital mastery can be developed and digital collaboration can be fostered [12].

The model developed by Hughes et al. (2005) considers the use of technology in three stages and recognizes that technology use occurs at three different levels: (a) Technology as Substitution; (b) Technology as Empowerment; and (c) Technology as Transformation [13]. This method, called the RAT framework for ICT (Information and Communication Technology) integration, is shown in Figure 1.

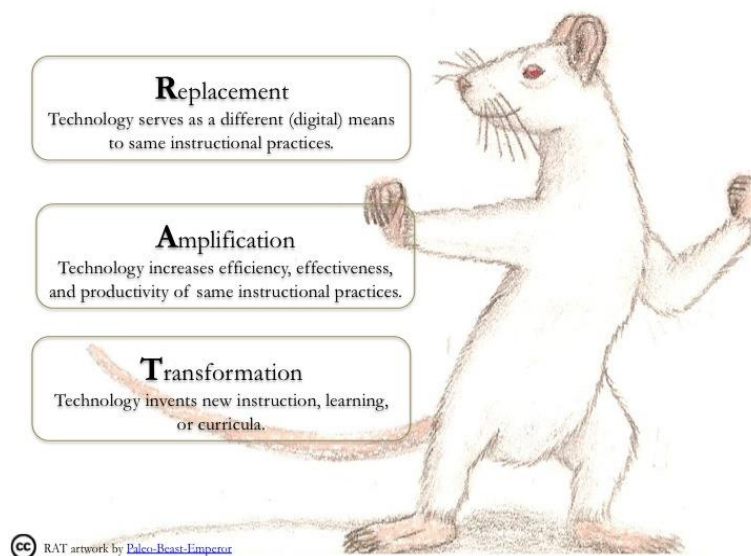


Figure 1. RAT Model for ICT integration [14]

Aurangzeb and Mazhar (2019) analysed e-leadership practices in Pakistan and found that the transition towards e-leadership practices has begun at Pakistani universities [15]. They contributed to the studies by identifying the gaps in the process and developed the model in Figure 2 to decide what to do to accelerate the transition to ICT.

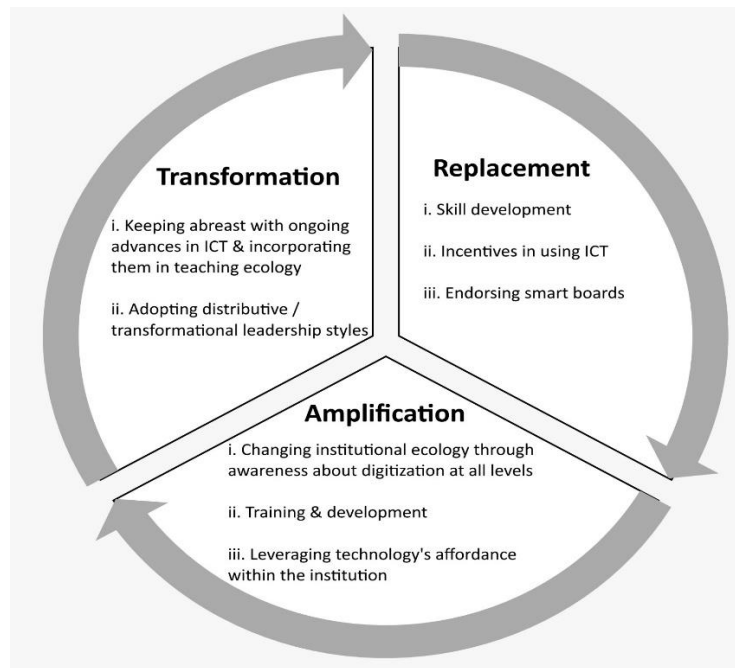


Figure 2. Proposed model for ICT adoption on RAT framework [15]

It advises offering incentives to individuals employing ICT tools at the lower level the organizational hierarchy and setting up trainings to advance their skills. According to the model's next level, the teaching-learning environment of a particular educational institution can be changed by implementing full learning management systems, holding regular awareness sessions about the overuse of digitalization, and providing focused hands-on training for doing so. The model's final level deals with adopting the newest ICT tools as they become available and putting them into practice using transformative and distributive leadership philosophies.

One of the issues particularly emphasized in the studies is that teachers need to have a good command of technology to be e-leaders. Sharp et al. (2019), one of the researchers who addressed this issue, stated that doing the job effectively depends on the effective use of technology, and therefore underlined that people in leadership positions should be trained on the applications they are expected to use. On the other hand, technological devices should be designed to meet the demands of managers [16].

2.1 Knowledge and skills e-leaders should possess

In e-leadership practices, the traditional leadership roles of leaders continue, but they are expected to increase their performance by using digital technologies. Therefore, e-leadership requires both traditional and digital methods to be used together in harmony. Leaders are expected to fulfil basic expectations such as influencing the community they address, increasing their motivation, and providing direction and vision, and they are expected to accomplish these more effectively with the help of digital technology. Therefore, e-leaders should be able to use technology actively, keep abreast of developments, and apply them to their work [17; 18]. On the other hand, technological devices should be designed to meet the demands of managers [16]. Yuting et al (2022) emphasises the importance of experience in e-leadership in addition to technological knowledge. He also emphasises that they should have e-skills for an effective in e-leadership [18].

A lot of research has been done to determine what knowledge and skills leaders are expected to possess. In one of them, Jameson (2013) conducted a literature review to and summarized his conclusions into three categories [19]. Figure 3, which is referred to as the e-leadership framework, shows these knowledge and skills.

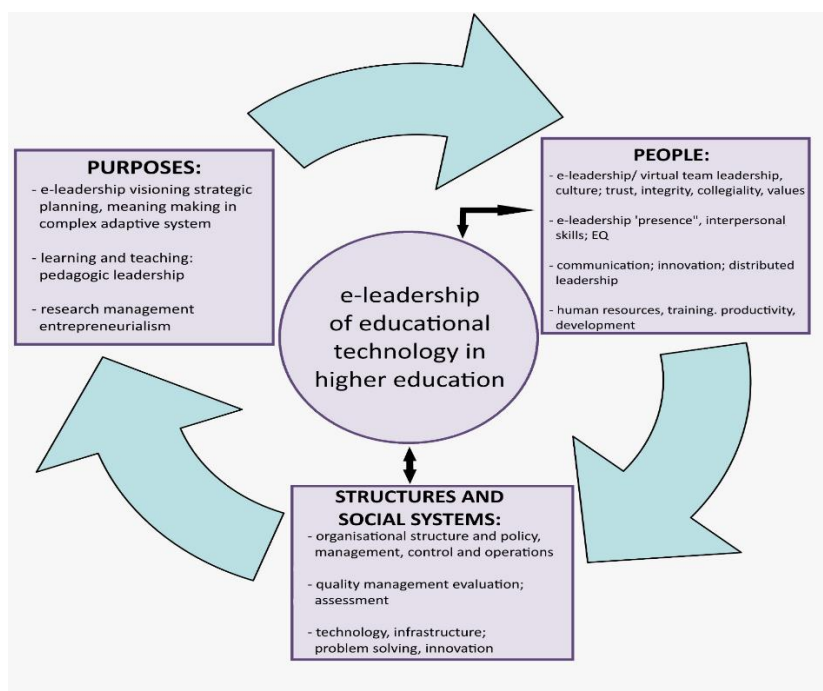


Figure 3: E-leadership framework for educational technology in higher education [19]

3. Methodology

Due to the transition to online education under pandemic conditions, both students and teachers gained experience in online education. Later, because of the devastating effects of the earthquake in the eastern regions of Turkey, universities had to switch to online education for another semester, reinforcing the experiences gained in this practice. This study was conducted with the participation of 10 faculty members working at a maritime university. In this context, faculty members who provided fully online education respectively due to the pandemic and the earthquake, therefore gained a lot of experience in online education, were interviewed. The interview was semi-structured, and the interviewees were firstly asked to explain "what are the pros and cons of online education" and secondly to identify "the skills that an effective e-leader should have in this field". To make the interviewees feel comfortable, the interview was not audio recorded, but the interviewer took notes with paper and pen where necessary.

4. Results

When the information obtained from both the interviews and the literature review on this subject is combined, the skills and traits an e-leader in virtual education is supposed to have can easily be identified. In this context, the skills expected to be possessed by the e-leader to provide an effective and efficient education can be categorized into six groups. As Figure 4 shows, an effective e-leader in a virtual classroom should be consistent, inclusive, empathetic, and competent both technologically and pedagogically. They should also be ethical.



Figure 4. Traits of a Leader in Virtual Education

Consistency: The instructor who is an e-leader in the virtual classroom should be consistent in his behaviours. This is something that provides the cooperation for his followers [20]. In order to demonstrate effective e-leadership in the school, there needs to be congruence between what the faculty member says and what he/she does. For example, He is expected to stick to pre-announced exam dates or topics, conduct lessons as planned and announced to the students at the beginning of the academic year and inform the students about the ethical policies and code of conduct related to the course and behave in parallel with them.

Inclusiveness: An effective educator is an educator who can reach all students and can address everyone without exception. While it is very difficult to reach all students even in a face-to-face classroom environment, it is almost impossible to achieve this in a virtual environment. However, an instructor with effective e-leadership skills can achieve this, thus enabling students to maximize the efficiency of virtual classes. In this respect, it is very similar to inclusive leadership, which is defined as effectively managing a community of diverse people [21]. An e-leader should understand the general characteristics and conditions of the students who come from different backgrounds and consider their specific needs. The instructor should also develop a sense of social environment to attract students and maintain their continuity. In addition to these, it is important for an e-leader to use appropriate technological devices specific to students with special needs and ensure that individuals with special needs receive an education equivalent to other students. A good e-leader should be aware of the richness of diversity as the most obvious indicator of inclusion and foster a culture of respect and tolerance for diversity among students. In fact, respecting these values should be one of the fundamental policies of education together with covering people from all ethnic backgrounds, religions, races or with different views or opinions on various matters.

Empathy: Empathy has become one of the indispensable leadership qualities of the modern age. Teachers in higher education also need to empathize, especially in virtual education. Because they don't know the students' backgrounds and are unaware of their problems, expectations, and needs, they try to meet their requests and include them in the lesson. They are likely to accomplish this difficult task if they empathize successfully. However, Brosi and Schuth (2020) stated that increased use of

information and communication technology decreased empathy, trust, and understanding among those involved in it [22, 23].

Technological Competence: Today, leaders in higher education need to have sufficient technological knowledge, e-skills, and therefore knowledge and experience of e-leadership practices to bring the conveniences of technology into the educational environment and to provide a technology-supported learning environment [18].

The e-leader should know the capabilities and weaknesses of the system for a productive teaching and learning process and should take into account both the possibilities and limitations of the system and the expectations and needs of the students when developing course materials. In addition, an effective e-leader should consider the accessibility of learners when selecting all kinds of educational aids, including online, offline, and synchronous and asynchronous technologies to be used during training. He or she monitors students' progress from various perspectives and is proactive in identifying and addressing challenges in accessing technology. In addition, a competent e-leader should be knowledgeable about the use of technology in courses and be able to provide guidance and support to students on the effective and efficient use of technologies involved in distance education. They should also give motivating feedback to students regarding the use of technology.

Pedagogical Competence: A good e-leader not only needs to know the subject he/she is going to teach but also needs to answer students' questions in a timely and accurate manner in order to keep their interest alive and increase their motivation in the most interesting, memorable, and efficient way.

Students should be aware of the rules of behaviour in the virtual environment in order to carry out in-class and out-of-class communication in a proper way. Informing students about this and establishing an effective communication system are among the duties of the e-leader. In addition to these, they should avoid behaviours that will cause discontent in the environment and give importance to the continuity of education. Among the duties of a good e-leader is to guide the student in the right direction. For this reason, the e-leader should be able to lead the students both in course-related and extracurricular matters, recommend plenty of resources, and guide them in preparing assignments with original content.

It is an accepted fact that technology and methods are changing. People are trying to keep up with new technologies and the innovations they bring in all fields. However, it is not only technology that changes. People are also changing, and their expectations and needs are diversifying. Therefore, new methods and approaches are needed to address the needs of new generations. When the medium is in a virtual environment, much more attention should be paid due to the difficulties brought by the virtual means. It is very important to include learning activities that will ensure student-student, student-content, and student-instructor interaction and cooperation, and to use a mix of different teaching methods instead of a single method. The most important issue to be emphasized here is not to teach students new subjects, but to teach them how to learn; therefore, the most significant task expected from an effective e-leader in education should be to teach how to learn and how to change in parallel with changes.

Ethics: Ethics is a wide-ranging issue that requires attention in all areas. It is normal to have students of different cultures, backgrounds, and nationalities in the classroom. The e-leader should avoid using expressions that promote or discriminate against certain religions, races, ethnicities, or other views and opinions, and should not privilege or victimize anyone because of any particular characteristic. They should also be sensitive about the content of their courses and avoid including elements that could be considered advertisements for certain individuals, organizations, or brands. Besides, e-leaders should respect the privacy and confidentiality of students in online environments as they do everywhere else.

5. Conclusion

The successful implementation of digital education requires strong leadership. Today, in order to satisfy the generations born into technology, it is absolutely necessary to move away from traditional education methods and to use the opportunities and capabilities provided by technology. In this process, it is

inevitable that some problems will be encountered, unusual and complex situations will arise, and some challenges will arise for both students and teachers.

During this transition period, well-equipped, highly knowledgeable, and effective leaders are needed. In this study, it was concluded that the most important characteristics expected from an effective digital leader are to be well equipped both technically and professionally. In addition, the strong digital leaders of our age in education are expected to approach students with consistency, empathize with them, try to understand their state of mind and thoughts, be at an equal distance to everyone, and not exclude anyone for any reason whatsoever. It is also important to keep in mind that: It may be possible to keep up with technology, but it is one of the most important tasks of digital leaders—perhaps the most important one—to be able to appeal to people and to prevent young people, who are increasingly isolated by technological possibilities, from feeling empty.

In view of above discussions, the lecturer must understand and apply the following for an effective online class leadership:

- Conduct lessons as planned and announced to the students at the beginning of the academic year and inform the students about the ethical policies and code of conduct related to the course.
- Consider measures that will support the participation of remote students in the learning process flexibly regardless of location and time.
- Understand the general characteristics and conditions of the students and considers the specific needs of them.
- Be aware of the system capabilities and weaknesses in its use for an efficient teaching and learning experience.
- Adjust distant education activities in accordance with the objectives and content of the course.
- Design learning and teaching activities and resources in accordance with general distance learning principles as well as specifications of the system.
- When choosing the online/offline or synchronous/asynchronous technologies to be used in the course, considers the access possibilities of the students.
- When choosing and designing learning activities and learning resources, pays attention to the fact that they support self-learning.
- Consider current multimedia design principles in the development and design of learning resources.
- Include learning activities that will ensure student-student, student-content, student-instructor interaction, and cooperation.
- Avoids using a uniform teaching approach in courses and include diversity in planning the learning-teaching process by using appropriate methods and materials.
- Provide timely feedback on students' questions to maintain interest and attendance.
- Make his/her presence felt to the students in the learning-teaching sessions.
- Clearly define the approach, communication, and rules of conduct to be followed in the virtual classroom.
- Develop a sense of social environment to attract students and maintain their continuity.
- Intervene in a timely manner in controlling and managing initiatives that may adversely affect the learning environment.
- Consider development of a culture of respect and tolerance towards differences among students and declare these values as one of the basic policies of the course.
- Refrain from the use of expressions that promote or discriminate against certain religions, races, ethnicities, or other views and opinions.
- Avoid including elements that can be considered as advertisements of certain persons, organizations, or brands in the course contents.
- Share the references of the resources used in the preparation of the content and materials with the students and ensure that the content presented to students is as original as possible.

- Provide guidance and support to students on the effective and efficient use of technologies used in distance education and give motivating feedback on students' use of technology.
- Use appropriate technologies specific to students with special needs and ensure that individuals with special needs receive an education equivalent to other students.
- Respects the privacy and confidentiality of students in online environments. of remote students in the learning process flexibly regardless of location and time.

If all these points are fully implemented, it may be possible to achieve effective leadership. However, as in every field, there is a rapid change in the field of digital education. Therefore, the requirements of digital leadership should be reviewed frequently and reorganized in line with the changing conditions of the field and the changing expectations and needs of stakeholders.

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