



Students' Perception of the Role of Online Teachers: Comparing Routine and Emergency Times

Hava Sason*, Egoza Wasserman, Mordechai Zvi Safrai and Shlomo Romi

Herzog College, Jerusalem, Israel

Social distancing during the COVID-19 pandemic forced the education system to instantly transition to online learning and teaching. Studies show that the challenges of emergency remote teaching (ERT) differ from those of online learning during routine times. Do student's perceptions of teachers' roles during online learning differ between ERT and routine online classes as well? Addressing this question can illuminate different aspects of the role of a teacher at different times, thus facilitating the improvement of online learning. This study compares students' perceptions of their teachers' roles in the online courses they attended during the pandemic, with perceptions of students who attended online courses in routine times when distance learning was a regular part of the academic program. The participants who attended online courses during routine times were 520 undergraduates in a teacher-education college. A second group of 475 undergraduates from the same college responded at the end of a semester of emergency online learning during the pandemic. Both groups answered questionnaires regarding their perception of four aspects of the role of online teachers: pedagogical, technical, affective, and differentiating. The findings showed that during emergency times, students had significantly higher expectations for teachers' technical and affective roles than in routine times. However, students had lower expectations regarding teachers' differentiating role during emergencies, and similar expectations for teachers' pedagogical role in both situations. These findings highlight the need to plan curricula to suit different situations and different needs, and emphasize the different characteristics of the teachers' role in different situations, in order to optimally address students' needs in times of routine and emergency alike.

Keywords: emergency remote teaching, teacher's role, online learning, students' perceptions, undergraduate students, teaching college

1 INTRODUCTION

Since the 1990s, online teaching and learning have become an increasingly substantial part of many curricula (Tynan et al., 2015; Cole et al., 2017). The growing number of online academic courses indicates that institutions of higher education view online learning as an essential part of their educational platforms (Allen and Seaman, 2013; Lai et al., 2016; Huang, 2017).

This paper was written during the second year of the COVID-19 pandemic, a crisis that highlighted the critical need for online learning (Lipsitch et al., 2020) as campuses closed and social distancing rules were imposed. Schools and colleges worldwide were thrust into online

OPEN ACCESS

Edited by:

Mona Hmoud AlSheikh,
Imam Abdulrahman Bin Faisal
University, Saudi Arabia

Reviewed by:

James Roger Valles,
Prairie View A&M University,
United States
Ishwanzya Rivers,
University of Louisville, United States

*Correspondence:

Hava Sason
havasason@gmail.com

Specialty section:

This article was submitted to
Higher Education,
a section of the journal
Frontiers in Education

Received: 31 August 2021

Accepted: 23 December 2021

Published: 11 January 2022

Citation:

Sason H, Wasserman E, Safrai MZ and
Romi S (2022) Students' Perception of
the Role of Online Teachers:
Comparing Routine and
Emergency Times.
Front. Educ. 6:767700.
doi: 10.3389/educ.2021.767700

learning with little time to prepare. In 2020, all second-semester courses were taught online (Brady and Pradhan, 2020; Crawford et al., 2020). This instantaneous transition to *emergency remote teaching* (ERT) (Altbach and de Wit, 2020; Hodges et al., 2020) allowed no time for methodical preparation. Teachers, faculty members, and students had no choice but to adopt new teaching methods and technologies instantaneously. Face-to-face interaction was replaced with online teaching, online learning and teaching-management systems, course websites, and digital tools. The country in which this study was conducted was no exception. The entire education system, from preschool to graduate programs, transitioned to distance learning and teaching. The final decision that all academic studies would be online was made 2 weeks before the semester began, forcing students and teachers to make the transition with no prior warning or preparation.

To learn more about this transition and its outcomes, the present study examines the differences between the roles of online teachers as perceived by students during an emergency situation, i.e. the COVID-19 pandemic, and during routine times. Lee (2011) listed four teacher roles—pedagogical, technical, affective, and differentiating—which will be used as parameters for comparison.

2 LITERATURE REVIEW

2.1 Online Learning

Online learning has benefits of its own, such as high accessibility (Stone and O'Shea, 2019); enabling students who are geographically distant from each other to cooperate and share information (Donista-Schmidt and Topaz, 2018); and flexibility of location and schedule (Stone et al., 2019). However, it poses several challenges as well, such as forcing students to organize and manage their learning independently, without ongoing guidance (Kop et al., 2011; Huang, 2017). Other challenges are technological, such as unstable internet connections, access to equipment, difficulties managing and navigating technological realms (Allen and Seaman, 2013; Almuraqab, 2020; Bozjurt and Sharma, 2020), and the absence of eye contact, teachers' gestures, and a classroom atmosphere (Allen and Seaman, 2013; Almuraqab, 2020; Bozkurt and Sharma, 2020; Hodges et al., 2020). Online teachers should be aware of these challenges and take them into account so that they can help students overcome difficulties and succeed in their learning.

2.2 The Teacher's Role in Online Learning

Studies have shown that teachers play a highly significant role in successful online learning, and that their interaction with students can impact learning effectiveness (Lee and Choi, 2011; Yerby, 2017). It is not the technology itself, but how it is relayed and implemented by the teacher, that determines learning efficiency (Coppola et al., 2002; Huang, 2017; Lee, 2011). The manner in which teachers fulfill their roles affects students' achievements (Kang and Im, 2013; Wright et al., 2015), motivation (Brenton, 2014; Cole et al., 2017), and satisfaction with online courses (Burnett et al., 2007; Sher, 2009). Lim and Lee

(2008), who reviewed studies designed to characterize the roles that the teacher must play in online courses, found that in most studies, the teacher's role is divided into three main components—technical, managerial, and pedagogical. The *technical role* includes using online learning environments and technical support. The *managerial role* is related to managing the students and the computer-based learning environment, and the *pedagogical role* emphasizes students' involvement in computer-based learning environments based on the teacher's pedagogical skills.

However, Coppola et al. (2002), Lee (2011), and Huang (2017) showed that these roles alone cannot sustain optimal learning and help students become independent learners and succeed in online courses. The teacher-student interaction must include aspects that go beyond instructional interaction related to pedagogy, course management, and the technological environment. Thus, Coppola et al. (2002) found that in addition to the technical, managerial, and pedagogical roles, online teaching must include the *affective role*, i.e. the emotional support the teacher provides for the student, and the overall class atmosphere that is essential for this type of learning. The affective role must be accompanied by two other roles—the *cognitive role*, which relates to the mental processes of learning and thinking (and includes the pedagogical role), and the *administrative role* of class and student management, which also includes the technological role.

Lee (2011), who studied a multicultural computer-based learning environment and examined students' perceptions of teachers' roles in online courses, also identified the affective role as essential and fundamental for online teaching. He then added a previously unidentified role—the *differentiating role*—in which teachers encourage independent learning, expose their students to diverse viewpoints, and accommodate the differences in students' ability to learn at their own pace and style.

Thus, Lee (2011) defined five roles that students expect from teachers in distance learning—*pedagogical, affective, technical, managerial, and differentiating*. His findings indicated that participants perceived teachers' affective and differentiating roles as the most significant for learning and success. He maintained that teachers of online courses must integrate the pedagogical, managerial, and technical roles with the affective and differentiating roles that are crucial for the learner.

2.3 Emergency Remote Teaching (ERT)

"Emergency remote teaching (ERT) is a temporary shift of instructional delivery to an alternate delivery mode due to crisis circumstances" (Hodges et al., 2020, p. 6). Although online-learning technology was first introduced in the 1990s (Lai et al., 2016; Huang, 2017), the COVID-19-induced sudden shutdown of the education system in 2020 shocked the education community, as teachers scrambled to adapt to ERT (Hodges et al., 2020). Lacking sufficient time to prepare for this kind of teaching (Brady and Pradhan, 2020; Mohammed et al., 2020; Wu, 2021), teachers used the technical and pedagogical means available to them. Under these circumstances, their main goal was not to recreate a robust and effective education system but to teach using supporting instruction and guidance quickly,

accessibly, and reliably during the crisis (Golden 2020; Hodges and Fowler, 2020).

Routine online learning and ERT share the physical distance between teacher and learner, but there are essential differences between them, foremost among them is the lack of time to plan and prepare an ERT course (Almuraqab, 2020; Hodges et al., 2020). Unlike online courses during routine times, which are planned months in advance, ERT courses are prepared within days. Without prior development and planning, the quality and management of the course and the possibility of building an organized learning and support environment for the students may be compromised (Mohammed et al., 2020).

In addition, support during routine online learning is more readily available than in emergency times, as the courses have fewer students and teachers. Schlesselman (2020) maintained that staff and support teams cannot offer the same level of support for all teachers and students, due to the greater demand for assistance and the time pressure during the state of crisis.

Furthermore, emergency situations generate difficulties at home and within the family, affecting students' freedom and availability for learning and hindering the students' ability to manage the course requirements (Heo and Han, 2020; Lazarevic and Bentz, 2021). For example, students may be home with their children or younger siblings, whose schools are also closed, and therefore must learn to study online despite interruptions and while caring for young children. Another challenge is that not every household has enough computers and equipment for all its members, which can also affect course attendance (Almuraqab, 2020; Hodges et al., 2020).

During routine times, online learning is limited to a few, pre-designated and pre-selected courses, where teachers are free to choose whether they want to teach online. However, in emergencies, the entire system is compelled to use the online platform, regardless of teachers' and students' technical and technological capabilities. In routine times, teachers who are not comfortable developing online learning platforms will avoid teaching online courses, as will students for whom technology is an obstacle. However, the pandemic offered no alternative and made online learning mandatory for everyone. This could be a source of stress for students and teachers alike, and this stress, in turn, could be reflected in students' feelings and expectations of their teachers (Bozkurt and Sharma, 2020). Howland and Moore (2002) and Sansone et al. (2011) highlighted the teachers' role in the success of an online course and in deterring students from dropping out of their courses. As an examination of students' expectations of teachers could further illuminate this role, this study explores students' perceptions of the teacher's role in ERT and compares it with their perceptions for online courses in pre-pandemic days, using the online questionnaire by Lee (2011) for assessing teachers' roles during times of emergency and routine. The findings can be used to formulate recommendations for effective teaching in both situations, with an emphasis on the teacher roles that are critical for each one, as each present different challenges both for teaching and learning.

The research hypothesis was that students would expect teachers to play all four roles—pedagogical, technical, affective,

and differentiating—and would expect more from each role during emergency times than during routine times because:

- 1) Pedagogy is the primary role for teaching and learning, and during the pandemic, students have an even greater need for successful teaching methods than in routine situations.
- 2) The swift transition to online learning presents technical challenges without enabling a gradual adjustment period, making teachers' technical roles crucial.
- 3) The complexities and stress that characterize emergencies demand the affective role.
- 4) The differentiating role became significant when the pandemic dictated that independent and individual learning be the only possible form of study.

3 METHODOLOGY

3.1 Participants

The participants in the two stages of research were undergraduate students from different faculties (special education, mathematics, science, geography, history, civil studies, bible studies, English, linguistics, and communication) in one teaching college. The students in this college come from diverse socioeconomic backgrounds. The vast majority own computers and have internet access. During the pandemic, the college assisted the few who did not by loaning them computers.

The routine-times group included 520 students, out of 1,000 students who received the questionnaire (all the relevant students at the college at the time), and the emergency-times (COVID-19) group comprised 475 students out of 1,120 students who received the questionnaire (all the students at the college at the time).

Participants' background data are presented in **Table 1**.

The participants in both groups belonged to a pre-defined group of BA students in a single college. The groups' demographics were similar from the perspective of age, field of study, gender distribution, year of study, etc. This allowed comparisons to be made between their perceptions of the teacher's role in online learning during routine and emergency times, and to draw conclusions.

3.2 Tools

The research tool was a 20-statement questionnaire that examined perceptions of teachers' roles in online courses (Lee, 2011). The statements referred to five roles: pedagogical, managerial, technical, affective, and differentiating, and were used to compare students' perception of online teachers' roles during routine times and emergency times. A confirmatory factor analysis was conducted for the variable Perception of Teacher's Role in an online course. This Varimax factor analysis was used to confirm Lee's theory regarding the distribution of these factors. Orthogonal rotation maximizes the loading variance of a given factor and presents several discrete variables.

The factor analysis yielded four factors related to teachers' roles—pedagogical, technical, affective, and differentiating. The pedagogical role refers to the teacher's pedagogical abilities and includes content knowledge and the way it is relayed ($\alpha = 0.714$).

TABLE 1 | Participants' data.

	Mean age	Men	Women	Percentage men (%)	Percentage women (%)	Total
Routine	26.40 (<i>SD</i> = 7.82)	275	245	52.9	47.1	520
Emergency	28.67 (<i>SD</i> = 6.58)	189	286	39.8	60.2	475

TABLE 2 | Mean scores for each role.

	Pedagogical role	Technical role	Affective role	Differentiating role
Mean	6.42	4.36	4.54	5.31
<i>SD</i>	0.59	1.18	1.15	1.15

The technical role addresses the teacher's ability to use media effectively, an ability indicative of the technical skills needed to develop online learning environments and technical tools that can be used effectively in online learning environments ($\alpha = 0.658$). The affective role includes the interpersonal aspects of the teacher's role that are not directly related to the content taught ($\alpha = 0.714$). The differentiating role refers to the teacher's ability to encourage independent and individual learning.

Four statements that did not appear in either analysis were removed ("Use chat program effectively," "Be culturally neutral regarding content," "Be patient," and "Don't overload") due to the low loading of the statements. The mean scores for each role are presented in **Table 2**.

3.3 Procedure

The students' answers to the questionnaire on perceptions of the teacher's role (Lee, 2011) were collected at two points in time. The questionnaires were sent out twice to the personal email addresses of all the BA students in the Department of Education at the college. The questionnaires were anonymous, and students answered them voluntarily.

3.3.1 Stage 1: May-June 2018

Questionnaires were distributed by email to all 1,000 undergraduate students in a teacher education college who had taken online courses. The students were asked to answer questions about their teacher's roles in the online courses they had taken. The researchers asked that the completed questionnaires be sent back by email within 2 weeks, and 520 completed questionnaires were received.

3.3.2 Stage 2: May 2020

Questionnaires were sent again after a semester of online learning due to the COVID-19 pandemic. Other than a few Zoom sessions, the lessons were all asynchronous. The teachers uploaded recorded lessons and assignments to the course's Moodle space, as done for routine online courses. The questionnaires were emailed to all 1,100 undergraduate students at the same teacher education college as in Stage 1. The researchers asked for the completed questionnaires to be emailed to them within 2 weeks, and 475 completed questionnaires were received.

3.4 Findings

A factor analysis was conducted on students' perception of the online teacher's role, aiming to compare their perceptions in emergency and routine times. The statements are listed in **Table 3**, organized by factor and results of the Varimax factor analysis.

A MANOVA was conducted to examine the differences between online learning in emergency times and in routine times according to the four factors of perceptions of the online teacher's role (pedagogical, technical, affective, and differentiating). The analysis revealed a significant difference between the simultaneous examination of all factors by period (routine vs. emergency) $F(4,976) = 28.52, p < 0.001, \eta^2 = 0.105$.

The means calculated for each factor of perceptions of teachers' roles in online courses during routine and emergency periods are presented in **Figure 1**.

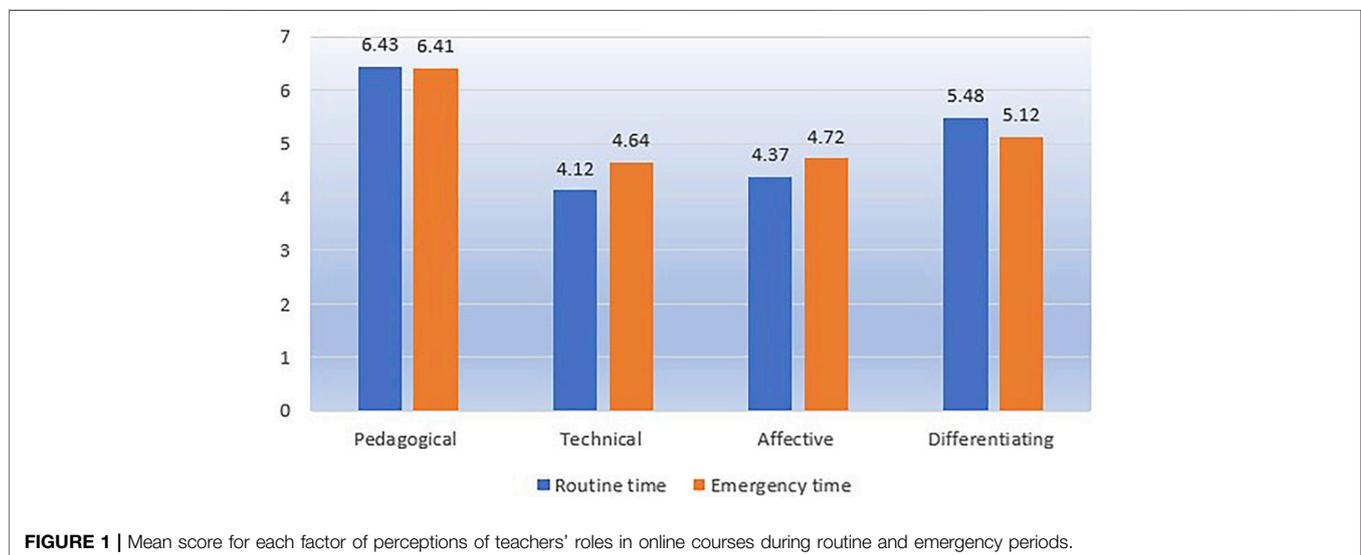
After the MANOVA, four one-way ANOVAs were performed to examine differences between the perception of teachers' roles in online learning during times of emergency and routine for each of the four factors. This analysis revealed significant differences. For the affective factor, $F(1,979) = 23.081, p < 0.0001$, meaning that in times of emergency, students expect the affective role to be more prevalent ($M = 4.72, SD = 1.12$) than during routine times ($M = 4.37, SD = 1.16$). A significant difference was also found for the technical factor, $F(1,979) = 50.136, p < 0.0001$. In emergency times, students have higher expectations for the technical role ($M = 4.64, SD = 1.14$) than in routine times ($M = 4.12, SD = 1.16$). For the differentiating factor, a significant difference was found as well, $F(1,979) = 24.788, p < 0.0001$, with lower expectations on the part of students during emergency times ($M = 5.48, SD = 1.11$) than during routine times ($M = 5.12, SD = 1.16$). Finally, for the pedagogical factor, no significant differences were found $F(1,979) = 0.501, p = 0.48$ between emergency and routine times.

4 DISCUSSION

While writing this paper, COVID-19 is still a worldwide pandemic. Among its many effects on health, economy, and almost every aspect of life, the pandemic almost instantly changed teaching methods throughout the education system, including in

TABLE 3 | Students' statements, categorized by factor, and results of the Varimax factor analysis.

	Pedagogical role	Affective role	Technical role	Differentiating role
Clear directions	0.835	—	—	—
Be clear	0.823	—	—	—
Lecture effectively	0.707	—	—	—
Develop user-friendly web pages	0.611	—	—	—
Undertake review of the teaching and learning processes	0.406	—	—	—
Have fluent knowledge of the related subjects	0.383	—	—	—
Give affective support	—	0.689	—	—
Accommodate individual needs	—	0.688	—	—
Establish rapport	—	0.582	—	—
Be social or provide off-task activities	—	0.531	—	—
Use video and audio-conferencing tools effectively	—	—	0.688	—
Develop and support learning communities	—	—	0.673	—
Use discussion forums effectively	—	—	0.582	—
Manage time properly	—	—	0.471	—
Offer multiple perspectives	—	—	—	0.750
Encourage self-directed learning	—	—	—	0.678
Percent of explained variance	17.59%	12.3%	11.58%	10.48%
Percent of accumulated explained variance	17.59%	29.9%	41.48%	51.97%
Eigenvalue	5.14	2.32	1.67	1.23
Alpha Cronbach reliability	0.714	0.714	0.658	0.534
Mean	6.42	4.54	4.36	5.31
SD	0.59	1.15	1.18	1.15



higher education (Altbach and de wit, 2020). The teacher's role changed from that of a classroom teacher to that of an online teacher. The attributes of emergency remote teaching (ERT) differ from those of online teaching during routine times. Among these attributes are the amount of time devoted to planning the course, the number of students who require technical support, and students' personal circumstances (Almuraqab, 2020; Heo and Han, 2020; Hodges et al., 2020; Mohammed et al., 2020). In the present study, we compared students' perceptions of the role of the teacher in online learning after a semester of ERT, with results obtained with a similar population during routine times (Author et al., 2020), to examine whether perceptions had changed.

While numerous studies have addressed teachers' roles during routine times (e.g., Kang and Im, 2013; Huang, 2017; Yerby, 2017), they did not compare them with the teachers' roles during an emergency situation. Learning about students' perceptions and whether they differ between routine and emergency times could provide a gateway towards understanding the challenges of distance learning. This study strives to understand these perceptions and use this understanding to help teachers plan and manage their online courses.

The findings revealed significant differences between students' perceptions in routine and emergency times for three of the four roles—technical, affective, and differentiating. The expectations for the technical role were significantly higher during an

emergency than during routine times. A possible explanation could be that all students are required to learn online during emergencies, not only the technologically savvy ones, meaning that more students expect and need technical support. Additionally, as all learning in times of emergency is online, as opposed to only some courses in routine times, more technological difficulties and challenges emerge (Almuraqab, 2020; Bozkurt and Sharma, 2020). According to Mohammed et al. (2020), educators' main challenge during this crisis is their lack of technological skills and lack of experience in developing online learning platforms. The present study reveals that this is also a major challenge for students, and they expect the teachers to provide more technical support than during routine times. Therefore, it is incumbent upon teachers and management in higher education to develop appropriate tools and support systems to address technical challenges encountered by students. Soomro et al. (2020) recommended that academic institutions equip the classrooms, libraries, and halls with the most updated technological equipment, and provide faculty members with tools such as additional training and technical support to develop their digital orientation. Moreover, the technological difficulties of online learning may cause more stress and anxiety in students (Bollinger and Halupa, 2012). Times of emergency are generally more stressful than routine times, and it is possible that students' natural tendency would be to seek more technological help to reduce their overall anxiety levels during this period than during routine times.

Stress and anxiety can also explain the significant differences in the perception of the teacher's affective role. The study revealed that during times of emergency, students expect the teacher to play the affective role, which includes, for example, the expectation that they would form a warm, understanding, and empathetic relationship, and tailor teaching more specifically to the student's unique needs, to a greater degree than during routine times. The stress and anxiety caused by the emergency situation may affect the student, resulting in a greater need for emotional support to facilitate learning.

This need was clearly stated by Bozkurt and Sharma (2020), who claimed that in times of crisis, when people are suffering trauma and psychological stress, the focus should be on cooperating with the students and supporting them, not merely on teaching the required material.

Similarly, Cao et al. (2020) noted that emotional help and support from academic institutions in times of crisis are essential for building students' ability to successfully cope with learning, despite the stress they may be experiencing.

Therefore, it is recommended that academic institutions reinforce existing support centers for students, open additional channels of support in cooperation with the teachers, and maintain ongoing contact with the students. Teachers should be attentive to the need for such support and invest in creating an empathetic relationship with the students and be more sensitive to their needs than in routine times.

However, regarding the differential role, a negative correlation was found between students' perception of the teacher's role in routine and emergency times. In other words, during

emergencies, students have lower expectations about their teachers exposing them to diverse viewpoints and encouraging independent learning than they would during routine times. During emergencies, everyone is forced to adapt to rapid changes. Perhaps students are focused on "survival" and getting through the courses in the best way possible, and are not open to expanding their horizons or to independent learning. This finding was supported by Heo and Han (2020), who reported a negative correlation between academic pressure and levels of self-directed learning readiness, so that—as found in the present study—when students are under great pressure, they are less capable of managing and directing their learning on their own.

Additionally, independent learning, which is always required in online learning, poses a challenge for those students who would not have enrolled in the online course in routine times. In emergency situations, they are obligated to take all courses online, and students who have difficulties learning on their own must enroll for lack of alternatives. This was voiced in a questionnaire distributed during the pandemic, and may explain the difference in students' perceptions of their teachers' roles during these very different periods.

However, no differences were found between students' expectations of the pedagogical role in routine and emergency times. ERT did not affect students' desire that teachers be clear, understandable, and focused. It seems that this is an essential role that students expect at any time and under all circumstances, both routine and emergency. Indeed, studies of the online teacher's role indicate that the pedagogical role is central and essential to teaching these courses (Lim and Lee, 2008; Kang and Im, 2013; Yerby, 2017). Therefore, even ERT teachers should be careful to teach in a precise and understandable way, be knowledgeable, make sure to give the appropriate amount of work to regulate the workload, and, overall, invest in teaching pedagogy. This expectation of the online teacher is consistent and does not change despite the circumstances. Investment in technical or affective skills, which are so necessary in times of emergency, cannot replace investment in pedagogy.

5 RESEARCH LIMITATIONS

The questionnaire was distributed at the same college during routine times and after the ERT semester. Both research populations tested were similar in age, gender, and fields of study. While this similarity increases reliability, it could hinder the generalizability of the findings.

In addition, because the participants in the study were undergraduate student teachers, their view of teachers' roles may be affected by their professional choice. For example, they may emphasize pedagogical aspects and be aware of the importance of the affective role, perspectives, and other aspects of the teacher's role in online learning, which students in other disciplines may not be aware of. Future studies should include students in other disciplines, other institutions, or those pursuing advanced degrees.

6 CONCLUSIONS AND RECOMMENDATIONS

The worldwide COVID-19 pandemic forced the education system, including higher education, to transition from classroom teaching to distance learning. The challenges facing online teachers have been studied extensively. However, because ERT challenges differ from those of online teaching during routine times, the present study examined whether students' perceptions of the teacher's role differ as well. The findings revealed the importance of the affective and technical roles in ERT. It is likely that affective and technical support can help reduce students' stress levels, which is typical of emergency times, and help them succeed in their studies. It is recommended that academic institutions address these needs in times of crisis by providing students with technological workshops and programs designed to strengthen their mental resilience. This can be achieved by augmenting existing support centers and encouraging teachers to plan and manage their courses in a manner that better addresses students' technical and affective needs than during routine times.

Furthermore, the fact that students expect less independent and less varied learning during an emergency could have applicable and practical implications for teaching methods. Teachers must consider this expectation and use different methods to guide students toward independent learning, which is crucial for their success (Heo and Han, 2020; Huang, 2017). Here too, it is recommended that academic institutions encourage teachers to use teaching methods and tools that

enhance and develop students' independent learning skills. However, investing in these teaching capabilities during times of emergency cannot replace the extremely essential investment in pedagogy. The study revealed that students expect meticulous teaching and optimal pedagogy in times of emergency, just as in routine times.

DATA AVAILABILITY STATEMENT

The original contributions presented in the study are included in the article/Supplementary Material, further inquiries can be directed to the corresponding author.

AUTHOR CONTRIBUTIONS

HS and EW contributed to conception and design of the study. MS organized the database. EW performed the statistical analysis. HS wrote the first draft of the manuscript. HS and EW wrote sections of the manuscript. All authors contributed to manuscript revision, read, and approved the submitted version.

ACKNOWLEDGMENTS

This article was supported by Herzog Academic College.

REFERENCES

- Allen, I. E., and Seaman, J. (2013). *Changing Course: Ten Years of Tracking Online Education in the United States*. Newburyport, MA: Sloan Consortium.
- Almuraqab, N. A. S. (2020). Shall Universities at the UAE Continue Distance Learning after the COVID-19 Pandemic? Revealing Students' Perspective. *SSRN* 11 (5), 3620824.
- Al-Rabiaah, A., Temsah, M. H., Al-Eyadhy, A. A., Hasan, G. M., Al-Zamil, F., Al-Subaie, S., et al. (2020). Middle East Respiratory Syndrome-Corona Virus (MERS-CoV) Associated Stress Among Medical Students at a University Teaching Hospital in Saudi Arabia. *J. Infect Public Health*, 13, 687–691. doi:10.1016/j.jiph.2020.01.005
- Altbach, P. G., and de wit, H. (2020). *Are We at a Transformative Moment for Online Learning?*. Boston, MA: University World News, 2
- Bolliger, D. U., and Halupa, C. (2012). Student Perceptions of Satisfaction and Anxiety in an Online Doctoral Program. *Distance Education* 33 (1), 81–98. doi:10.1080/01587919.2012.667961
- Bozkurt, A., and Sharma, R. C. (2020). Emergency Remote Teaching in a Time of Global Crisis Due to Coronavirus Pandemic. *Asian J. Distance Educ.* 15. i–vi. doi:10.5281/zenodo.3778083
- Brady, A. K., and Pradhan, D. (2020). Learning without Borders: Asynchronous and Distance Learning in the Age of COVID-19 and beyond. *ATS Sch.* 1 (3), 233–242. doi:10.34197/ats-scholar.2020-0046PS
- Brenton, S. (2014). "Effective Online Teaching and Learning," in *A Handbook for Teaching and Learning in Higher Education* (London, United Kingdom: Routledge), 161–173.
- Burnett, K., Bonnici, L. J., Miksa, S. D., and Kim, J. (2007). Frequency, Intensity and Topicality in Online Learning: An Exploration of the Interaction Dimensions that Contribute to Student Satisfaction in Online Learning. *J. Education Libr. Inf. Sci.* 48 (1), 21–35.
- Cao, W., Fang, Z., Hou, G., Han, M., Xu, X., Dong, J., et al. (2020). The Psychological Impact of the COVID-19 Epidemic on College Students in China. *Psychiatry Res.*, 112934. doi:10.1016/j.psychres.2020.112934
- Carter Jr, R. A., Jr, Rice, M., Yang, S., and Jackson, H. A. (2020). Self-regulated Learning in Online Learning Environments: Strategies for Remote Learning. *Ils* 121, 321–329. doi:10.1108/ils-04-2020-0114
- Cheok, M. L., Wong, S. L., and Wong, S. L. (2015). Predictors of E-Learning Satisfaction in Teaching and Learning for School Teachers: A Literature Review. *Int. J. Instruction* 8, 75–90. doi:10.12973/iji.2015.816a
- Cole, A., Anderson, C., Bunton, T., Cherney, M., Fisher, V. C., Featherston, M., et al. (2017). Student Predisposition to Instructor Feedback and Perceptions of Teaching Presence Predict Motivation toward Online Courses. *Online Learn. J.* 21 (4), 245–262. doi:10.24059/olj.v21i4.966
- Coppola, N. W., Hiltz, S. R., and Rotter, N. G. (2002). Becoming a Virtual Professor: Pedagogical Roles and Asynchronous Learning Networks. *J. Management Inf. Syst.* 18 (4), 169–189. doi:10.1080/07421222.2002.11045703
- Crawford, J., Butler-Henderson, K., Rudolph, J., Malkawi, B., Glowatz, M., Burton, R., et al. (2020). COVID-19: 20 Countries' Higher Education Intra-period Digital Pedagogy Responses. *J. App. Learn. Teach.* 3 (1), 1–20. doi:10.37074/jalt.2020.3.1.7
- Donitsa-Schmidt, S., and Topaz, B. (2018). Massive Open Online Courses as a Knowledge Base for Teachers. *J. Education Teach.* 44 (5), 608–620. doi:10.1080/02607476.2018.1516350
- Golden, C. (2020). *Remote Teaching: The Glass Half-Full. EDUCAUSE Review*. Available at: <https://er.educause.edu/blogs/2020/3/remote-teaching-the-glass-half-full>.
- Hall, M. (2011). A Predictive Validity Study of the Revised McVay Readiness or Online Learning Questionnaire. *Online J. Distance Learn. Admin* 14 (3). March 5, 2019. Retrieved from: <https://www.learntechlib.org/p/52625/>.
- Heo, J., and Han, S. (2020). Effects of Motivation, Academic Stress and Age in Predicting Self-Directed Learning Readiness (SDLR): Focused on Online

- College Students. *Educ. Inf. Technol.* 23 (1), 61–71. doi:10.1007/s10639-017-9585-2
- Hodges, C., and Fowler, D. (2020). The COVID-19 Crisis and Faculty Members in Higher Education: From Emergency Remote Teaching to Better Teaching through Reflection. *Int. J. Multidisciplinary Pers. Higher Educ.* 5 (1), 118–122. doi:10.32674/jimphe.v5i1.2507
- Hodges, C., Moore, S., Locke, B., Trust, T., and Bond, A. (2020). The Difference between Emergency Remote Teaching and Online Learning. *Educause Rev.* 27.
- Howland, J. L., and Moore, J. L. (2002). Student Perceptions as Distance Learners in Internet-Based Courses. *Distance Education* 23 (2), 183–195. doi:10.1080/0158791022000009196
- Huang, Q. (2017). Development of an Instrument to Explore Teacher Roles Based on Perceptions of English Learners in Online Learning Context. *Cross-Cultural Commun.* 13 (5), 1–11. doi:10.3968/9711
- Hult, A., Dahlgren, E., Hamilton, D., and Söderström, T. (2005). Teachers' Invisible Presence in Net-Based Distance Education. *Int. Rev. Res. Open Distributed Learn.* 6 (3), 51–61. doi:10.19173/irrodl.v6i3.262
- Kang, M., and Im, T. (2013). Factors of Learner-Instructor Interaction Which Predict Perceived Learning Outcomes in Online Learning Environment. *J. Computer Assist. Learn.* 29, 292–301. doi:10.1111/jcal.12005
- Kop, R., Fournier, H., and Mak, J. S. F. (2011). A Pedagogy of Abundance or a Pedagogy to Support Human Beings? Participant Support on Massive Open Online Courses. *Irrodl* 12 (7), 74–93. doi:10.19173/irrodl.v12i7.1041
- Lai, C., Yeung, Y., and Hu, J. (2016). University Student and Teacher Perceptions of Teacher Roles in Promoting Autonomous Language Learning with Technology Outside the Classroom. *Computer Assist. Lang. Learn.* 29, 703–723. doi:10.1080/09588221.2015.1016441
- Lazarevic, B., and Bentz, D. (2021). *Student Perception of Stress in Online and Face-To-Face Learning: The Exploration of Stress Determinants*. *Amer. J. Distance Educ.* 35 (1), 2–15. doi:10.1080/08923647.2020.1748491
- Lee, Y., and Choi, J. (2011). A Review of Online Course Dropout Research: Implications for Practice and Future Research. *Education Tech Res. Dev* 59, 593–618. doi:10.1007/s11423-010-9177-y
- Lee, D. Y. (2011). Korean and Foreign Students' Perceptions of the Teacher's Role in a Multicultural Online Learning Environment in Korea. *Education Tech Res. Dev* 59, 913–935. doi:10.1007/s11423-011-9219-0
- Lim, K., and Lee, D. Y. (2008). "A Comprehensive Approach to the Teacher's Role in Computer Supported Learning Environments," in Society for Inform. Technol. and Teacher Educ. International Conference (Las Vegas, NV: Association for the Advancement of Computing in Education AACE), 4208–4213. Available at: <https://www.learntechlib.org/primary/p/27916/>
- Lipsitch, M., Swerdlow, D. L., and Finelli, L. (2020). Defining the Epidemiology of Covid-19 - Studies Needed. *N. Engl. J. Med.* 382, 1194–1196. doi:10.1056/NEJMp2002125
- Mohammed, A. O., Khidhir, B. A., Nazeer, A., and Vijayan, V. J. (2020). Emergency Remote Teaching during Coronavirus Pandemic: The Current Trend and Future Directive at Middle East College Oman. *Innovative Infrastructure Solutions* 5 (3), 1–11. doi:10.1007/s41062-020-00326-7
- Patterson, B., and McFadden, C. (2009). Attrition in Online Campus Degree Programs. *Online J. Distance Educ. Admin.* 12 (2).
- Patterson, B., Mallett, W., and McFadden, C. (2012). Does Online Outshine. Online vs. Campus-Based Degree Withdrawal and Completion Rates within an MBA Program. *Int. J. Online Pedagog. Course Des.* , 2(1). doi:10.4018/ijopcd.2012010104
- Portal, L. (2020). *Spotlight: Quality Education for All during COVID-19 Crisis*. Retrieved April 14, 2020.
- Roper, A. R. (2007). How Students Develop Online Skills. *Educause Q.* 30, 62–64.
- Samruayruen, B., Enriquez, J., Natakatoong, O., and Samruayruen, K. (2013). Self-regulated Learning: A Key of a Successful Learner in Online Learning Environments in Thailand. *J. Educ. Comput. Res.* 48, 45–69. doi:10.2190/ec.48.1.c
- Sansone, C., Fraughton, T., Zachary, J. L., Butner, J., and Heiner, C. (2011). Self-regulation of Motivation when Learning Online: The Importance of Who, Why and How. *Education Tech Res. Dev* 59 (2), 199–212. doi:10.1007/s11423-011-9193-6
- Schlesselman, L. S. (2020). Perspective from a Teaching and Learning Center during Emergency Remote Teaching. *Am. J. Pharma. Educ.* 84 (8). doi:10.5688/ajpe8142
- Sher, A. (2009). Assessing the Relationship of Student-Instructor and Student-Student Interaction to Student Learning and Satisfaction in Web-Based Online Learning Environment. *J. Interactive Online Learn.* 8, 102–120.
- Soomro, K. A., Kale, U., Curtis, R., Akcaoglu, M., and Bernstein, M. (2020). Digital Divide Among Higher Education Faculty. *Int. J. Educ. Technol. Higher Educ.* 17, 1–16. doi:10.1186/s41239-020-00191-5
- Stone, C., and O'Shea, S. (2019). Older, Online and First: Recommendations for Retention and Success. *Ajet*, 35(1). doi:10.14742/ajet.3913
- Stone, C., Freeman, E., Dymont, J. E., Muir, T., and Milthorpe, N. (2019). Equal or Equitable? the Role of Flexibility within Online Education. *Aust. Int. J. Rural Educ.* 29 (2), 26–40. doi:10.3316/informit.639619709196818
- Su, J., and Waugh, M. L. (2018). Online Student Persistence or Attrition: Observations Related to Expectations, Preferences, and Outcomes. *J. Interactive Online Learn.* 16 (1), 63–79.
- Tsai, C. W. (2010). The Effects of Feedback in the Implementation of Web-Mediated Self-Regulated Learning. *Cyberpsychology, Behav. Soc. Networking* 13 (2), 153–158. doi:10.1089/cyber.2009.0267
- Tynan, B., Ryan, Y., and Lamont-Mills, A. (2015). Examining Workload Models in Online and Blended Teaching. *Br. J. Educ. Technol.* 46 (1), 5–15. doi:10.1111/bjet.12111
- Weimer, M. (2013). *Student Persistence in Online Courses: Understanding the Key Factors*. Faculty Focus. Available at: <http://www.facultyfocus.com/articles/teaching-professor-blog/student-persistence-in-online-courses-understanding-the-key-factors/>.
- Wright, R., Jones, G., D', A., and Alba, N. A. (2015). Online Students' Attitudes towards Rapport-Building Traits and Practices. *Ijil* 17 (1), 36–58. doi:10.1504/IJIL.2015.066063
- Wu, S.-Y. (2021). How Teachers Conduct Online Teaching During the COVID-19 Pandemic: A Case Study of Taiwan. *Front. Educ.* 6, 11. doi:10.3389/educ.2021.675434
- Yerby, J. (2017). *An Analysis of Presence in an Asynchronous Online Undergraduate Mastery Course Using Structural Equation Modeling [Unpublished Doctoral Dissertation]*. Atlanta, GA: Georgia State University.

Conflict of Interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's Note: All claims expressed in this article are solely those of the authors and do not necessarily represent those of their affiliated organizations, or those of the publisher, the editors and the reviewers. Any product that may be evaluated in this article, or claim that may be made by its manufacturer, is not guaranteed or endorsed by the publisher.

Copyright © 2022 Sason, Wasserman, Safray and Romi. This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY). The use, distribution or reproduction in other forums is permitted, provided the original author(s) and the copyright owner(s) are credited and that the original publication in this journal is cited, in accordance with accepted academic practice. No use, distribution or reproduction is permitted which does not comply with these terms.