



An Exploratory Investigation of Teacher Perceptions of Education and Communication at the Beginning of the COVID-19 Pandemic

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Abstract: In March 2020, teachers in the K–12 school system were forced to transition from in-person instruction to a variety of virtual teaching models due to the COVID-19 pandemic. This unprecedented change required extensive communication between teachers, students, parents, and administrators. This study explored communication during the March–May 2020 transition period, utilizing Uncertainty Management Theory as an overarching framework to investigate how teacher comfort with online learning, communication overload, administrative clarity, and student–teacher interaction influenced the effectiveness and happiness of teachers. Across these four variables, communication overload was shown to be a strong negative predictor of teacher well-being; student–teacher interaction predicted positive teaching outcomes.

Introduction

In March 2020, the COVID-19 pandemic started spreading exponentially on the North American continent. By the end of the year, infection cases in the United States topped 20 million and reported deaths surpassed 346,000. Thus, the U.S. accounted for roughly one quarter of all global cases and nearly 20% of all global deaths. As a result of the surge in cases, school systems across the nation (and world) transitioned to online learning in March 2020 (Dhawan, 2020). Within a 2-week period, over 124,000 school buildings were closed, leaving more than 55 million students to navigate a new virtual education system (Herold, 2020). Although discussion across the nation would eventually focus on resolving

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inequities (e.g., summer school, remediation; Kamenetz, 2020) and preparing for a future with social distance learning, the initial focus was how to complete the final 2½ months of the academic year.

Teachers played an important role in this transition, navigating a variety of different online educational approaches to continue instruction, provide assessments, and communicate with students. Juggling communication with students, administrators, and parents was essential (Daniel, 2020) yet complicated. Teachers were certainly at the frontline of the crisis, and the success of the pandemic transition depended in large part upon how teachers managed the uncertain situation. Importantly, the ways teachers managed their communication with students, administrators, and others, as well as their experience with communication technology platforms, has implications on how to improve these processes in future unexpected situations.

Thus, the purpose of this exploratory study is to investigate teacher perceptions of communication and educational technology during the first months of the pandemic. Specifically, this study investigates a host of perceptual (i.e., teacher comfort with online instruction) and communicative (i.e., communication overload, administrative clarity, student–teacher interaction) variables and how they influenced teacher effectiveness, happiness, and work–life balance during the March–May 2020 period of the pandemic.

The K–12 Teaching Experience During the Pandemic

K–12 educators face many challenges both within and beyond the classroom, including negative perceptions from community members, reduced funding models (Lenstra, 2019), increased government accountability measures and testing (Shepherd-Jones & Salisbury-Glennon, 2018; Wright, 2019; Yastremski, 2019), and reduced parent and community involvement (Gilmore & Kramer, 2019). For these reasons (among others) K–12 education was in crisis before the 2020 lockdown (Gilmore & Kramer, 2019; Rudick & Dannels, 2019). The lockdown both revealed and exacerbated these issues. At the point of the compulsory lockdown, many school districts took an extended spring break to prepare for the change. During this time, administrators and teachers worked fervently to adopt and implement various online learning platforms and transform lesson plans to work effectively within them.

Pre-pandemic, educational policy researchers emphasized preparing for unfamiliar and uncontrollable future events by training teachers to be flexible and adaptable to uncertain situations (Gilead & Dishon, 2022). The pandemic has renewed this discussion as education researchers consider the new realities brought on by the pandemic, including the need to quickly transition between teaching formats, and have considered variables such as teacher agency (Damsa et al., 2021), technostress (Dahabiyeh et al., 2022), and the Science of Learning and Development framework (SoLD, Rigaud et al., 2022). The present exploratory study attempts to continue this discussion by considering crisis in educational settings through the lens of several communicative and educational variables.

Uncertainty management theory (UMT) is instructive concerning the classroom and socioemotional variables relevant to this study. UMT (Brashers, 2001) provides a guiding framework for how individuals deal with uncertain situations, especially those situations that are unpredictable, complicated, and contain varying levels of credible information. UMT is often used in health and interpersonal communication research, but is also helpful in crisis situations such as the COVID-19 pandemic. Specifically, Brashers posited that communication is the primary way we manage uncertainty, and based on how we assess

uncertainty and subsequent emotional responses, we can predict patterns of behavior (e.g., information seeking, information avoidance; Brashers et al., 2002). Since the pandemic was an unprecedented situation for school systems, managing the uncertainty of the situation, assessing incoming information, and creating outgoing information was a potentially stressful predicament for teachers. The need to not only manage the uncertainty and stress of the situation themselves, but to also portray confidence and comfort to students and parents was complicated. Importantly, Brashers et al. (2004) has found that attempts to comfort and support during uncertain times can both help but also potentially hinder recipients of the support.

During the pandemic transition to complete school during March–May 2020, teachers attempted to cope with many variables associated with uncertainty. These variables related to their interactions with parents, students, teachers, and administrators. Four are considered here.

Teacher Comfort With Online Instruction

The transition to an online learning environment required a certain set of software skills, skills that teachers may have known prior to the pandemic or would need to learn on the spot. According to Elgart (2021), 98% of teachers had to learn new skills to confront the online learning environment, and 70% reported that preparing online assignments required more prep time. In another study, over 92% of teachers indicated that they had never taught online before or had never received any meaningful online education training (Marshall et al., 2020). The necessity of acquiring new skills and adapting current curriculum and assignments in a crisis situation was rated as quite stressful, and many teachers reported missing normal school life. Additionally, some teachers simplified the transition by revising assignments during remote instruction to be based on easier information or previously learned material (Elgart, 2021).

The transition to online teaching may have been even more difficult for novice and student teachers (Delamarter & Ewart 2020; Marshall et al., 2020), especially since pre-pandemic student teachers had already expressed anxiety over online teaching (Poyo, 2016). Such teachers may have looked on the successful transitioning to online education as imperative to keeping or acquiring future employment. Not only may the transition have been worrisome for current employment and teacher well-being, but concern about the future of teaching may have added to stress about career ambitions (Delamarter & Ewart, 2020).

It is assumed that teachers who are more comfortable with online teaching would manage the uncertainty of the pandemic transition better than those who lacked such experience. Acquiring and understanding vast amounts of instruction on potentially unfamiliar software applications could certainly impact stress, anxiety, and uncertainty felt by teachers in an already difficult situation. Although familiarity with online technology would not eliminate the confusion, it could certainly reduce situational uncertainty and prevent teachers from feeling completely lost during the early stages of the educational transition. Thus, the following is hypothesized:

H1: Teacher comfort with online instruction positively predicts (a) overall happiness, (b) overall teaching happiness, (c) overall teaching effectiveness, and (d) work–life balance during the transition to online education during the pandemic.

Communication Overload

The amount of communication required to navigate the transition obviously increased for teachers during the pandemic. Teachers not only needed to adapt teaching formats and revise assignments, but they also needed to communicate information about those changes to many stakeholders. The need for teachers to receive and send messages to administrators, colleagues, parents, and students was essential to managing uncertainty related to the transition. With an increased amount of information, a variety of negative outcomes could potentially result, including burnout for all involved.

The quantity of messages is most often the focus when considering communication overload. In the pandemic situation, the number of messages and the amount of information channels could potentially be overwhelming. Since communication overload also involves message quality (Stephens et al., 2017), the inability to process and comprehend many instructions could be especially demoralizing: “Confusing or vague messages contributed the most to peoples’ perceptions of communication overload” (Stephens et al., 2017, p. 15). Both quantity and quality of communication can lead to overload and subsequent uncertainty, which can be associated with a host of negative outcomes. Thus, the following is hypothesized:

H2: Communication overload negatively predicts (a) overall happiness, (b) overall teaching happiness, (c) overall teaching effectiveness, and (d) work–life balance during the transition to online education during the pandemic.

Administrative Clarity

During the pandemic, administrators made important decisions to help with the online learning transition. For many teachers, administrator communication can be associated with stress (Wright, 2019); however, given the crisis scenario, administrator communication may have likewise been vital. Administrator instructions were potentially given multiple times a day through different communication channels and may have involved a good deal of qualification and revision (Fernandez & Shaw, 2020). During the extended transition period, administrator communication with instructors increased in order to help all teachers navigate the unknown teaching situation. Since teachers working from home may have had limited access to normal interactions with colleagues (90% felt isolated and missed their colleagues; Elgart, 2021), the importance of clear instructions from administrators was paramount to managing uncertainty.

Increased communication does not necessarily mean helpful or clear communication. Administrator efforts may have been complicated by the potential amount of backchannel communication (e.g., among teachers, across schools) and the sheer amount of information and sources administrators needed to sort through to make decisions (Chen-Levi, 2020). The constantly evolving and changing situation would have required great effort by administrators to keep everyone on the same page. Such clarity of administrative decision-making and information dissemination would surely have influenced teacher preparations and subsequent classroom instruction. Thus, the following is hypothesized:

H3: Administrator clarity positively predicts (a) overall happiness, (b) overall teaching happiness, (c) overall teaching effectiveness, and (d) work–life balance during the transition to online education during the pandemic.

Student–Teacher Interaction

Student–teacher interaction is often considered the foundation of classroom instruction. Research has found that student engagement with teachers supports positive educational outcomes (e.g., increased engagement; Nguyen et al., 2018). Likewise, positive student–teacher interactions can help students handle and manage emotional or behavior difficulties in the classroom (Poulou, 2014).

However, the student–teacher interaction experience changed during the pandemic. Not only was instruction mediated via virtual platforms, but the opportunity for informal interactions, the ability to stop by before or after class, or the opportunity to receive tutoring before or after school was greatly impacted. Such adjustments would have negatively impacted students in need of those student–teacher engagement episodes, as well as force teachers to use unfamiliar teaching approaches to reach students. Such unfamiliarity may increase uncertainty, as teachers may not have the same confidence in using these different engagement approaches.

Additionally, teachers would need to communicate about the nature of the educational transition to students and parents. Without such interaction, teachers may find it difficult to assess and determine if students are struggling. Students and teachers that had stronger communication ties would have better opportunities to navigate the difficulties of the teaching transition. Thus, the following is hypothesized:

H4: Student–teacher interaction positively predicts (a) overall happiness, (b) overall teaching happiness, (c) overall teaching effectiveness, and (d) work–life balance during the transition to online education during the pandemic.

Intervariable Relationships

This study targets four variables (teacher comfort with online instruction, communication overload, administrator clarity, student–teacher interaction) and their influence on teachers during the transition to virtual teaching as a result of the COVID-19 pandemic. As this is an exploratory study, the relationship across the four variables is of interest as well. Variables such as teacher comfort with online instruction and communication overload would seem to be related, as the ability to manage information intake would certainly impact whether a teacher finds the communication load to be too much. Thus, the following research question is posed to examine the interrelationships between the four predictor variables:

RQ1: What is the relationship between (a) teacher comfort with online instruction, (b) communication overload, (c) administrator clarity, and (d) student–teacher interaction?

Additionally, given the suggested relationships across these four variables, it is also of interest to know which variables are playing a more important role in respect to our four outcome measures. Although all four are predicted to influence the outcomes measures, it is important to determine which are most important when handling the difficulty of transitioning to online instruction. Thus, the following research question is posed:

RQ2: Which variables (teacher comfort with online instruction, communication overload, administrator clarity, and student–teacher interaction) influence (a) overall happiness, (b) overall teaching happiness, (c) overall teaching effectiveness, and (d) work–life balance the most?

Method

Procedure

This exploratory project is part of a larger study focused on teacher and parent experiences during the COVID-19 pandemic. The data in this project focuses on teacher experiences during the shift to online only instruction during Spring 2020, including changes to instructional design and delivery, and additional communication between teachers, students, parents, and administrators. Given the novelty of the situation, a mixed-methods approach was selected, allowing the authors to reduce bias and gain a more complete picture of teacher experiences (Morris, 2017). Upon IRB approval, online surveys were distributed between May 18, 2020, and June 15, 2020, to capture teaching experiences as the Spring 2020 semester ended. Participants were contacted via convenience and network sampling. First, the authors utilized social media and personal email contacts. Second, the authors reached out to an education professor who shared the survey with their alumni listserv. All participants in this study were required to be K–12 educators and all participants answered basic demographic questions, along with communication variables the researchers considered relevant to the COVID-19 online teaching shift.

Participants

A total of 91 participants completed this project. The majority of participants were female ($n = 84$, 91.2%; male $n = 8$, 8.8%), with ages ranging between 23 and 65 ($M = 38.36$, $SD = 11.89$) and between 1 and 41 years of experience ($M = 10.88$, $SD = 9.78$). The participants were from a variety of positions, with 63 classroom teachers (69.2%), 19 physical education, art, or music teachers (20.9%), 6 special education teachers (6.6%), and 1 teaching assistant (1.1%). Participants were also from a variety of regions of the United States (Midwest $n = 56$, 61.5%; West $n = 29$, 31.9%; South $n = 5$, 5.5%), and most were White ($n = 79$, 86.8%; American Indian/Native Alaskan $n = 8$, 8.8%; two or more races $n = 3$, 3.3%; Asian $n = 1$, 1.1%).

Measures

Given the uniqueness of the COVID-19 pandemic, many of the survey questions were created by the authors for this project, with inspiration from prior research. The questions were created in consultation with an education professor who was familiar with the potential challenges facing teachers. The goal of this project was to explore a unique, time-sensitive issue that had not been studied before, resulting in the need to create survey questions specific to COVID-19 concerns. The resulting questions necessitated a mixed-methods approach, with both quantitative and qualitative analyses. For the quantitative questions, the authors knew the sample size would likely be too small to fully validate the scale items; however, reliability testing and exploratory principal components analyses were still conducted for each concept to ensure created items fit together. Final items used for analysis can be found in Table 1 and descriptive statistics can be found in Table 2.

Quantitative Measures

Teacher Comfort With Online Instruction. The first variable of interest was teachers' comfort with online instruction. Three items were created, and a seven-point Likert scale ranging from strongly disagree to strongly agree was utilized. A principal components analysis with varimax rotation revealed a single factor with an eigenvalue of 1.92 that accounted for 64.01% of the variance. A subsequent reliability test showed acceptable reliability for the three questions ($\alpha = .71$).

TABLE 1	
Factor Loadings Using Principal Components and Varimax Rotation	
Teacher Comfort (64.01% of the variance)	Loading
I felt prepared to teach in the new online format.	.88
I felt comfortable with the technology being used with the new online format.	.88
I had online teaching experience prior to the pandemic.	.61
Communication Overload (50.77% of the variance)	
Since the start of the pandemic, I feel overloaded with information.	.76
Since the start of the pandemic, I feel overwhelmed with the amount of information I receive from administrators.	.75
Since the start of the pandemic, I often find myself overwhelmed because technology has allowed too many other people to have access to my time.	.80
Since the start of the pandemic, I waste a lot of time responding to emails and voicemails that are school-related but not directly related to what I need to get done.	.70
I feel overwhelmed with the amount of questions I receive from parents.	.67
I feel overwhelmed with the amount of questions I receive from students.	.63
I am spending more time on school-related work than before moving online.	.62
Administrator Clarity (89.85% of the variance)	
My administrators have been clear about teaching expectations during the pandemic.	.94
Email correspondence from administrators has been helpful during the pandemic.	.95
Since the start of the pandemic, the messages I receive from administrators are clear.	.96
Student Communication (55.88% of the variance)	
I find it easy to communicate with students.	.81
Students are very responsible to my communication.	.72
Students seem to grasp the online teaching technology quickly.	.74
I am able to effectively teach my class.	.80
Students are reaching out with questions or concerns about class.	.67

TABLE 2										
Descriptive Statistics and Bivariate Correlations Among Manifest Indicators (N = 90)										
Variables	M	SD	1	2	3	4	5	6	7	8
1. Teacher Comfort	3.49	1.45	1.00	-.26*	.28**	.42**	.23*	.37**	.36**	.26*
2. Communication Overload	4.77	1.28	–	1.00	-.23*	-.15	-.31**	-.28**	-.19	-.61**
3. Administrator Clarity	4.30	1.79	–	–	1.00	.19	.12	.05	.10	.28**
4. Student–Teacher Interaction	3.63	1.27	–	–	–	1.00	.26*	.52**	.63**	.15
5. Happiness	4.11	1.55	–	–	–	–	1.00	.62**	.32**	.51**
6. Teaching Happiness	3.15	1.39	–	–	–	–	–	1.00	.59**	.28**
7. Teaching Effectiveness	3.23	1.39	–	–	–	–	–	–	1.00	.14
8. Work–Life Balance	3.51	1.82	–	–	–	–	–	–	–	1.00

Note. * $p < .05$; ** $p < .01$

Communication Overload. Communication overload questions centered on messages received by teachers from students, parents, and administrators. Two items from Karr-Wisniewski and Lu (2010) were modified and included: Since the start of the pandemic, I often find myself overwhelmed because technology has allowed too many other people to have access to my time; Since the start of the pandemic, I waste a lot of my time responding to emails and voicemails that are school-related but not directly related to what I need to get done.

The remaining six questions were created based on communication overload research and all questions used a seven-point Likert scale ranging from strongly disagree to strongly agree. Principal components analysis revealed two factors with eigenvalues above 1 which accounted for 59.67% of the variance. Factor one (eigenvalue = 3.05) was communication overload items 1 through 6 and 8, while factor two was item 7 only. Since item 7 (I feel the administration has sent an appropriate amount of information; eigenvalue = 1.08) did not load with the remaining items and overlapped with other measures, it was dropped. The resulting communication overload variable was reliable ($\alpha = .84$).

Administrator Clarity. Administrator clarity items asked participants to report on the messages they received from administrators. The three items utilized a seven-point Likert scale (1 = strongly disagree; 7 = strongly agree) and focused on clarity of teaching expectations, messages, and the use of email for correspondence. The single factor (eigenvalue = 2.70) accounted for 89.85% of the variance. This scale was also reliable ($\alpha = .94$).

Student–Teacher Interaction. In addition to teacher communication with administrators, participants also indicated their communication with students. Using a seven-point Likert scale ranging from strongly disagree to strongly agree, participants indicated students' responsiveness and comprehension of messages from teachers, along with students' comfort with moving online. The principal components analysis revealed a low communality for one item: Students seem confused about my communication. This item was reverse coded but failed to load onto the single factor identified and was dropped. The final factor explained 55.88% of the variance (eigenvalue = 2.79), and the five remaining items were reliable ($\alpha = .80$).

Outcomes. The authors identified four important outcomes regarding teacher satisfaction and self-reported perceptions of teaching performance. These four items were measured with a seven-point Likert type scale and included: Overall happiness, overall teaching happiness, overall teaching effectiveness, and work–life balance. These items were treated as single item indicators.

Qualitative Open-Ended Questions

In order to capture participant reactions to pandemic teaching, three open-ended questions were included in the survey. The first question asked about teacher communication preferences from administrators to understand how teachers and administrators were interacting during the pandemic. The next two questions asked about successes and failures teachers noted during the shift to online teaching. These responses were analyzed using thematic analysis to identify common trends in teacher experiences during the COVID-19 transition. The authors began by individually reading responses to identify key participant experiences around the research questions. The authors focused on identifying occurrences that were recurrent and repetitive (Owen, 1984). After reading responses, the authors discussed emerging themes and achieved consensus through discussion.

Results

Exploratory Quantitative Analysis

Hypothesis one focused on the positive impact of teacher comfort with online instruction on four variables. Linear regression tests showed significant positive relationships with all four outcomes. Teacher comfort with online instruction positively impacted overall happiness (H1a; $F(1, 89) = 4.99$, $p < .05$, $R^2 = .05$, $\beta = .23$), overall teaching happiness (H1b; $F(1, 89) = 14.32$, $p < .001$, $R^2 = .14$, $\beta = .37$), overall teaching effectiveness (H1c; $F(1, 89) = 13.61$, $p < .001$, $R^2 = .13$, $\beta = .36$), and work–life balance (H1d; $F(1, 89) = 6.18$, $p < .05$, $R^2 = .07$, $\beta = .26$).

For hypothesis two, we expected to find negative relationships between communication overload and our four outcomes of interest. Linear regression results showed communication overload negatively impacted overall happiness (H2a; $F(1, 89) = 11.35$, $p < .01$, $R^2 = .11$, $\beta = -.34$), overall teaching happiness (H2b; $F(1, 89) = 7.27$, $p < .01$, $R^2 = .08$, $\beta = -.28$), and work–life balance (H2d; $F(1, 89) = 49.66$, $p < .001$, $R^2 = .36$, $\beta = -.60$). Communication overload did not impact overall teaching effectiveness (H2c; $F(1, 89) = 1.88$, $p > .05$, $R^2 = .02$, $\beta = -.16$).

The third hypothesis argued administrator clarity would positively predict (a) overall happiness, (b) overall teaching happiness, (c) overall teaching effectiveness, and (d) work–life balance. Administrator clarity had no impact on overall happiness (H3a; $F(1, 89) = 1.21$, $p > .05$, $R^2 = .01$, $\beta = .11$), overall teaching happiness (H3b; $F(1, 89) = .23$, $p > .05$, $R^2 = .00$, $\beta = .05$), or overall teaching effectiveness (H3c; $F(1, 89) = .82$, $p > .05$, $R^2 = .01$, $\beta = .10$). However, administrator clarity did positively predict work–life balance (H3d; $F(1, 89) = 7.58$, $p < .01$, $R^2 = .08$, $\beta = .28$).

Our final hypothesis assumed a positive relationship between student–teacher interaction and our four outcomes. The results showed student–teacher interaction positively predicted overall happiness (H4a; $F(1, 89) = 6.25$, $p < .05$, $R^2 = .07$, $\beta = .26$), overall teaching happiness (H4b; $F(1, 89) = 33.23$, $p < .001$, $R^2 = .27$, $\beta = .52$), and overall teaching effectiveness (H4c; $F(1, 89) = 59.96$, $p < .001$, $R^2 = .40$, $\beta = .63$). However, H4d regarding work–life balance was not supported ($F(1, 89) = 2.12$, $p > .05$, $R^2 = .02$, $\beta = .15$).

Research question one asked about the relationship between (a) teacher comfort with online instruction, (b) communication overload, (c) administrator clarity, and (d) student–teacher interaction. Correlation test results can be seen in Table 2. Results showed teacher comfort with online instruction positively correlated with administrator clarity and student–teacher interaction, and negatively correlated with communication overload. Communication overload correlated negatively with administrator clarity but not student–teacher interaction, while administrator clarity and student–teacher interaction were not significantly correlated.

Finally, research question two sought to find which variable of interest had the most impact on the outcomes. Using multiple regression, we found an interesting pattern. For overall happiness (RQ2a), we found a significant multiple regression ($F(4, 85) = 3.98$, $p < .01$, $R^2 = .16$) with communication overload as the only significant coefficient ($\beta = -.29$, $p < .01$). Overall teaching happiness (RQ2b) was also significant ($F(4, 85) = 10.62$, $p < .001$, $R^2 = .33$) with significant coefficients on student–teacher interaction ($\beta = .49$, $p < .001$) and communication overload ($\beta = -.20$, $p = .05$). The multiple regression to overall teaching effectiveness was also significant (RQ2c; $F(4, 85) = 15.39$, $p < .001$, $R^2 = .42$) with

student–teacher interaction ($\beta = -.59, p < .001$) as the only significant coefficient. Finally, the work–life balance multiple regression (RQ2d) followed the same pattern as RQ2a where communication overload was the only significant coefficient ($F(4, 85) = 14.79, p < .001, R^2 = .41, \beta = -.57, p < .001$).

Open-Ended Question Results

In addition to quantitative analysis, the authors thematically analyzed the open-ended responses from teachers on the survey. The survey questions focused on teachers' preferred communication methods, as well as their perceived success and failures during the transition to online teaching. These ideas are summarized below.

Communication Preferences

Open-ended responses showed the majority of teachers ($n = 54, 58.70\%$) preferred email communication from administrators since the messages could be read when they had time, and they could refer back to them when questions came up. One participant noted:

It's written out. If I need to look back and reference it, I can. There's so much information given out that if I know it's flagged or saved in my inbox and that I can re-read it as many times as I need to, it's helpful.

Some teachers also noted Zoom or video chat meetings ($n = 19, 20.65\%$) were helpful. Video conference meetings had many benefits: ability to clarify information and ask questions, everyone received the same information, and the full range of nonverbal messages could be shared. One participant said they preferred video meetings because "It's easier to grasp meaning and intent when I can read body language, facial expression, and tone." Another reason teachers preferred video conference meetings was the ability to interact with others. The missing teacher interaction was available when video meetings were used: "It is nice to be face-to-face with Zoom meetings to ask questions, talk with other teachers, and do break out groups." A few teachers requested both email and Zoom: "Meetings with accompanying email. Having a meeting (Zoom) and being told the information is a start. Then, having an email lets me go back and reread for information."

Many teachers linked their communication preferences and the challenges of communication overload during the pandemic. Many teachers viewed email as a way to fight against communication overload since they could refer back to them when it worked best for them: "Even though the amount of emails is overwhelming, emails are the easiest form of communication because I can read and respond when I can instead of trying to set a schedule to call or meet with multiple people." However, there were still problems with email. One participant noted:

I prefer email or text because I can refer back to it. However, I get so many every day, something always gets lost in the clutter. I am usually an organized teacher, but I now feel out of control and helpless.

Many participants noted struggling to keep all the information organized due to the number of emails they received. One teacher shared:

I would prefer a weekly e-mail that sums up the information I need for each week. I have been receiving multiple e-mails and texts a day, which is overwhelming. I do understand the

want to convey information as it is received, and also understand that others may prefer this method. I, however, feel better when everything I need is conveyed once a week. It is less stressful/overwhelming to me, but still just as informational.

The difficult balance between receiving information and too much information was common to teachers in this study. Participants suggested weekly emails instead of multiple emails a day, and brief messages with “good information.”

Problems With Online Teaching

Of course, when asked about failures teachers had a variety of frustrations. There were many comments about a lack of resources or support for the transition. Some teachers talked about the lack of administrator support during the transition, noting they received “conflicting or unclear information.” One music teacher even shared how “administration doesn’t know what to tell me because right now, I’m not a priority.” In addition, administrators made online teaching challenging for some teachers due to the removal of student accountability: “Our district informed parents and students they are passing no matter what, so numerous students have not turned in one assignment since March 16th.” Teachers also noted the lack of support from parents, noting parents “don’t support learning” and do not respond to emails.

Another challenge was missing student–teacher interaction. One teacher said that “I became a teacher mainly because of a desire to work with people, and that has been taken away.” Though teachers desired continual student–teacher interaction, many teachers noted it was challenging to interact with students. Teachers mentioned students do not engage or attend meetings, and that some had “fell off the face of the earth.” The lack of student–teacher interaction, and the inability to reach some students, challenged many teachers to the core who started teaching in order to connect with students. One teacher shared, “I have felt completely ineffective as a teacher in both instructing and continuing to build a relationship with my students,” while another shared, “I feel like a complete failure, and that is very hard for me. I pride myself in my teaching ability, but so much of it comes from student interaction.”

Finally, teachers struggled with technology issues. One prevalent technology issue was linked to socioeconomic inequality among students. Teachers in our study were very concerned about the inability for some students to receive any education due to lack of technology resources. One teacher summarized it this way:

This [online teaching in the pandemic] amplifies the differences in socioeconomic status to a whole new level. Students who come from a supportive, affluent household are thriving right now, while students who come from the opposite are missing out; they are literally trying to survive and get by without access to the security and resources that schools provide.

This was a common concern from teachers, as they felt the move to online instruction, though required, disadvantaged already disadvantaged students. This was also echoed in comments about administrators who required synchronous class time when many students were serving as caregiver for younger siblings as parents continued to work.

Across the board, teachers were concerned about the quality of learning in the online format. Teachers noted administrator decisions made the process difficult. In one example, administrators created standardized lessons for all students that did not match student needs. The teacher shared:

Assigning one lesson for all students to complete that is created by the district, because that is not how our in-person classroom works. The lessons are too easy for high-achievers and too difficult for struggling learners, so I am left being required to assign rather meaningless work that has not resulted in a lot of student success.

Furthermore, many of these lessons were not translated or adapted for ESL learners, and as one teacher shared it made it harder for students to continue learning and to contact those families.

Successes With Online Teaching

When asked about successes during the transition, teachers indicated that in some circumstances it improved communication with students and their parents. The increased teaching responsibility on parents meant more parents reached out to teachers for help and guidance along the way. One teacher noted, “This opportunity has helped me develop stronger relationships with the families I serve. It really helps me see the whole child.” In addition, many teachers noted increased parental involvement in teaching, though this required larger efforts by the teachers to stay in contact. Student interaction also improved for many teachers. One teacher shared:

I still get to talk to and see my students’ faces. Every once in a while they also send me memes and I feel like I’m almost back in the classroom. It has been a great way to continue education for core classes.

Teachers noted using technology platforms to connect with their students and maintain some positive interaction. A few even mentioned using these programs in the future even when face-to-face teaching resumes.

Interestingly, several teachers noted that in spite of the challenges with online teaching for some students, others thrived in an online setting. Teachers noted students who struggle with social skills could take a short break by turning off their camera and microphone, then rejoin the lesson. Others noted online teaching allowed students to become independent in their work which benefitted them. For example, “Some students that struggled before are doing great now. These students like being able to work at their pace and school is the pace of the class. Some students also get distracted at school.” Another teacher noted students who were not engaged in the face-to-face classroom were beginning to open up in the new online format.

Discussion

The transition to a virtual learning environment during the early months of the COVID-19 pandemic was an unprecedented move for public school systems. Past educational crisis research focuses on internal crises, rather than external crises, such as COVID-19, that impact the internal organization (Pashiardis & Brauckmann-Sajkiewicz, 2022). This exploratory study highlights some of the challenges teachers face when navigating the COVID-19 pandemic and found teacher communication with key stakeholders was crucial for managing the uncertainty associated with the last 2½ months of teaching in spring 2020. The exploratory results showed comfort with the new virtual approach and communication among key stakeholders was important to a successful transition. Additionally, the results suggest that communication overload and student–teacher interaction were particularly important for teacher well-being and teaching effectiveness, respectively.

First, on an individual level, the four variables influencing teachers during the COVID-19 pandemic all had some level of impact on the outcomes. For hypothesis one, teacher comfort with online instruction significantly influenced all four outcome variables. This comfort could have been associated with specific education platforms, or simply with computers and technology in general since most teachers have little experience with online teaching (Marshall et al., 2020). It is also probable that this effect was important initially in the transition. Given this project data collection occurred in May, teachers may have begun to feel more comfortable with online instruction. This was evident in some qualitative comments where teachers noted they plan to use some of the new technology platforms in their future teaching.

Communication overload was related to all outcome variables except for teaching effectiveness. Given that the other three variables are related to well-being and satisfaction, it suggests that teachers distinguished between how overload was influencing their teaching compared to their well-being. Communication overload may have negatively impacted well-being, but teachers did not believe that necessarily influenced their performance in the classroom. In other words, they could be miserable yet effective teachers, which is in line with the stereotype that teachers are self-sacrificing and put students first (Gilmore & Kramer, 2019). Qualitative data indicated preferences for weekly emails, which provide them a referent they could read and refer back to at a time of their choosing. Open-ended responses also indicated a preference for virtual meetings (which tended to be shorter), supporting the finding that communication overload was perceived negatively.

The only significant relationship with administrator clarity was with work–life balance. Administrator communication during uncertainty is crucial for clarity and building trust, and inevitably impacts employee satisfaction, the work environment, and successful navigation of a crisis (Pashiardis & Brauckmann-Sajkiewicz, 2022). Perhaps clear directions from administrators allowed teachers to clarify the boundaries between work and life during a pandemic. Administrator messages could have given teachers permission to stop working or care for their own well-being. Self-care was an important topic during the pandemic, and many organizations focused on self-care for teachers which may have carried over to administrator messaging (see Pate, 2020). Additionally, in line with the negative correlation with communication overload ($-.23$), perhaps clear communication does not mean more communication. Though past education research notes clear and constant communication as crucial for managing uncertainty (Pashiardis & Brauckmann-Sajkiewicz, 2022), this study's results show administrators that can provide concise, clear guidance may help teachers to not feel overwhelmed by the amount of communication (Fernandez & Shaw, 2020). Qualitative data indicated many teachers felt like they were not treated like a priority and did not feel they received sufficient support from administrators. In fact, several participants felt that sometimes administrators provided conflicting communication that undermined teachers' efforts.

Finally, student–teacher interaction was significantly linked with all outcome measures except for work–life balance. For teachers, the ability to connect with students is at the core of why many of them became teachers (Gilmore & Kramer, 2019), and the relationship between successful student–teacher interaction and positive outcomes variables in this study is consistent with past research (Nguyen et al., 2018; Poulou, 2014). Teachers expressed sadness when they felt that student interaction was lacking, even though it required more effort during the pandemic. The fact that student–teacher interaction was not aligned with work–life balance could be due to interaction requiring great amounts of effort and time on the part of the instructor. Although teachers did see some benefits to the online transition (creating better relationships with families, better format for certain student needs), others felt like they had failed their students.

In response to research question 1, correlation analysis indicated student–teacher interaction was not related to communication overload or administrator clarity. Since these latter two variables are not related to students, the lack of relationship is not surprising. If anything, it reaffirms the way teachers distinguish their multiple roles: involvement with students and management of work–life balance (Gilmore & Kramer, 2019).

In response to research question 2, findings revolved around the influence of communication overload and student–teacher interaction. Communication overload and student–teacher interaction emerged as the more influential variables impacting teacher happiness and effectiveness, although the impact is in different ways. First, communication overload negatively influences teacher well-being and satisfaction. The increased amount of messaging and the teacher’s ability to manage it seems to influence esteem-related issues for the teacher. Student–teacher interaction influences teaching directly and positively.

Communication overload’s influence on teachers does not seem to directly impact students, but is related to the stress teachers feel through balancing their job and well-being. The communication that overwhelms teachers is not from students, but from other stakeholders, which aligns with past research (Gilmore & Kramer, 2019). Student–teacher interaction, on the other hand, did influence teaching effectiveness as well as teaching happiness, with teachers going so far as to say a lack of interaction hurt their teacher identity. Interestingly, teacher comfort with online learning was not significant in the multiple regression, suggesting that teaching effectiveness was not related to communication medium but instead was related to whether a teacher’s use of the medium created successful student–teacher interaction. Success depended on whether teachers were successful at communicating with students, not necessarily the medium being used to communicate. This may be connected to whether a certain medium is rich enough to permit strong student–teacher engagement (Thompson et al., 2015).

Theoretical and Practical Implications

In conclusion, three overarching theoretical and practical implications are highlighted here. First, teacher success in the classroom seems very much embedded in student–teacher communication. Having such a relationship is important during a normal academic year; during a pandemic, it becomes even more imperative. As the theory of resilience and relational load (TRRL) notes, relationships and communication with others can moderate the negative impact of uncertainty on individuals (Afifi & Afifi, 2021). Though teachers maintain a professional distance with their students, both sides experienced the uncertainty of learning during a pandemic and were likely able to support each other through the transition. For example, in a study with college students during COVID-19, Kaufmann et al. (2021) found student memorable messages came from teachers offering emotional support during the online transition. When facing future uncertain situations, teachers who create bonds (and learning models that emphasize bond creation) with students will be better situated to navigate the uncertainty of large-scale instructional changes.

Second, successful communicative connections between students and teachers can plausibly be conducted through a variety of media. Just as studies have highlighted the media preferences for parent and teacher interaction (Thompson, 2008; Thompson et al., 2015), determining which media work best for students during situational changes may be an important part of the educational process during the first weeks of an academic year. Theoretically, situational contingency approaches may need to be built into school programming. Third, one of the most important steps an administrator can take in a crisis situation is to prevent teachers from feeling overloaded with communication. Administrators should

use email messages and structured Zoom meetings to provide teachers the information they need. Considering both clear messaging as well as monitoring the intake of messages from various sources may allow teachers to focus on teaching and reaching their students, which is where their happiness lies.

There are a few limitations to note for this exploratory study. First, the sample size is small. Given the difficulty in capturing data during a pandemic, we believe the sample size was sufficient to explore the variables of interest. However, it is important to put parameters around the generalizability of this study. Further research is needed to confirm the scales and findings of this study. Second, this study focused on the beginning of the teaching transition due to the pandemic. This very narrow sliver of time highlighted the frantic first stages of the pandemic transition, starting with the realization that there was a significant pandemic and ending with a complex, mostly remote conclusion to the academic year. Additional research efforts exploring the transition to a virtual teaching framework in Fall 2020 would be especially enlightening in comparison to the immediate changes in Spring 2020. And given the paradigmatic change in societal (and educational) viewpoints on pandemics due to the COVID-19 crisis, it is important to explore the many educational changes adapted in the aftermath. Hopefully educators are now better prepared for the potential uncertainty, but plausible reality, that such crises may be a regular part of the future.

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