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Face-to-Face and Online Instructional Delivery Formats: a Mixed-Methods Study of Teacher Self-Efficacy in Higher Education

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Abstract

The COVID-19 pandemic forced higher education institutions in South Korea to administer Spring 2020 semesters online. This mixed-methods study examined instructor/professor competence for the instructional delivery formats of Face-to-Face and online teaching. Quantitatively, the researcher measured teacher competence for Face-to-Face and online instruction by measuring the Teacher Self-Efficacy levels of non-Korean instructors/professors in South Korean higher education institutions. The qualitative questions assessed the advantages and drawbacks of each instructional delivery format. Findings indicate that instructors/professors are significantly more effective teaching Face-to-Face courses than online courses. However, instructors/professors with online learning experience were significantly more effective teaching online courses than those without online learning experience. It is recommended that all instructors/professors engage in professional development geared towards equipping educators with the tools needed to succeed in the online education environment.

Keywords: instructional delivery format, online instruction, face-to-face instruction, teacher self-efficacy

1. Introduction

1.1 An Overview

In 2020, the SARS CoV 2 virus, and the subsequent spread of the disease COVID-19, disrupted education. In South Korea, many higher education institutions delivered their Spring 2020 semesters almost entirely online. Unprecedented heretofore, this disruption and its subsequent impact on the quality of education need to be examined. This study examined Teacher Self-Efficacy (TSE) perceptions for the instructional delivery formats of Face-to-Face (F2F) courses as compared to online courses. The participants existed of non-Korean higher education instructors/professors that taught using English in South Korea. The researcher used a mixed-methods study to examine and compare TSE perceptions for both formats and to identify the positive and negative aspects of each format and how they impacted the overall quality of education.

1.2 A New Landscape

The Spring semester of 2020 was conducted in a manner foreign to most students and instructors. The possibility that this was a one-time occurrence does not seem plausible; even if it were, understanding how online education impacted instructor competence is important. This area of inquiry takes on heightened significance as scientists have concluded that future pandemics are a certainty. Having the ability to assess instructor competence in online education and compare it to F2F education is a worthwhile inquiry and an area of research gaining importance over the past two decades. It is also prudent to examine the strengths and weaknesses of both instructional delivery formats. Aspects of either, and their utilization across formats, may have implications for best practice.

A particular vein of interest, and a mostly uncharted area of exploration, centered around the forced disruption of education caused by the COVID-19 pandemic. Previous studies have explored and contrasted the educational delivery formats of F2F and online, however, participants, both instructors and students, had previously opted into their chosen format. They had either chosen to teach or take online classes. In this study, both instructors and students were forced into the online environment. This singular situation created a new facet of educational research, a new dichotomy, of those who opt into online education and those who are forced into it. Measuring teacher competence in this new landscape is critical for the future of educational research.

1.3 Relevant Scholarship

Numerous researchers have studied the differences between how F2F instruction and online instruction impact student learning. (Fishman et al., 2013; Yen, Lo, Lee, & Enriquez, 2018). Some notable studies have indicated that instructional delivery format does not play a significant role in learning outcomes, engagement, or success (Fishman et al., 2013; Francescato, Mebane, Porcelli, Attanasio, & Pulino, 2007; Khan, 2018; Kissau & Algozzine, 2015; Russell, Carey, Kleiman, & Venable, 2009). However, other researchers have found that the instructional delivery format can make a significant difference (Garratt-Reed et al., 2016; Callister & Love, 2016).

For online learning, success depends on some key factors. These factors include theoretical models of learning, the development levels of the technology, educators' attitudes towards online learning, positive institutional support for online learning, organization of online formats, and student personality and character preferences (Barclay, Donalds, & Osei-Bryson, 2018; Denis & Hubert, 2001; Klobas, Renzi, Francescato, & Renzi, 2002; Vu, Cao, Vu, & Cepero, 2014). Some studies have found that online learning can be more effective than the traditional F2F instructional delivery format (Burkhardt, Kinnie, & Cournoyer, 2008; Campbell, 2019; Francescato et al., 2006; Qiu & Mcdougall, 2013; Soffer & Nachmias, 2018; Toven-Lindsey, Rhoads, & Lozano, 2015). However, a review directly investigating TSE and student outcomes titled *Teacher self-efficacy in online education: a review of the literature,* found that an empirical validation between the association of TSE and student success for the online instructional delivery format is not as strong as for the F2F instructional delivery format (Corry & Stella, 2018).

Measuring Self-Efficacy levels in educators has proven to be a reliable construct in educational research. The concept of Self-Efficacy, first outlined in publication by Albert Bandura in 1977, is part of a larger theory (Social Cognitive Theory (SCT)) that explains actual competence in many and varied areas of life. Social Cognitive Theory is based upon the idea that humans are capable of intentional thought and action, and act in manners more complex than just responding to stimuli (Bandura, 1977, 1997). Self-Efficacy is defined as a person's belief in their ability to execute an action in the pursuit of enacting a desired consequence (Bandura, 1977). Teacher Self-Efficacy, whose foundation is in SCT, is a validated construct used widely in educational research to measure instructor competence and capabilities (Henson, 2002; Hoy & Woolfolk, 1990; Klassen & Virginia, 2014; Tschannen-Moran, Hoy, & Hoy, 1998).

Teacher Self-Efficacy is defined as a teacher's beliefs about his or her ability to create student learning and engagement outcomes as they see fit (Tschannen-Moran & Woolfolk-Hoy, 2001). Teacher Self-Efficacy is important because high levels correlate with many positive outcomes for both teachers and students (Caprara, Barbaranelli, Steca, & Malone, 2006; Goddard, Hoy, & Hoy, 2000; Tschannen-Moran & Woolfolk Hoy, 2001; Zundans-Fraser & Lancaster, 2012). Teacher Self-Efficacy can be measured by self-report, and closely aligns with teachers' actual competence (Klassen & Virginia, 2014; Tschannen-Moran, Hoy, & Hoy, 1998). The *Teacher Sense of Efficacy Scale* (*TSES*) is a reliable and valid instrument that measures TSE in classroom management, instructional strategies, and student engagement (Tschannen-Moran & Woolfolk-Hoy, 2001).

1.4 Research Questions

The aim of this study was to examine the TSE of non-Korean higher-education instructors/professors in South Korea who teach using English. In an attempt to address how quality of education is impacted by higher education institutions being forced online, this study examined whether instructors' TSE perceptions significantly differed for the F2F and online instructional delivery formats.

The researcher used the *Teacher Sense of Efficacy Scale* (*TSES)* Short Form, designed by Tschannen-Moran and Woolfolk-Hoy (2001), to collect quantitative date. The following

research questions offered guidance and focus to the study:

- Do instructors/professors' TSE perceptions significantly differ between F2F and online instructional delivery formats as measured by the *TSES* Short Form as a whole and for the three subscales: classroom management, instructional strategies, and student engagement?

- Do instructors/professors who have earned either hybrid or online degrees report higher level TSE perceptions for online teaching than those who have not, as measured by the *TSES* Short Form as a whole and for the three subscales?

The researcher also used 4 qualitive questions to gather insight from participants.

1. What aspects of face-to-face education make you a more effective educator?

2. What aspects of online education make you a more effective educator?

3. What are some drawbacks to face-to-face education that make you a less effective educator?

4. What are some drawbacks to online education that make you a less effective educator?

2. Methods

2.1 Data Collection

Information regarding the quality of education is not only important for South Korea, but for higher education in general, as future pandemics have the ability to force courses online indefinitely and without warning. To recruit participants with a diverse range of age, education, and teaching experience, the researcher used convenience sampling from one Facebook group (Foreign Professors and University English Teachers in Korea) created specifically for non-Korean higher education instructors/professors in South Korea that teach either English Language Learning (ELL), or content courses taught in English. The researcher contacted and received permission from an administrator before recruiting participants by making a one-time recruitment post on the Facebook page. The target participants consisted of foreign instructors/professors in South Korea who have taught both F2F and online classes in English at South Korean institutions of higher education. The South Korean higher education Spring semester typically runs from March to mid-June, but because of the delayed start at many institutions due to the spread of the SARS CoV 2 virus, many universities did not finish their Spring semesters until late June. The researcher made the recruitment post on July 3rd, 2020 to allow participants to fully finish their Spring semester duties before responding to the survey. Data collection ended on July 20th, 2020.

On the recruitment post the researcher notified potential participants of possible risks and benefits associated with the study. Then, the researcher provided details regarding the general purpose of the study and confidentiality measures. Finally, the researcher provided a link that directed participants from the social networking platform to the researcher's survey on the Qualtrics platform.

The instrument used included five sections distributed in five separate virtual pages. The first

section dealt with informed consent. The second page of the survey consisted of the demographics section. It instructed the participant to answer each question according to their individual demographics. The third page consisted of the F2F *TSES* section. The instructions detailed the definition of TSE, and what the *TSES* attempted to gauge. Finally, it asked the participant to rate their TSE levels for F2F instruction. The fourth page of the survey consisted of the online *TSES* section, which instructed the participant to rate their TSE levels for online teaching. The last page consisted of 4 short-answer questions asking the participant to detail both positive features and drawbacks of F2F instruction and online instruction. After the participant had finished the final section of the survey, a notice indicating the researcher's university affiliation thanked them for their participation and indicated to them that their responses had been recorded.

2.2 Quantitative Instrument

The *TSES* Short Form has been proven to be both valid and reliable (Henson, Kogan, & Vacha-Haase, 2001). Internal consistency levels range from good to excellent for both the *TSES* Short Form as a whole, and for the three subscales. It is a 12-item survey that consists of a 9-point scale for each item, with anchors at 1-nothing, 3-very little, 5-some influence, 7-quite a bit, and 9-a great deal. The scale consists of 12 questions and is divided into three subscales to attain the points in each area of TSE. To determine efficacy in classroom management (items 1, 3, 6, 8), efficacy in instructional strategies (items 5, 9, 10, 12), and efficacy in student engagement (items 2, 4, 7, 11), unweighted means of the items that load for each factor are computed. Cronbach's alpha reliability coefficient for the *TSES* Short Form as a whole is .90 (excellent), while for the subcategories it is .86 (good) for efficacy in classroom management, .86 (good) for efficacy in instructional strategies, and .81 (good) for efficacy in student engagement. For all metrics considered, there is a high internal consistency among the questionnaire items. The researcher omitted item 11 from the survey because it asked about engaging students' parents, which is not common for students in higher education.

2.3 Data Analysis

Initial quantitative data analysis began with a data-cleaning run of descriptive statistics. A cleaning sweep of frequencies identified variables of interest. Calculations for descriptive statistics involved mean, median, standard deviation, variance, standard error, minimum and maximum skewness values for each variable, and minimum and maximum kurtosis values for each variable. Next, the researcher analyzed display charts consisting of the output from histograms with an approximately normal curve. The researcher then analyzed displays of stem-and-leaf normality plots to identify low values that would indicate the possible deletion of data. In case of the possibility of missing data, the researcher determined how many pieces of missing data were associated with each measure. A wide range of variables contained as much as 5% to 80% of data missing. Data removed included any incomplete pairwise F2F and online *TSES* responses. The researcher also removed one fully complete set of pairwise data deemed to have been answered in bad faith due to the lewd comments in the qualitative section.

To address the first research question, the researcher performed a paired *t*-test on the results from the F2F and online *TSES* surveys. The researcher examined the output for the *TSES* Short

Form data as a whole, and for each of the three subscales: efficacy in classroom management, efficacy in instructional strategies, and efficacy in student engagement. The researcher performed tests to identify areas of statistical significance. The sample consisted of the same participants filling out both F2F and online *TSES* survey data.

To address the second research question, the researcher used a two-sample *t*-test on the *TSES* data as a whole, and for each of the three subscales: efficacy in classroom management, efficacy in instructional strategies, and efficacy in student engagement. The researcher performed tests to identify areas of statistical significance. The sample consisted of participants divided into two groups consisting of participants that had earned either a hybrid or online degree/certification and participants that had not earned a hybrid or online degree/certification.

The benchmark of significance for the *p* values generated by the paired and two-sample *t*- tests for this study were set at $p < .05$. The researcher reported one-tailed values because directionality was identified by looking at the means.

The researcher coded and themed all four short-answer questions separately, starting with the aspects of F2F and online education that make an educator more effective and then the drawbacks of F2F and online education that make an educator less effective. The themes identified varied for each question, and multiple respondents recorded more than one theme in their response.

3. Results

3.1 Demographics

Demographic data for participants (N = 54) gender, education, and whether or not they taught English language learning (ELL) are provided in table 1.

Table 1. Demographics

Gender		Education		Do you teach English Language Learning?	
Female	12	Bachelors	5	Yes	51
Male	37	Masters	41	No	3
Not Listed	1	Doctorate	7		
Prefer not to answer	4	Terminal	1		
Total	54				

Demographic data for participants (N = 54) age, years of teaching experience, online teaching experience, and online learning experience are provided in table 2.

Table 2. Age and Teaching Experience

Age		Teaching Experience		Previous Online Teaching Experience		Online Learning Experience	
21- 25	1	10-15 years	23	None	49	None	31
31-35	11	16-20 years	10	Yes (1-2 Years)	2	Hybrid Degree	3
36-40	13	4-6 years	3	Yes (3-5 Years)	3	Certification	4
41-45	9	7-10 years	7			Online Doctorate	3
46-50	10	20 years +	11			Online Masters	13
51-55	7						
56 +	3						
Total	54						

The researcher used the entire paired data sample for Research Question 1. For Research Question 2, the researcher used a two-sample data set, divided by online or hybrid learning experience of those who had earned a degree/certification online and those who had not. The Descriptive statistics are provided in Table 3.

Table 3. Descriptive Statistics for TSES Short Form

	N	Mean	SD
F2f as a Whole	54	7.24	1.78
Online as a Whole	54	5.52	2.53
Online Learning Experience	23	6.14	2.05
No Online Learning Experience	31	5.65	2.43
Valid N Listwise	54		

3.2 Research Question 1: TSES as a Whole

For the *TSES* as a whole, the researcher performed a paired (dependent) *t*-test to analyze if there existed a significant difference between TSE for F2F instruction (M = 7.24, SD = 1.78) and for online instruction (M= 5.52, SD = 2.53). The F2F mean was statistically significantly greater than the online mean, $t(53) = 4.64$, p <.00001, one-tailed. The researcher calculated Cohen's d to be 0.631, indicating a medium effect size.

3.3 Classroom Management

To examine whether the TSE in classroom management for F2F instruction

(M = 7.24, SD = 1.78) and online instruction (M = 5.52, SD = 2.53) means significantly differed, the researcher performed a paired *t*-test. The F2F mean was statistically significantly greater than the online mean, $t(53) = 4.64$, p = .00001, one- tailed (This is not a mistake, the output for the *TSES* whole and classroom management are very similar). The researcher calculated

Cohen's *d* to be 0.631, indicating a medium effect size.

3.4 Instructional Strategies

To examine whether the TSE in instructional strategies for F2F instruction

(M = 7.75, SD = 1.58) and online instruction (M = 6.79, SD = 2.18) means significantly differed, the researcher performed a paired *t*-test. The F2F mean was statistically significantly greater than the online mean, $t(53) = 3.54$, p =.0004, one tailed. The researcher calculated Cohen's *d* to be 0.482, indicating a small effect size.

3.5 Student Engagement

To examine whether the TSE in student engagement for F2F instruction

(M = 6.31, SD = 1.80) and online instruction (M = 4.72, SD = 2.29) means significantly differed, the researcher performed a paired *t*-test. The F2F mean was statistically significantly greater than the online mean, $t(53) = 4.91$, $p < .000005$, one tailed. The researcher calculated Cohen's *d* to be 0.942, indicating a large effect size.

3.6 Research Question 2: F2F and Online Learning TSE

The researcher performed a two-sample (independent) *t*-test to analyze if there existed a difference in online teaching TSE perception means between instructors/professors that had earned a degree/certification through a hybrid or online program (M = 6.14, V = 4.32, N = 23) and instructors/professors that had not earned a degree/certification through an online or hybrid program (M = 5.65, V = 6.11, N = 23). The educators that had a hybrid or online degree/certification had a mean statistically significantly greater than the educators that did not, $t(52) = 2.62$, p = 0.044, one-tailed. The researcher calculated Cohen's *d* to be .216, indicating a small effect size.

3.7 F2F and Online Learning Experience TSE for Classroom Management

The researcher performed a two-sample *t*-test to analyze if there existed a difference in classroom management TSE perception means between instructors/professors that had earned a degree/certification through a hybrid or online program (M = 6.51, V = 4.18, N = 23) and those that had not (M = 5.69, V = 6.28, N = 31). The educators that had a hybrid or online degree/certification did not have a significantly greater mean average than the educators that did not, $t(52) = 1.38$, p = 0.085, one-tailed.

3.8 F2F and Online Learning Experience for Instructional Strategies

The researcher performed a two-sample *t*-test to analyze if there existed a difference in instructional strategies TSE perception means between instructors/professors that had earned a degree/certification through a hybrid or online program (M = 6.14, V = 5.05, N = 23) and those that had not (M = 5.69, V = 6.30, N = 31). The educators that had a hybrid or online degree/certification did not have a significantly greater mean average than the educators did not, $t(52) = 1.35$, p = 0.089, one-tailed.

3.9 F2F and Online Learning Experience for Student Engagement

The researcher performed a two-sample *t*-test to analyze if there existed a difference in student engagement TSE perception means between instructors/professors that had earned a degree through an online or hybrid program (M = 5.57, V = 3.24 N = 23) and those that had not (M = 4.89, V = 5.47, N = 31). The educators that had a hybrid or online degree/certification had a mean statistically significantly greater than the educators that did not, *t*(52), 2.36, p = 0.010, one-tailed. The researcher calculated Cohen's *d* to be .363, indicating a small effect size.

3.10 Qualitative Data Analysis

The first two qualitative short-answer questions asked participants to define aspects of F2F education and online education that made them a more effective educator. The last two short-answer questions asked the participants to define the drawbacks of F2F and online education that made them a less effective educator.

3.11 More Effective Aspects of F2F Instruction

Table 4. More Effective Aspects of F2F Instruction

Themes	Respondents
1. Personal Connections	16
2. Student Engagement and Motivation	14
3. Versatility	8
4. Physical Space	7
5. F2F Feedback	7
6. Nothing	1
Total	54

For Theme 1, *Personal Connections,* participants detailed an ability to better express their personality and understand their students' personalities through formal and informal communication in a F2F setting, and this helped create a better teacher-student rapport. Examples of this included, "Education at its core is about in-person interaction with other human beings." Many of these respondents noted, it was a "friendlier" environment that was suited for "small interactions with individual students," and that it fostered "personal attention, charisma," "rapport and social presence."

Theme 2, *Student Engagement and Motivation*, detailed "effective and direct communication" as well as being able to identify students who are having difficulties and helping and motivating them. One respondent characterized these sentiments noting, it is easier "responding to the reactions of my students to ensure understanding and motivating them to use the language skills they have!" Another respondent noted that, "Face-to-face classes allow for better reading of body language and posture to determine student engagement and understanding and adjust

accordingly mid-lesson." One respondent summed it up neatly, noting, "It is very, very difficult for Korean university students to maintain interest in an academic EFL course over the span of 15 online weeks. It's an uphill battle for any educator for sure! There is great value (for students and teachers alike) of meeting in a face-to-face physical classroom environment. Student learner outcomes are greatly enhanced, especially in EFL conversation and presentation based courses."

Theme 3, *Versatility*, detailed flexibility, with one respondent noting, "students feel more comfortable asking for help in the classroom where they can have a quick, private conversation with the professor. Online has private chats, but not many students feel comfortable using them… the versatility of Face-to-face is key!" It offers easier transitions from different teaching methods, online classes feel "like stairs rather than a gradual slope so the poor students have to jump to the next level rather than having more guided activities which help bring them to the next level." Another respondent noted, it promotes "being able to have more spontaneous interactions with students." Versatility also included paying attention to remedial and in-need students, noting, "I can monitor all 25+ students at once and divide my attention for those who need it most." Another noted F2F better offered the "ability to improvise, lead discussions." Summing up these sentiments a respondent noted, "I can read a room better F2F and adapt easier on the fly."

Theme 4, *Physical Space*, detailed that the physical space of a F2F classroom allowed a teacher to be more effective. Reasons included monitoring students' classwork and engaging in group activities. One respondent noted that the F2F environment is better for "Seeing student course books to identify struggles, easy placement and monitoring of group work." Further noted, "Online courses don't allow us to move around in space" and there are "more options in terms of group interactions…less distractions for students."

Theme 5, *F2F Feedback,* detailed that being able to give F2F in-class feedback made a teacher more effective. This theme highlighted the effectiveness of both giving immediate feedback and seeing how students responded to that immediate feedback. One respondent noted, F2F is more effective because of "instant feedback through observing body language of multiple students simultaneously." Others noted, "I can catch mistakes students make while they are making them," and I am "able to understand their abilities and help immediately when having difficulties." The ideas of "instant feedback," "real time feedback," and "immediate feedback to check understanding" typify this theme.

Within the forty-seven participants responding to this question, multiple respondents' responses addressed more than one theme. In total, there are fifty-four theme mentions, even though only forty-seven total participants' responses were collected. This phenomenon occurred for all four qualitative questions. One respondent detailed Theme 6, *Nothing*, which contended that no aspects of F2F instruction made an educator more effective.

3.12 More Effective Aspects of Online Instruction

Table 5. More Effective Aspects of Online Instruction

Themes & Subthemes	Responses
1. Organization & Planning	
a. Organized Virtual Spaces	16
b. Systematized Assessments	8
c. Classroom Management	5
2. Effective Personal Communication	
a. Educational Technology	8
b. Privatized and Personalized Feedback	4
c. Nothing	7
Total	49

Theme 1, *Organization & Planning,* consisted of three subcategories: *organized virtual spaces, systematized assessments,* and *classroom management*. For Subtheme 1a, respondents detailed that the online format allowed them to make their classes more standardized, transparent, and efficient. One respondent noted, the online format allows for "Clearer more meaningful activities and objectives." Another detailed, "Having materials all visible in the LMS (Learning Management System) can create a better sense of what the class is missing." Others noted that being able to organize class materials in a virtual space helped students come more prepared to classes, "My teaching style is more as a facilitator / flipped classroom is my preference but could not do that in F2F classes."

For Subtheme 1b, respondents detailed that grading and homework collection is better systematized. Respondents noted that the online environment creates a "systematic and transparent teaching and assessment process." Another echoed this, noting that online learning "keeps me more up to date with grades and potential issues with attendance." Also, "Online education… helps me keep more detailed records of students' interactions and participation that I can analyze later."

For Subtheme 1c, respondents noted that less classroom management problems existed due to the nature of online education, "Not having to deal with disruptive behavior, being able to focus on the content of classes." Another noted that, "Classroom management is easier in some ways, participation in breakout rooms is better, using slides makes class more structured and students can re-read materials." Further detailed, online learning helped student autonomy, which is "fostered by technologies like student led breakout rooms."

Theme 2, *Effective Personal Communication*, had 2 Subthemes, *educational technology* and *privatized and personalized feedback*. For Subtheme 2a, respondents detailed how educational technology helped them check for comprehension, communicate with and motivate students, and clarify concepts and goals in class. One respondent noted that the online format allowed them "access to technology" that their "physical classroom doesn't have." Another noted, I have "much more technology (internet, annotations) at hand to clarify meaning." One

respondent noted that technologies allowed him, in a class of 150 students, to easier "form the impression of a personal connection via online teaching than it is in a lecture theatre." Lastly, two respondents noted that because technology eliminates the need for time wasted due to travel and logistical concerns, students have more time to do classwork and seem to come to class better prepared. One respondent noted, "I actually preferred teaching online Zoom classes than F2F classes. I found that the speaking apps I used made ALL students speak and they could review their vid recordings - nearly all students got more confident about speaking English by the end of the semester."

Subtheme 2b contended that feedback is more privatized and personalized. One respondent noted, "Online formats allow for more privacy when discussing issues with students in front of their peers. It is possible to give feedback discreetly, address concerns, or otherwise support a student's needs without alerting their peers." Another noted, students who are shy and have a difficult time with group work "benefit from one-on-one tutorials." Also detailed, there is "More personal interaction with specific students because more robust channels of digital communications." Another outlined how feedback is better because it comes via multiple sources. "For example, using track change in microsoft Word to give detailed feedback to students after we have zoom office hours. Or, Listening to homework audio files and being able to take my time to understand the mistakes students are making and give personalized, and detailed feedback." Three respondents outlined how the online classroom environment allows students to engage with their classes as much as their competence demands. One respondent noted that classes can be recorded and re-watched. This idea was echoed in that "students can rewatch lectures for better understanding." Another respondent detailed efficiency, organization, feedback, and communication, noting, "The online tools help me do my job more efficiently and effectively. Access to materials and to me and the immediacy of feedback are aspects that I take advantage of."

3.13 Drawbacks of F2F Instruction

Table 6. Drawbacks of F2F Instruction

Themes & Subthemes	Responses
1. Logistical Concerns	16
2. One Dimensional Communication	13
3. Classroom Management	9
4. Uncategorized	2
5. Nothing	7
Total	47

Theme 1, *Logistical Concerns*, detailed that aspects of F2F education like commuting, preparing (making oneself presentable), and the dangers of coming in contact with the SARS CoV 2 virus, made F2F education less effective. Commuting negatively impacted both teachers and students, physically and mentally. One respondent noted, "Many of our students travel

more than an hour a day to get to our campus. With this type of teaching they are less exhausted because they don't have to commute." Four respondents noted their concerns about exposure to the SARS CoV 2 virus. Two respondents detailed inadequate resources at their institution, noting, there are "Below standard classroom conditions - no air con, broken projectors or computers etc"; while another noted, "Shared in class technology is unreliable, my own tech and internet from home hasn't failed me yet."

Theme 2, *One Dimensional Communication*, detailed that communication is actually restricted by the F2F classroom because of time concerns, physical distance, and a lack of communication channels. Responses noted that student anxiety, an inability to monitor students, a lack of communicative flexibility, and time restraints, were all reasons communication was less effective in F2F classes. One respondent noted, "Many university students in Korea loathe attending class and appear nervous in the EFL setting. I think online learning gives them a buffer for their anxiety in language learning." Another noted, it is "Harder to effectively monitor what students are doing - with google docs in Zoom class I could monitor individual students writing exercises much more effectively and comment/correct live. Also visiting the breakout groups in Zoom class was more impromptu - I just dropped in and students never knew when I was coming!" Another noted, "Students who lacked confidence in class became bolder when online. They felt safer with online communication, and diligent students would watch lectures multiple times. I've taught similar material for 12 years, but this year I got new and brilliant questions that showed some students really interrogated the class materials." Participants put forth the idea that F2F classes are less flexible and that large physical groups actually create less personal connection, whereas the online environment allowed for better communication because of the ability to adjust to different students' needs and to communicate with them through various channels, and that this created a more proactive student environment.

Theme 3, *Classroom Management Difficulties*, detailed F2F instruction as less effective due to the drawbacks of the physical classroom and how this negatively impacts both pedagogy implementation and student behavior. This included aspects of classroom management and physical limitations created by the F2F environment. Respondents noted that F2F classes created an environment with more student disruptions due to either bad or indifferent behavior. This included students grouping in seats at the back of the classroom and socializing during class, frequently asking to go to the bathroom, and being generally "disruptive." Another common complaint detailed that some students in F2F classes put forth less effort which manifested in more frequent truancy and tardiness and a higher degree of student attrition. Respondents noted that students felt that showing up to F2F classes was enough, and that active participation wasn't necessary. One participant attributed this to cultural attitudes, "Students may rely on the teacher to lead the educational effort more due to cultural attitudes towards student/teacher relationship(s)." Others noted how students are unprepared, engage less, and "are more likely to revert to (their) L1 (Native Language)." Another participant offered a reason for this other than cultural differences, "Some students can slip between the cracks and it is more difficult to identify language shortcomings."

Two responses were uncategorized and noted systematic failures in educational programming and lack of information as drawbacks of the F2F environment that made educators less

effective.

3.14 Drawbacks of Online Instruction

Table 7. Drawbacks of Online Instruction

Themes & Subthemes	Responses
1. Lack of Interpersonal Connection	23
2. Technical Issues	14
3. Disconnected & Uncontrollable	6
4. Workload	6
5. Nothing	7
Total	56

Theme 1, *Lack of Interpersonal Connection,* detailed that the online environment fostered a less effective classroom because of a lack of interpersonal connection which led to confusion, ambivalence and attrition, and the inability to create a cohesive learning community. Respondents noted online classes felt "impersonal," "sterile," "less friendly," or "lacked a social presence," which created multiple problems. As one respondent noted, "I'm not sure what students are actually doing during class. Are they chatting with friends? Are they mentally present?" Another echoed this, noting, I'm "Not able to know students' understanding or interest in the subject. Not able to incorporate a wide range of alternative activities. No interaction!" Another noted, I "cannot see each student. I also don't know who is paying attention. I also cannot gauge who is bored and who is enjoying the class." Another noted, "online lectures seem to minimize student interaction, as the format complicates responses, often with only a few students answering and the remaining students listening."

Other respondents detailed student ambivalence and attrition, "It is more difficult to interact with students because many of them do not want to turn the cameras on during video conferencing," students showed a "lack of attendance and enthusiasm," and "Student's not responsive to online feedback and messaging." It was also noted that lack of personal connection impacted student-to-student relationships and altered their perceptions of education and community. One noted, "The lack of opportunity for students to socialize with each other detracts from their ability to assimilate to the education system." Another noted, "It's odd not to look at my students. Students don't get to know each other as well. It takes a lot longer to answer e-mail, messages with questions." Overall, this theme encompassed the idea that the online environment was less effective because it couldn't create the learning community needed for effective teaching, and that because of this, students became indifferent, and this, at times, led to attrition.

Theme 2, *Technical Issues*, identified how the online teaching environment is negatively impacted by technical issues, and that many teachers and students are unfamiliar with, and not trained to prevent or troubleshoot these issues. One respondent noted, "It's an unfamiliar

learning environment so I don't know the best ways to teach with it. We also haven't been trained on how to use our LMS." Another respondent also detailed this, writing that there were "technical problems such as internet connect issues" and a "Lack of university guidance/training on how to fully utilise their LMS and other services." Nine respondents complained of having no support for "technical issues."

Theme 3, *Disconnected & Uncontrollable,* outlined how the online environment felt unregulated and difficult to control. This idea revolved around the assumption that because of the disconnected nature of online classes, students can more strategically identify how to avoid interpersonal communication with teachers and other students but still be successful in class as far as assessments and grading are concerned. One respondent noted that cheating on exams could be easier, which would make assessments likes quizzes and tests less fair. Multiple respondents noted that it was difficult "giving fair tests." Others noted how it is easier for students to *game the system*, writing, "Students using a work/learning avoidance strategy can be more successful," and "some students have someone coaching them on quizzes or interviews."

Theme 4, *Workload,* detailed how the workload is too difficult for teachers and students, both physically and mentally. One respondent noted, "I think learning and working from home has a unique way of grinding on one's mental health at times since (I'm) blending personal space with work/class space." Another noted, "the workload is too much for bigger class sizes" and another noted, that there is "lots of planning." One respondent detailed, "Online classes require a higher degree of student self-sufficiency. Students that need greater levels of support and scaffolding are unlikely to have all their needs met, as online lessons are primarily self-directed."

4. Discussion

4.1 More Effective Aspects of F2F Instruction

The six themes detailed in *More Effective Aspects of F2F Instruction* give insight into the significant quantitative findings for Research Question 1. The two most popular themes *Personal Connections* (16 responses) and *Student Engagement and Motivation* (14 responses), augmented how instructors/professors felt regarding personal rapport and the ability to connect with students. The quantitative data mirrored the respondents' sentiments, as the *TSES* subcategory of student engagement had the only Cohen's *d* large effect size in the entire study. The 4th, 5th, and 6th themes, *Versatility* (8 respondents), *Physical Space* (7 respondents), and *F2F Feedback* (7 respondents), correlated to the two other subcategories of the *TSES*: classroom management and instructional strategies; both which had medium Cohen's *d* effect sizes. This data also aligns with the review that investigated TSE research, which found that the F2F instructional delivery format is more effective than the online format (Corry & Stella, 2018). Overall, educators that were trained in F2F environments in order to teach F2F classes, felt much more effective in this environment.

4.2 Online Environment as a Hinderance or Opportunity?

(1) *A Lack of Personal Connection* and an increased amount of student attrition and ambivalence, as well as (2) *Technical Issues* became the main narratives for why the online environment was less effective. The two least reported themes were (3) *Disconnected & Uncontrollable* and (4) *Workload.* Not un-noticed, all four of these themes are areas that instructors/professors who had experience in online learning, and who had a significant quantitative finding as being more effective in online teaching than their non-experienced counterparts, detailed as advantages of the online format; (1) *Effective Personal Communication*; (2) *organized virtual spaces* and *educational technology* (3) *systematized assessments* and *classroom management*, and (4) *Organization & Planning*. As only five of the fifty-four (9.3%) participants had any experience in online teaching before the Spring semester of 2020, the researcher looked at respondents with online learning experience. That these respondents had significantly higher TSE aligns with Bandura's Social Learning Theory, which is the basis for TSE (Bandura, 1977). Mastery experiences (teaching classes online) would be the strongest forgers of Self-Efficacy, vicarious experiences (watching classes being taught online, i.e., being a student engaged in online learning) would be the second strongest forgers of Self-Efficacy (Bandura, 1977). The psychology of how people learn tells us that those who engaged in online learning themselves, through vicariously interacting with and watching their teachers, would themselves develop some amount of online teaching competence. The quantitative data reflected this assumption.

In *Organization & Planning*, the subthemes of *organized virtual spaces* (16 responses) and *systematized assessments* (8 responses) mostly consisted of aspects inherent to the online format. Instructors/professors were forced to plan further ahead because of uncertainty relating to the unfamiliar environment of online teaching. Assessments had to be formatted to be online, which created a digital record of everything, making organization mandatory. Six respondents noted the time-consuming nature correlated with planning lessons and assessments for online classes as a downside to online education. However, it could be said that extra time spent on lesson planning and systematizing assessments are personal characteristics that make a teacher more effective. Again, we see how some educators used to teaching in F2F environments see a downside instead of an opportunity. This could possibly be because they have no experience with seeing it done. Others detailed how online education fosters student autonomy more effectively. It has been documented that personal factors like motivation and persistence are linked to successful online student outcomes (Afflerbach & Harrison, 2017; Lee Choi, & Kim, 2013; Lorenzo, 2012). Conversely, students who are not persistent or self-motivated, and who are suddenly forced to learn online, like in the Spring 2020 semester, could be pushed from a state of ambivalence to attrition. This could relate to instructors/professors as well, as seen in the paradoxical situation that detailed how some instructors/professors saw opportunities where others felt hindered or less effective.

The second theme, *Effective Personal Communications,* had 2 subthemes; *educational technology* (7 respondents) and *privatized and personal feedback.* The first subtheme could only be mapped onto F2F instruction if instructors/professors had facilities equipped with computers, monitors and screens, and wifi, which some respondents noted they did not have.

However, this could be an opportunity to add techniques learned in online courses to their F2F courses. The second subtheme outlined a phenomenon inherent to effective online teaching, but that could also be mapped onto F2F instruction; using more robust channels of digital communication to privatize and personalize student feedback. Again, instructors/professors could turn a hinderance into an opportunity.

4.3 Logistics of Safety and Time

Twenty-six participants detailed how the *Logistical Concerns* of F2F instruction made them a less effective educator. Safety concerns regarding coming in contact with the SARS CoV 2 virus and developing the disease COVID-19, were detailed by 4 respondents. Time spent traveling and safety are not to be undervalued, but is the trade-off for securing safety and saving time worth learning in a less effective classroom environment (online teaching)? Safety, yes; time, no. This means that until a new breed of instructors/professors who are trained for online education are teaching, the effectiveness of the F2F environment for ELL teaching should be pursued regardless of commuting times and other logistical concerns. However, instructors/professors should seek professional development opportunities to become more effective online educators, as pandemics have the ability to rapidly alter the educational landscape. An increasing body of evidence indicates that online teacher education programs positively impact the development of online teaching TSE (Graham, Gorup, and Smith, 2012; Moore-Adams, & Jones, 2015; Woodcock, Sisco, & Eady, 2015).

4.4 Educational Equity and Technology

The *Classroom Management Difficulties* theme offered insight into how the online environment has possible educational upsides that the F2F environment may lack. Seven-teen respondents noted that it is easier to engage students in an online environment and that the physical space of a F2F classroom curtails engagement for some students. This is because students can physically group themselves in the back of the classroom away from the teacher, and because of the time restrictions for instant feedback in a physical classroom, creating an environment where vocal and outgoing students benefit most. Whereas, an online environment has the ability to create a virtual classroom where all students are the same distance from the teacher and occupy the same space, creating a more equitable environment both for students to be heard and for the teacher to identify students who need the most help. As some respondents noted, in a F2F classroom it is easier for students to obscure themselves and slip through the cracks. The online environment makes it easier for instructors/professors to gauge students' language shortcomings because of the need to communicate inside of the class and outside of class with every student using varied channels of communication. The quantitative data showed that instructors/professors with online learning experience were significantly better than their counterparts at student engagement. Instructors/professors competent in online education and student engagement may have the ability to create a more equitable classroom. This assumption is partially supported by the 14 respondents that identified technical issues and a lack of proper training as drawbacks to the online learning environment, as they seemed unequipped with even the most basic troubleshooting techniques and strategies needed to operate an online classroom.

4.5 Limitations and Future Research

The study had limitations, one being self-selection bias, which is a possible threat to validity (Ary, Jacobs, Razavieh, & Sorensen 2006). The validity threat occurs when participants opt to do the survey. This also means that certain participants opt out, suggesting that the participants do not accurately represent the target population (Ary et al., 2006; Lieu & Dewan, 2010).

External validity could have been negatively impacted due to multiple-treatment interference. Five of the 54 respondents had previous online teaching experience. Another limitation of the study is that the majority of instruments designed to gauge TSE were created for the F2F environment and not necessarily designed to gauge TSE for educators of online courses. This can be seen in the *TSES* as it has no questions about technology, or the online nature of education (Barbour & Reeves, 2009; Newby, 2011).

Another limitation is generalizability. The sample size was statistically powerful, but it would have been nice to have a larger number of participants. As is, the study is specific to non-Korean instructors/professors in South Korean institutions of higher education who teach using English. Mapping the results of this study onto instructors/professors outside of this cohort is ill-advised due to the cultural nuances of South Korean higher-education and how they impact the relationship between non-Korean English-speaking instructors and South Korean students.

4.6 Concluding Insights

For foreign instructors/professors that teach using English in South Korean institutions of higher education, F2F instruction is optimal. This is due to the lack of institutional preparation for online education and because instructors/professors, for the most part, have not been adequately trained for online education. Also, the career experiences of most instructors/professors have prepared them for the F2F classroom and they are both better versed and more comfortable in this setting, which allows them to be more effective educators. If future, unforeseen circumstances, prevented F2F education, like the pandemic of 2020, then it would be ideal for instructors/professors to have some form of training in online education, or to, at least, have participated in online education themselves, whether that be earning a degree or certificate.

It is also notable that techniques used for student engagement and classroom management in the online environment may be suitable for the F2F classroom. Instructors/professors could engage students using multiple and robust channels of communication, which in South Korea mainly consist of the communication app Kakao Talk, email, institutions' portal messaging systems, and video conferencing technology (spoken communication, breakout rooms, group messaging, and private messaging). The latter could be ideal for virtual office hours or review and feedback sessions. Classroom management strategies like organized and systematized lesson planning and assessments could also be used in the F2F environment. Many institutions in South Korea are already using technology like smartphone attendance applications, but this could be universalized. If instructors/professors enjoy taking oral attendance in order to better acquaint themselves with their students, this could be done in tandem with digitized attendance records. Furthermore, taking detailed notes of participation and making records of remedial

students that need more attention could also be helpful in a F2F environment. The lessons learned regarding how technology can promote educational equity are important. Visualizing how a F2F classroom would look virtually and making a physical record of it could help some instructors/professors better categorize each type of student (remedial, shy, outspoken, etc.) and allocate their resources more equitably like they had done in their virtual classroom, i.e., attempt to create physical spaces that negate inequity created by personal student characteristics, e.g., seating charts (rotating or not), better systematized engagement by using record keeping techniques to ensure the teacher is adequately and equitably distributing their attention, and creating digital records of all assessments.

It seems that techniques involving technology that allow for highly organized assessments and lessons, multiple and robust channels of communication with students, and taking advantage of online educational technology, have the possibility to improve F2F education and especially, engagement with students. It is recommended that all instructors/professors engage in professional development for online instruction to improve their effectiveness in online instruction and, possibly, in F2F instruction.

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