Extent of Challenges and Coping Strategies in Online Teaching Among ESOL Teachers: Its Relationship to Their Teaching Performance

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ABSTRACT

This study was conducted to assess the extent of challenges and coping strategies of ESOL teachers in New York City in online learning and their relationship to teaching performance which served as the basis for a proposed intervention program. The researcher used the mixed-methods sequential explanatory design consisting of two distinct phases: quantitative followed by qualitative (Creswell et al. 2003). Based on the findings, the ESOL teachers in the New York City District are challenged in online learning at a minimum level. It is then concluded that the respondents are adaptable to online learning. Despite the challenges, they are capable to adjust and utilize the specific strategies for every categorized difficulty faced in online learning. Therefore, this implies that ESOL Teachers embody a responsive institution toward the learners. It can also be concluded that ESOL teachers are adaptable to the changes in modalities brought about by the pandemic and manage their jobs well in online teaching. It was recommended that the Department of Education create a program/project that shall try to address the fundamental strategies for overcoming the difficulties associated with online teaching.
KEYWORDS

Extent of Challenges, Coping Strategies, Online Teaching, ESOL Teachers, Teaching Performance, mixed method

INTRODUCTION

One of the demands of globalization in the 21st century is the need to be proficient in English and other foreign languages (Tamayao, 2013). For non-English speaking individuals, learning English allows them to communicate fluently and fully participate in realizing the goals and objectives of an organization or a community. While there is so much of a dilemma for English teachers who teach people native to other languages, the problem worsened because of the global pandemic, where online learning was the key to educating learners.

The United States of America (USA), one of the world's leading economies, has been a primary destination for immigrants searching for greener pastures. These immigrants mostly come from varying ethnocultural and ethnolinguistic backgrounds. The American Immigration Council (2021) claims that the total population of immigrants in the USA consists of 14% of the country's total population. Immigration to the US requires these individuals to learn English since it is the dominant language in the country, used in both government and daily transactions. Immigrants would enroll themselves in English for Speakers of Other Languages (ESOL) programs to cope with the demands of learning English. ESOL learners are adults who are learning English as part of their basic skills provision. They are heterogeneous and apparently disadvantaged as they may be immigrants who belong to an ethnic or a cultural minority. They feel insecure and inferior because most are unemployed and techno-illiterate.

At some points, ESOL adult learners have been experiencing information poverty and are depending much on community learning so they can understand better social, political, environmental, and health issues and adjust to the current sophisticated social practice.

Most ESOL teachers make use of visual methods to teach the community members as this strategy allows a useful way to communicate with ESOL learners. The pandemic allowed teachers to teach online, which was far more difficult. ESOL teachers have been identifying several gaps, especially so that the community where they are assigned is multi-cultural and would already be so hard to be taught other than the fact that somehow, the government has less support for their undertaking. The community members are not even computer-literate, and since the students are adults, limited class time makes it hard for the ESOL teachers to fulfill their deliverables, having to consider speaking, writing, and reading. The educational scenario for ESOL teachers and students truly became so perplexing.
There have been very few studies on ESOL, and none of which delved into investigating the challenges and coping strategies of ESOL teachers in online teaching and learning and their effects to their teaching performance. ESOL as a reactive intervention to curb prevailing language and barriers brought convenience to ESOL learners. In contrast, ESOL teachers are imbued with greater responsibility to meet such convenience. In a slew of studies, it was found out that common challenges affecting ESOL learners that ESOL teachers should look into are online modality for instruction, establishing mutual respect, winning over reluctant learners, teaching pronunciations, facing higher expectations, one size most certainly does not fit at all, adult learners have extensive demand on their time and possible struggles with the participation of the learners. (Mac Donnchaidh 2021). While these bear factual merits, ESOL teachers are expected to make greater efforts by acknowledging them.

Finally, the roles and responsibilities of ESOL teachers in the United States are varied and ever-changing, reflecting the diverse needs and backgrounds of adult English language learners. ESOL teachers are essential in promoting linguistic and cultural integration in communities across the country by assisting adult learners in developing their English language skills, which is difficult to fulfill when you use online instruction. Their work is demanding and necessitates a thorough understanding of the needs of adult learners, as well as practical teaching methods and resources. ESOL teachers have an impact that extends beyond the classroom, as they assist adult learners in achieving their personal and professional goals and contribute to the larger goal of promoting linguistic and cultural integration in the United States.

This study has explored on how to improve the teaching performance of the ESOL teachers in an online learning modality, having analyzed their challenges and coping strategies.

**FRAMEWORK**

This study finds its blueprint from Goal 4 of the 2030 Sustainable Development Agenda. The Sustainable Development Goal 4 (SDG 4) is the education goal of the 2030 agenda. It aims to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all. This study specifically intertwines the following targets. To wit: a) SDG 4.6 - by 2030, ensure that all youth and substantial portion of adults both men and women, achieve literacy and numeracy; b) SDG 4.7 - by 2030, ensure that all learners acquire knowledge and skills needed to promote sustainable development, including, among other, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture’s contribution to sustainable development; and c) SDG 4.c - by 2030, substantially increase the supply of qualified teachers, including through international cooperation.
for teacher training in developing countries, especially least developed countries and small in-land developing states.

English Language Learners (ELLs) and Multilingual Learners (MLs) are a priority for the New York State Education Department’s (NYSED) Office of Bilingual Education and World Languages (OBEWL), which aims to help all Learners in New York State (NYS) achieve academic and language proficiency especially in state of global emergency such as that of the COVID pandemic. To get every student ready for college and a job, we work to accommodate their unique educational and emotional needs in as many languages as possible. According to NYSED, all educators should be prepared to work with Learners who speak languages other than English (New York State Department, 2022) and hence the need to capacitate the teachers and provide for their needs. The New York State Education Department (NYSED) has approved the Next Generation Learning Standards to give Learners, teachers, and parents a common understanding of what is required to succeed in today’s competitive global economy.

Adult English language learners in the United States rely heavily on ESOL teachers and they cannot be left behind. They are in charge of creating and delivering lessons, in whatever type of learning platform available and applicable, that assist adult learners in developing their English language skills in speaking, listening, reading, and writing. The roles and responsibilities of ESOL teachers in the United States can be divided into several categories.

Lesson Planning and Delivery: ESOL teachers are responsible for developing and delivering lessons aligned with the goals and needs of adult English language learners. This may include developing lesson plans, selecting and implementing materials and resources, and delivering engaging and practical instruction. ESOL teachers must know the most effective teaching methods for adult English language learners. They must constantly assess and adjust their instruction to meet the needs of their students.

Assessment and evaluation: ESOL teachers are responsible for assessing and evaluating their students’ English language proficiency. This could include administering pre-and post-tests, conducting ongoing formative assessments, and providing students with regular feedback. ESOL teachers must also use assessment data to inform their instruction and ensure that their students’ progress toward their goals.

Student Support: ESOL teachers play an essential role in assisting adult English language learners. This may include providing individual and small group instruction, working with students one-on-one to address specific needs, and providing support and guidance to students outside the classroom. ESOL teachers must be patient, supportive, and culturally sensitive and create a positive and inclusive learning environment for their students.

Professional Development: ESOL teachers must constantly improve their skills and knowledge. Attending workshops and conferences, participating in professional learning communities, and conducting their research and development are all
possibilities. Adult ESOL teachers must stay current on best practices in the field and be committed to continuous improvement in their work (Harrison & McIlwain, 2020).

Community Outreach: Adult English language programs and resources are promoted in their communities by ESOL teachers. Participating in community events, presenting at workshops, and collaborating with community organizations to promote the value of ESOL programs are some examples. ESOL teachers must be effective communicators who can effectively promote the value of adult English language instruction.

OBJECTIVE OF THE STUDY

The study generally aimed to assess the extent of challenges and coping strategies of ESOL teachers in New York City in online learning and their relationship to teaching performance which served as the basis for a proposed intervention program.

METHODOLOGY

Research Design

A mixed methods research design was utilized to answer the objectives of the study. “The mixed-methods sequential explanatory design consists of two distinct phases: quantitative followed by qualitative” (Creswell et al. 2003). In this design, the quantitative data is collected and analyzed first. Then the qualitative data are to be collected and analyzed to help explain, or elaborate on, the quantitative results obtained in the first phase. “The second, qualitative, phase builds on the first, quantitative, phase, and the two phases are connected in the intermediate stage in the study” (Ivankova et al., 2006).

The quantitative part constitutes the descriptive and inferential analysis of this study. The descriptive part examined the profile of the ESOL teachers, their challenges, and their level of teaching performance.

On the other hand, the inferential part of the study investigated the differences and extent of challenges in online teaching and ESOL teachers’ teaching performance in an online learning set-up when grouped according to their profile.

The qualitative part uncovered the coping strategies in online learning administration among ESOL teachers in New York, USA.

Locale of the Study

This study was conducted in New York, USA, offering ESOL Programs. The ESOL program is designed for current teachers looking to add to their certification and teach English to speakers of other languages. This high-need certification is attainable in only 15 credits of coursework in an accessible evening and hybrid format.

English language learners (ELLs) currently account for nearly 10 percent of all students nationwide and are the most rapidly growing subgroup of public school
students across the United States. This increasing number of children living in non-English-speaking households creates a demand for English Speakers of Other Languages (ESOL) public school teachers. New York State, especially, is seeing a quickly rising demand for ESOL K-12 teachers. As part of this program, students engaged in ESOL-focused coursework offered by ESOL experts.

**Respondents of the Study**

The respondents of this study were regular ESOL teachers in NY, USA, who rendered one (1) year of service to ensure that the respondents have been exposed to the work, especially in its operations and other professional development undertakings. The respondents were selected using simple random sampling. There were 159 eligible teachers to be respondents, but applying the Lynch formula, only 112 will be taken and shall be determined using the lottery method. In the FGD part, twelve (12) ESOL teachers were invited as participants.

**Research Instrument**

A structured questionnaire/checklist was used as the primary tool in gathering data from the respondents. To gather data for the profile of the ESOL teachers, demographic and technology-related variables were chosen by the researcher based on a literature review as to factors associated with teachers’ teaching performance in online learning. The online learning challenges survey (OLCS) was patterned from Barrot's (2021) study, Faculty's Online Teaching Strategies during the Pandemic and How They Cope with Them.

The rating scale section contained 35 items and was interpreted using a five-point Likert Scale. The questionnaire underwent validation, pilot, and reliability testing before its finalization. Test-retest reliability assessment (n=36) showed a correlation of 0.74; internal consistency testing (n=342). Using Cronbach's Alpha, it has a coefficient of 0.89.

The teaching performance results were taken from the school’s district supervisor with the permission of the ESOL teachers.

The coping strategies were derived using a Focus Group Discussion among select ESOL teachers, which were chosen through purposive-selective sampling to ensure the representativeness of the population.

Finally, the Campus Executive Officers and the select deans crafted a structured questionnaire to be answered. This questionnaire elicited the factors and explanations of the quantitative data.

**Data Gathering Procedures**

The researcher adhered to the methods and procedures to collect the data from the ESOL teacher respondents and the FGD participants. The researcher requested permission from the District Supervisor and the concerned principal to conduct
the research. The faculty roster of the district was used to randomly sample the faculty members to be the respondents of the study. The researcher administered the questionnaires through Google Forms. The form also elicited the respondents’ free and prior informed consent before proceeding to the questionnaire.

For the qualitative part, the study participants were invited to come as a group and interviewed personally.

For the results of the Teaching Performance Evaluation of the ESOL teachers, the researcher sought permission from the Supervision of the ESOL Schools specifically for the documents which are in the documentary analysis.

The quantitative data obtained were subjected to statistical analysis after its encoding in the database.

**Data Analysis**

Descriptive statistics such as frequency, percentage, and mean were used to analyze ESOL teachers’ profile variables and challenges in online teaching. The differences in the levels of teaching performance as ESOL teachers related to their profile variables were analyzed using analysis of variance (ANOVA). The test of relationships was examined using Pearson Product Moment Correlation. Lastly, the qualitative data was used to strengthen the findings derived from the quantitative data. The best and most appropriate answers or explanations were drawn to support the quantitative analysis.

For the teaching performance, the data was analyzed using the rank provided by ESOL Supervisors from good, better, and best. The ranking is based on New York Inter-Agency Task Force guidelines. All statistical analysis was analyzed using a 0.05 level of significance. The teaching performance of ESOL teachers was determined using their performance evaluation sheets.

The coping mechanisms were analyzed through a Thematic Analysis.

**RESULTS AND DISCUSSION**

Table 1. Frequency and percentage distribution of the respondent’s demographic profile

<table>
<thead>
<tr>
<th>Profile</th>
<th>Specific Profile</th>
<th>Frequency (n= 112)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>Male</td>
<td>21</td>
<td>18.75</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>91</td>
<td>81.25</td>
</tr>
<tr>
<td>Age</td>
<td>24- 30</td>
<td>22</td>
<td>19.64</td>
</tr>
<tr>
<td></td>
<td>30-45</td>
<td>78</td>
<td>69.64</td>
</tr>
<tr>
<td></td>
<td>45 and above</td>
<td>12</td>
<td>10.72</td>
</tr>
</tbody>
</table>
Table 1 shows the profile of ESOL Teachers in New York City, USA. The profiling reveal that there are more female compared to male (3:1 ratio). In terms of age, nearly 90% are in the middle-age group and the median age is 42-78. Results also show that most (73.21%) of the respondents are married and commonly assigned in community high schools as ESOL Teachers are expected to teach community leaders and members from migrant societies. In terms of length of service, ESOL Teachers were found to be relatively new in their current jobs, nearly 80% are serving as ESOL teachers for less than 10 years.

Table 2. Frequency and percentage distribution of the respondent’s technology related profile

<table>
<thead>
<tr>
<th>Profile</th>
<th>Specific Profile</th>
<th>Frequency (n=112)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Online learning platform used</td>
<td>1 to 2 platforms</td>
<td>22</td>
<td>19.64</td>
</tr>
<tr>
<td></td>
<td>3 to 4 platforms</td>
<td>90</td>
<td>80.36</td>
</tr>
<tr>
<td>Available devices/gadgets used</td>
<td>With 1 or 2 owned gadgets</td>
<td>51</td>
<td>45.54</td>
</tr>
<tr>
<td></td>
<td>With 3 or more gadgets</td>
<td>61</td>
<td>54.46</td>
</tr>
<tr>
<td>Number of ICT seminars attended for the last five years</td>
<td>0</td>
<td>8</td>
<td>7.14</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>16</td>
<td>14.29</td>
</tr>
<tr>
<td></td>
<td>2 and more</td>
<td>88</td>
<td>78.57</td>
</tr>
</tbody>
</table>

Table 2 describes the profile of the ESOL Teachers in terms of the technology they use for online teaching. Results reveal that 90 of them, or 80.36% use 3 to 4 teaching
platforms, depending on the accessibility and convenience of their students or learners. The most common, though, are Zoom and Google Meet. Alamri (2021) claims in his research that teachers should be adaptive to their pupils’ learning resources. They, too, depend on those the school or the local government can provide them.

In terms of devices or gadgets used in online teaching, most of them have more than 3 gadgets. Based on the interview conducted, the ESOL teachers revealed that the school districts have provided them with laptops but have upgraded their capacity to deliver online teaching hence, most of them personally acquired mobile phones and i-pads. Data also reveals that ESOL teachers have been attending seminars for the last 5 years as yearly in-service training is provided by their respective schools and the school districts. That is other than the seminars they attend to enhance their teaching competencies, and professional organizations like AIDE Inc. sponsor these seminars.

Table 3. Respondents’ extent of self-regulation challenges

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mean</th>
<th>Descriptive Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>I delay task relating to my academic work as a teacher to the extent that they are neither completed in time or have to be rushed</td>
<td>1.83</td>
<td>Moderate Extent</td>
</tr>
<tr>
<td>I lack the ability to control my own thought, emotions and actions during on-line teaching</td>
<td>1.79</td>
<td>Low Extent</td>
</tr>
<tr>
<td>I just only have few hours to prepare for my online class</td>
<td>2.0</td>
<td>Low Extent</td>
</tr>
<tr>
<td>I have poor time management skills during times I deliver my online lectures</td>
<td>1.82</td>
<td>Low Extent</td>
</tr>
<tr>
<td>I don’t use online peer learning strategies effectively (i.e. learning from another to better facilitate learning such as peer tutoring, group discussion and peer feedback)</td>
<td>1.65</td>
<td>Very Low Extent</td>
</tr>
</tbody>
</table>

Table 3 discusses the ESOL teacher’s challenges in online teaching along with self-regulation. Data reveals that the category mean is 1.81 with a “slightly challenged” descriptive value. This means that ESOL teachers do not have many problems with online teaching except for “delaying tasks relating to their academic works,” with a mean of 1.83 with a descriptive value of Moderate Extent. As per the interview done with some of other academic and personal engagements, they try to work at their own pace to get rid of too many anxieties and worries. The findings also reveal that ESOL teachers are good at rushing and are still efficient even when “they have only a few hours to prepare for their online classes,” with a mean score of 2.0 and a disciplined value of low extent. According to some respondents, it is easy to hook up online if you have handy gadgets and a stable internet connection. This can make them connect anywhere at any time. Having sophisticated gadgets allows them to store their academic materials/tools in the said gadgets and would be easy to retrieve. In his research, Zimmerman
described that faculty and students are often serious about their studies but would rather make it a little relaxed as their parents also advise them to do. He stressed the importance of learning at one’s own pace.

Table 4. Respondents’ extent of technological literacy and competency challenges

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mean</th>
<th>Descriptive Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>I lack competence and proficiency in using various interfaces or systems</td>
<td>1.73</td>
<td>Very Low Extent</td>
</tr>
<tr>
<td>that allow me to control a computer or another embedded system for teaching online</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am distracted by an overly complex technology</td>
<td>1.50</td>
<td>Very Low Extent</td>
</tr>
<tr>
<td>I have difficulties in learning a new technology</td>
<td>1.58</td>
<td>Very Low Extent</td>
</tr>
<tr>
<td>I lack the ability of effectively using technology to facilitate</td>
<td>1.82</td>
<td>Low Extent</td>
</tr>
<tr>
<td>teaching-learning process</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I lack knowledge and training in the use of technology for online classes purposes</td>
<td>1.65</td>
<td>Very Low Extent</td>
</tr>
</tbody>
</table>

| Category Mean | 1.66 | Not challenged |

Table 4 describes the challenges of the ESOL teachers along technological literacy and competency challenges. Data reveal that the categorical mean computed is 1.66 with a descriptive value of “slightly challenged”. This generally means that using technology is not a major issue for the ESOL Teachers in on-line teaching as they are given ample trainings as well as familiarization of the gadgets and on-line devices they use for on-line teaching. Accordingly, the highest mean is 1.82 with a descriptive value of low extent and that is on the parameter “I lack the ability of effectively using technology to facilitate teaching-learning process”. This maybe their biggest concern but have been able to adapt because of the presence of peers and family members who can assist them and afterwards, they will already be familiarized with the applications or how the gadget operates. Tria (2020) describes the landscape of education in the world as a system that is influenced by a lot of factors, primordially the society, where people builds wisdom and help each other grow and improve themselves.

Table 5. Respondents’ extent of student isolation challenges

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mean</th>
<th>Descriptive Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel emotionally disconnected or isolate during my render of online</td>
<td>1.86</td>
<td>Low Extent</td>
</tr>
<tr>
<td>classes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I feel disinterested in the discussion of my lectures during online classes</td>
<td>1.73</td>
<td>Very Low Extent</td>
</tr>
<tr>
<td>I feel uneasy and uncomfortable in using video projection, microphones,</td>
<td>1.85</td>
<td>Low Extent</td>
</tr>
<tr>
<td>and speakers during online classes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
I feel anxious every time my students do not open their camera and speak loudly during my online classes 1.71 Very Low Extent

Table 5 describes the challenges of ESOL teachers in student isolation. Results reveal that the category mean is 1.79 with a descriptive value of “slightly challenged.” This implies that the ESOL teacher respondents do not have many issues with student isolation in delivering online teaching. This further implies that they have adopted online learning as they have been doing this for the past three (3) years. The highest mean score is with a mean score of 1.86 and a descriptive value of “low extent,” which suggests that they don’t feel emotionally dissatisfied as they perform their duties online teaching. Interviews reveal that they have accepted and greatly adjusted to the expectations and peculiarity of the job. However, they still are a bit “anxious every time their students do not open their camera or speak loudly during their classes” as seemingly, their students are not focused on their online sessions and therefore makes them feel that their students have less interest in class and that they don’t have so much of learning acquired. In the study of Nang (2020), he stressed that through time, teachers and pupils have been closely adjusting to the use of online learning and, to some point, have been appreciative that this type of platform is available.

Table 6 describes the extent of technological sufficiency challenges among the ESOL teachers. Results reveal that the categorical mean is 1.82 with a descriptive value of “slightly challenged”. This generally means that ESOL teachers are still not having major issues with their connectivity, gadgets, and online teaching and learning technologies. As ESOL students are also provided with internet access, and schools also provide teachers with internet and gadgets, online teaching is not much of a problem. The major issue, along with this part, is “having outdated technology,” with a mean score of 2.0 and a descriptive value of “low extent”. The government has issued online teaching gadgets and software with low storage, and the interest needs to be upgraded.
ESOL teachers need to save many instructional materials, which demands huge storage. Another issue was on “stability of interest access during online classes” for both parts of the teachers and the learners. The disconnections that happen affect the quality of online teaching. Burns (2020) reiterates that online learning is a struggle among parties involved and has caused many frustrations but seemingly has made the realization that embracing technology is a must in a very uncertain and vulnerable world.

Table 7. Respondents’ extent of technological complexity challenges

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mean</th>
<th>Descriptive Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>I do not like navigating or exploring new technology</td>
<td>1.98</td>
<td>Low Extent</td>
</tr>
<tr>
<td>I experience difficulties in using complex technology</td>
<td>2.02</td>
<td>Low Extent</td>
</tr>
<tr>
<td>I experience difficulties when using long videos for teaching</td>
<td>2.4</td>
<td>Low Extent</td>
</tr>
<tr>
<td>I refuse to learn new technologies</td>
<td>1.59</td>
<td>Very Low Extent</td>
</tr>
<tr>
<td>I get nervous every time a new technology feature is introduced to me</td>
<td>2.10</td>
<td>Low Extent</td>
</tr>
</tbody>
</table>

| Category Mean | 2.02 | Slightly challenged |

Table 7 describes the challenges of ESOL teachers along the discharge of functions for online teaching along with technological complexity. Results reveal that the categorical mean is 2.02 with a descriptive value of “slightly challenged”. This implies that the ESOL teachers do not regard technology use and the difficulty of operating it as a challenge. Along the parameters, the main concern is ‘I get nervous every time a new technology is introduced,” with a mean score of 2.10 and a descriptive value of “low extent”. Interviews reveal that teachers are often stressed and somewhat struggle when introduced to another online teaching platform. While they say that it is a normal reaction, a few argue that they need time to learn and adjust to the new platform. Based on documents, this scenario happens rarely, though. It only is advised if the operating systems require two huge data to show movies or video clips as part of online teaching. A strength of the ESOL teachers is “not refusing to learn new technologies” as they have well adapted to it and greatly understood its purpose. Ancheta (2020) explains the difficulties of teachers and learners in the use of online learning and finds the disparity in appreciating online technology by different generations. While the young ones are very excited about developments in online learning, the old ones find it a challenge to follow and efficiently deliver.
Table 8. Respondents’ extent of learning resource challenges

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mean</th>
<th>Descriptive Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>I have an insufficient access to library resources such as website or other related library resources needed in online learning</td>
<td>1.76</td>
<td>Low Extent</td>
</tr>
<tr>
<td>I have an insufficient access to laboratory equipment and materials in online learning</td>
<td>2.2</td>
<td>Low Extent</td>
</tr>
<tr>
<td>I have limited access to textbooks, worksheets, and other instructional materials used in online learning</td>
<td>2.0</td>
<td>Low Extent</td>
</tr>
<tr>
<td>I experience financial challenges when accessing to online learning resources and technology</td>
<td>2.82</td>
<td>Moderate Extent</td>
</tr>
<tr>
<td>I do not have support group (experts, relatives or friends) who aide me with my needs for online teaching</td>
<td>1.56</td>
<td>Very Low Extent</td>
</tr>
</tbody>
</table>

| Category Mean | 2.07 | Slightly challenged |

Table 8 describes the challenges of ESOL teachers on online teaching along learning resources. Data reveal that the completed categorical mean is 2.07 with a descriptive value of “slightly challenged”. This means that the respondents are not having major issues on the availability, access, and sufficiency of the learning resources. Among the benchmark statements, the main concern is on “financial challenges when accessing online resources and technology,” with a mean of 2.82 and a descriptive value of 2.82. The subscription or access fees bring this about to e-books, e-journals, and other online resources they need to buy to upgrade their learning resources. Interviews revealed that most of the teachers had been buying their own learning resources although some are available in the library. Only a few of the ESOL teachers have concerns about e-laboratories as they have little use of it and adjust instead by recording their own virtual tours in the laboratories or institutions.

Table 9. Respondents’ extent of learning environment challenges

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mean</th>
<th>Descriptive Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>I experience online distractions such as social media during online teaching</td>
<td>1.90</td>
<td>Low Extent</td>
</tr>
<tr>
<td>I experience distractions such as noise when I am home doing my online teaching</td>
<td>1.79</td>
<td>Low Extent</td>
</tr>
<tr>
<td>I difficulties in selecting the best time and the area for online teaching at home</td>
<td>2.0</td>
<td>Low Extent</td>
</tr>
<tr>
<td>I experience home set-up limits for the orderly presentation of my lectures in an online class</td>
<td>1.87</td>
<td>Low Extent</td>
</tr>
<tr>
<td>I get distracted while teaching online as I have unfinished household chores to accomplish</td>
<td>2.6</td>
<td>Low Extent</td>
</tr>
</tbody>
</table>

| Category Mean | 2.03 | Slightly challenged |
Table 10 presents the respondents’ extent of learning environment challenges of ESOL teachers. The computed categorical mean is 2.03 with a descriptive value of “slightly challenged”. Generally, the ESOL teachers have fewer issues in the teaching-learning environment, although they have enumerated some along “teaching online with unfinished household choirs to accomplish” and “selecting the best time for them to do online teaching while at home” with mean scores of 2.6 and 2.0 respectively. According to the interviewed respondents, sometimes they are irritated knowing that some work is undone when some phone calls are made and while other people, including their family members, are at home. The remedy is that they still go to school to render online teaching to minimize distractions or disturbances. After it is allowed by the school administrators, it would be easy to seek help from instructional technologists other than having greater access to online learning resources available in the library. Tripathy (2009) claims that schools must put much premium on libraries, particularly virtual ones. This shall allow pupils and teachers to navigate available learning resources, especially those they cannot provide on their own. Libraries have expanded online services so that pupils and teachers are provided with personalized accession cards, and their utilization is monitored.

Table 11. Summary of the respondents’ extent of online learning challenges across all domains and overall

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Mean</th>
<th>Descriptive Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Regulation Challenges</td>
<td>1.81</td>
<td>Low Extent</td>
</tr>
<tr>
<td>Technological Literacy and Competency Challenges</td>
<td>1.66</td>
<td>Very Low Extent</td>
</tr>
<tr>
<td>Teacher Isolation Challenges</td>
<td>1.79</td>
<td>Low Extent</td>
</tr>
<tr>
<td>Technological Sufficiency Challenges</td>
<td>1.82</td>
<td>Low Extent</td>
</tr>
<tr>
<td>Technological Complexity Challenges</td>
<td>2.02</td>
<td>Low Extent</td>
</tr>
<tr>
<td>Learning Resource Challenges</td>
<td>2.07</td>
<td>Low Extent</td>
</tr>
<tr>
<td>Learning Environment Challenges</td>
<td>2.03</td>
<td>Low Extent</td>
</tr>
<tr>
<td><strong>Overall Mean</strong></td>
<td><strong>1.89</strong></td>
<td><strong>Slightly challenged</strong></td>
</tr>
</tbody>
</table>

Table 10 presents the overall mean of the challenges of ESOL Teachers in online teaching, which is 1.89 with a descriptive value of “slightly challenged”. This generally emphasizes that the teacher respondents have fewer issues in the discharge of their functions despite the fact delivering online teaching may be difficult to carry out considering limitations in technology and the characteristics, personal and technology of their students. The parameter which has the highest mean score is learning resource challenges, with a mean value of 2.07, interpreted as “low extent”. This has something to do with the cost of technology, learning resources, and the accessibility of online materials, which, most of the time, they personally purchase or subscribe. The out-of-the-pocket cost seems unbearable, but they are forced to adjust to it as it is inherently
their obligation to deliver quality online teaching, especially using online platforms. Rasheed et al. (2019) claim that online learning, while expensive and could bring parents and families additional unexpected and unprogrammed expenses for the family, still should be prioritized- the reason why the approach concerned is multi-sectorial. Local Government Units, private organizations, family members, and other stakeholders must determine how they can alleviate the problem of the unanticipated cost of online education.

Table 12. Thematic Analysis of the responses of ESOL Teachers when asked about their coping strategies in online teaching

<table>
<thead>
<tr>
<th>Themes</th>
<th>Definition</th>
<th>Sample Quotes from the FGD data</th>
<th>Excerpts from Supporting Literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of familiarity</td>
<td>Lack of familiarity &amp; specific understanding as regards the principles and theories of online learning strategies and its implication in teaching ESOL learners</td>
<td>“I really don’t know how to online teaching works for the ESOL students as much of them are so hard to teach and would be so hard to control if not that we teachers are beside them” (R8)</td>
<td>Although accrediting agencies, the local government and faculty members appreciates the use of online teaching and learning in emergencies, there may not be universal agreement as to how it is applied and how to generate ESOL students in on-line learning (Robinson &amp; Persky, 2019)</td>
</tr>
<tr>
<td></td>
<td>*Strategy: Learning by myself and peer-teaching</td>
<td>“We were forced to deliver online instruction during the pandemic and we thought that soon it will be over and so the we did not give primordial attention to the trainings required for us, and now that the pandemic is over, we still are into teaching using online strategies” (R11)</td>
<td></td>
</tr>
<tr>
<td>Feedback Constraints</td>
<td>Challenges as regards providing feedback to the performance of online students due to problems on technology, less time for individual house visits, lack of time and multiple engagement and duties of ESOL teachers</td>
<td>“it is so difficult to give feedback to the students performances in their academic activities and to give inputs for their improvement” (R2)</td>
<td>Providing feedback as part of the assessment process is crucial in learning (Henderson et al., 2019). Challenges include timeliness of feedback wherein it occurs to late to be used in a subject especially in remote learning (Hartley &amp; Chesworth, 2000)</td>
</tr>
<tr>
<td></td>
<td>*Strategy: Time Management and Prioritization</td>
<td>“we do give feedbacks but sometimes it is so untimely or perhaps too late as we, ESOL teachers has to plenty of task to accomplish and the individual progress report for each student is so taxing, it consumes much of our time” (R9)</td>
<td></td>
</tr>
<tr>
<td>Themes</td>
<td>Definition</td>
<td>Sample Quotes from the FGD data</td>
<td>Excerpts from Supporting Literature</td>
</tr>
<tr>
<td>--------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Knowledge Gap and Lack of Training</td>
<td>Educators face difficulties in developing and designing online modules (teaching plans and learning plans) due to lack of background knowledge and capacity-building opportunities</td>
<td>“We feel that the least priority in the educational sector is on ESOL and we teachers are given less of trainings to capacitate us in the delivery of online instruction”. (R8)</td>
<td>Training is the process aimed at improving the skills, knowledge and competence of those who are engaged in a particular activity, and in the case of teachers, to improve their teaching performance (Elnga &amp; Imran, 2013).</td>
</tr>
<tr>
<td>*Strategy: Optimizing Opportunities for Learning</td>
<td></td>
<td>“It is also more challenging because even though we are trained, our ESOL learners are not also prepared as they have lack of trainings in using computers and digital illiteracy is an issue” (R10)</td>
<td>Training bridges the gap between present performance and the standard desired performance and hence shall increase efficiency and effectiveness at work (Panaga, 2019)</td>
</tr>
<tr>
<td>Challenges in sustaining student’s participation and motivation</td>
<td>Difficulty in encouraging students to maintain their interest in learning online</td>
<td>“It is already to hard to gain their attention in in-person classes, how much more for an online class?”(R03)</td>
<td>Online learning is more learner-centered and has been established to strategize remote learning, or when it is necessary. Much as it is difficult, teachers must be facilitators of knowledge transmission and must explore strategies to boost student’s participation, attendance and interest. Moreover, maturity of the learners are considered factors that influences motivation (Premkumar et al., 2018)</td>
</tr>
<tr>
<td>*Strategy: Imploring more exciting activities to boost excitement among learners</td>
<td></td>
<td>“It took time for us to get their interest and we had been more patient as they go through the process. Our students finds issues in online lessons. They regard it difficult and expensive, hence bringing a very high attrition” (R09)</td>
<td></td>
</tr>
<tr>
<td>Resource Constraints</td>
<td>Scarcity of resources in creating and implementing on-line learning activities which leads to teachers preferring the on-site based methods of teaching ESOL learners.</td>
<td>“Online teaching is so challenging since both teachers and learners have problems on on-line gadgets and sometimes, poor connectivity” (R04)</td>
<td>Although states have made promises to promote online education, they have not given sufficient attention to actualizing the rights to education for ESOL people and migrant communities (Orozco and Berame, 2022)</td>
</tr>
<tr>
<td>*Strategy: Using their personal resources for remote teaching other than those provided by the school</td>
<td></td>
<td>“Teaching online is time consuming and is expensive on our part as teachers” (R07)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>“As our students are poor migrants, most of the time, we have to shell out money for their online classes as well” (R11)</td>
</tr>
<tr>
<td>Emotional Stress</td>
<td>Is referred as the emotional instability and affliction of teachers and their students brought about by work overload, health and social issues, poor support systems that has implication to their poor teaching performance</td>
<td>“The thinking that it is online make us already stressed” (R4)</td>
<td>Teachers’ stresses in the online teaching comes in varied forms as these are work-related, family-related, personal-related and even workplace related. They need to be addressed for the development of right attitudes towards learning and to ensure that students acquire the attitudes and dispositions that maximizes their ability to make the most of online opportunities (Rotas and Cahapay, 2021)</td>
</tr>
<tr>
<td>*Strategy: Provision of self-care during the weekends to re-energize themselves</td>
<td></td>
<td>“We have tripled work since online teaching was introduced” (R12)</td>
<td></td>
</tr>
</tbody>
</table>
Teaching Performance of ESOL Teachers

This describes the average performance of ESOL teachers for SY 2020-2021 and 2021-2022. The weighted mean is 2.49, with a descriptive value of best/excellent. This generally means that ESOL teachers have been very efficient in the delivery of online teaching during the pandemic. The lowest mean is “designing coherent instruction,” as ESOL students considering differences in ethnicity, religion, needs, and educational status, are different, and their instructional materials should match the characteristics of the students. While training is given to ESOL teachers, some flexibility in terms of tools for teaching which should be gender-sensitive, culture-unbiased, and within the language proficiency level of the students. The highest mean score is on “creating an environment of respect and rapport,” with a mean score of 2.80 interpreted as “excellent”. This goes to show that the ESOL teachers had been their best to maintain harmonious relationship with their community assignments and their pupils and they had been loved by their students and had been profoundly accepted by the community stakeholders.

Table 13. Describes the average performance of ESOL teachers for SY 2020-2021 and SY 2021-2022

<table>
<thead>
<tr>
<th>Key Areas</th>
<th>Mean Score</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Demonstrating Knowledge of Content and Pedagogy</td>
<td>2.38</td>
<td>Best/ Excellent</td>
</tr>
<tr>
<td>2. Designing Coherent Instruction</td>
<td>2.30</td>
<td>Better/ Good</td>
</tr>
<tr>
<td>3. Creating an Environment of Respect and Rapport</td>
<td>2.80</td>
<td>Best/ Excellent</td>
</tr>
<tr>
<td>4. Managing Student Behavior</td>
<td>2.32</td>
<td>Better/ Good</td>
</tr>
<tr>
<td>5. Using Questioning and Discussion</td>
<td>2.54</td>
<td>Best/ Excellent</td>
</tr>
<tr>
<td>6. Engaging Students in Learning</td>
<td>2.68</td>
<td>Best/ Excellent</td>
</tr>
<tr>
<td>7. Using Assessment in Instruction</td>
<td>2.50</td>
<td>Best/ Excellent</td>
</tr>
<tr>
<td>8. Growing and Developing Personally</td>
<td>2.38</td>
<td>Best/ Excellent</td>
</tr>
<tr>
<td>Weighted Mean</td>
<td>2.49</td>
<td>Best/ Excellent</td>
</tr>
</tbody>
</table>

Table 13 describes the average performance of ESOL teachers for two (2) school years, SY 2020-2021 and SY 2021-2022 respectively. Using the standard tool for the evaluation of ESOL teachers, results reveal that they generally performed Excellent with a computed weighted mean of 2.49. This shows that the ESOL teachers had been doing their best to address their issues on online teaching to the extent of pouring their own resources and giving extra time just so they will be able to deliver their targets and live-up to the expectations of the school supervisors and the community at large. They were
rated best in the area “creating an environment of respect and support” with a mean score of 2.80 with a descriptive value of excellent. It surfaced in the interview and in the observation that ESOL teachers love each other and shows respect and concern. The dynamism and helpfulness is so evident, hence they would be so proud to be associated as ESOL teachers. The lowest rating though was along “designing coherent instruction” with a mean score of 2.30 with a descriptive interpretation of best or excellent. Since the pandemic made the conditions so perplex and complicated, the ESOL teachers need to calibrate their teaching strategies, content and even approach. The interview made to some of the respondents revealed the fact that they weren’t prepared much and they had been doing online approach in teaching while learning how to do it.

Table 14. Relationship between the respondents’ extent of online teaching challenges and their age and sex

<table>
<thead>
<tr>
<th>Online Learning Variables</th>
<th>p-value</th>
<th>Age Interpretation</th>
<th>Sex Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Regulation Challenges</td>
<td>0.045</td>
<td>Reject the Ho</td>
<td>0.703</td>
</tr>
<tr>
<td>Technological Literacy and Competency Challenges</td>
<td>0.146</td>
<td>Do not reject the Ho</td>
<td>0.219</td>
</tr>
<tr>
<td>Student Isolation Challenges</td>
<td>0.206</td>
<td>Do not reject the Ho</td>
<td>0.182</td>
</tr>
<tr>
<td>Technological Sufficiency Challenges</td>
<td>0.203</td>
<td>Do not reject the Ho</td>
<td>0.543</td>
</tr>
<tr>
<td>Technological Complexity Challenges</td>
<td>0.444</td>
<td>Do not reject the Ho</td>
<td></td>
</tr>
<tr>
<td>Learning Resource Challenges</td>
<td>0.495</td>
<td>Do not reject the Ho</td>
<td>0.973</td>
</tr>
<tr>
<td>Learning Environment Challenges</td>
<td>0.384</td>
<td>Do not reject the Ho</td>
<td>0.615</td>
</tr>
</tbody>
</table>

Table 14 describes the relationship between the respondents’ online teaching challenges vis a vis their age and sex. Results reveal that in terms of age, self-regulation challenges are associated with it (p value of 0.045) and hence the null hypothesis is rejected. It means to say that as age is higher, self-regulation challenges is higher as well. ESOL teachers tend to have better time management skills and have better online peer learning strategies as they tend to be more focused with their deliverables plus the fact that they have good sense of flexibility and adaptiveness. In sex, the results reveal that it has association with sex as Russel (2020) reiterated in his study that information communication technology use is more interesting for males and that they tend to be more skillful. Males tend to be more explorable and learns to use ICT gadgets and softwares compared to females.
Table 15. Relationship between the respondents’ extent of online teaching challenges and their civil status and type of school

<table>
<thead>
<tr>
<th>Online Learning Variables</th>
<th>Civil Status p-value</th>
<th>Interpretation</th>
<th>Type of School p-value</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self- Regulation Challenges</td>
<td>0.182</td>
<td>Do not reject the Ho</td>
<td>0.794</td>
<td>Do not reject the Ho</td>
</tr>
<tr>
<td>Technological Literacy and Competency Challenges</td>
<td>0.751</td>
<td>Do not reject the Ho</td>
<td>0.543</td>
<td>Do not reject the Ho</td>
</tr>
<tr>
<td>Student Isolation Challenges</td>
<td>0.256</td>
<td>Do not reject the Ho</td>
<td>0.652</td>
<td>Do not reject the Ho</td>
</tr>
<tr>
<td>Technological Sufficiency Challenges</td>
<td>0.548</td>
<td>Do not reject the Ho</td>
<td>0.236</td>
<td>Do not reject the Ho</td>
</tr>
<tr>
<td>Technological Complexity Challenges</td>
<td>0.811</td>
<td>Do not reject the Ho</td>
<td>0.266</td>
<td>Do not reject the Ho</td>
</tr>
<tr>
<td>Learning Resource Challenges</td>
<td>0.284</td>
<td>Do not reject the Ho</td>
<td>0.304</td>
<td>Do not reject the Ho</td>
</tr>
<tr>
<td>Learning Environment Challenges</td>
<td>0.452</td>
<td>Do not reject the Ho</td>
<td>0.432</td>
<td>Do not reject the Ho</td>
</tr>
</tbody>
</table>

Table 15 describes the respondents’ online teaching challenges with that of their civil status and type of school. The results of the study reveal that none of the determinants of challenges of online learning is associated with civil status and type of school. Regardless of whether single, married, widowed, or divorced, their perception of challenges is the same. Also, regardless of what type of school they are assigned at, their online teaching challenges.

Table 16. Relationship between the respondents’ extent of online teaching challenges and their educational attainment and years in service

<table>
<thead>
<tr>
<th>Online Learning Variables</th>
<th>Educational Attainment p-value</th>
<th>Interpretation</th>
<th>Years in Service p-value</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self- Regulation Challenges</td>
<td>0.018</td>
<td>Reject the Ho</td>
<td>0.164</td>
<td>Do not reject the Ho</td>
</tr>
<tr>
<td>Technological Literacy and Competency Challenges</td>
<td>0.036</td>
<td>Reject the Ho</td>
<td>0.238</td>
<td>Do not reject the Ho</td>
</tr>
<tr>
<td>Student Isolation Challenges</td>
<td>0.493</td>
<td>Do not reject the Ho</td>
<td>0.118</td>
<td>Do not reject the Ho</td>
</tr>
<tr>
<td>Technological Sufficiency Challenges</td>
<td>0.788</td>
<td>Do not reject the Ho</td>
<td>0.653</td>
<td>Do not reject the Ho</td>
</tr>
<tr>
<td>Technological Complexity Challenges</td>
<td>0.045</td>
<td>Reject the Ho</td>
<td>0.507</td>
<td>Do not reject the Ho</td>
</tr>
<tr>
<td>Learning Resource Challenges</td>
<td>0.048</td>
<td>Reject the Ho</td>
<td>0.018</td>
<td>Reject the Ho</td>
</tr>
<tr>
<td>Learning Environment Challenges</td>
<td>0.613</td>
<td>Do not reject the Ho</td>
<td>0.745</td>
<td>Do not reject the Ho</td>
</tr>
</tbody>
</table>
Table 16 describes the relationship between the respondents’ extent of online teaching of their educational attainment and years of service. Findings suggest that self-regulation challenges, technological literary and competency challenges, technological complexity challenges, and learning resource challenges are associated with educational attainment. The higher the level of education attained, the better the way ESOL teachers handle their challenges in online teaching. Those with higher educational attainment tend to be more adaptive and flexible to circumstances and would have better ways to manage their time. Because of their exposure in terms of school and their experiences, they have a better level of competencies on how to handle online teaching. In the advent of complex situations, it was found that they have better-coping strategies. They tend to connect with their peers, previous classmates, and professors. Arip (2016) reiterates that school establishes corrections. Also, those with higher levels of education have better access & use of learning resources. As with the interview, the respondents released that the school where they gained masteral level taught them how to navigate instructional materials available online and has introduced online sources for their instructional materials. Some of their ICT tools were also shared with them by their friends. Classmates and professors in the Graduate School.

On the other hand, years in service were determined to have an association with learning resource management, with a p-value of 0.018. Ancheta (2020) revealed that faculty members tend to accrue or accumulate learning resources as they grow older in the teaching profession. This practice makes them prepared for any teaching challenges in the future. Also, teachers are expected to upgrade their techniques, skills, and strategies to fit the needs of times.

CONCLUSION

Based on the findings of the study, the following conclusions were drawn.

The ESOL teachers in New York City District are challenged in online learning at a minimum level. It is then concluded that the respondents are adaptable and adoptable to online learning. Despite the challenges, they are capable to adjust and utilize the specific strategies for every categorized difficulty faced in online learning. Therefore, this implies that the ESOL Teachers embodies a responsive institution toward the learners. It can also be concluded that the ESOL teachers are adaptable to the changes in modalities brought about by the pandemic and manages their jobs well along online teaching.

RECOMMENDATIONS

On the basis of the significant findings and conclusion of the study, the following recommendations are presented:

1. The results of this study should be shared with other ESOL teachers and with the Teacher Education Board of New York City so they will learn from the outcome
about the most challenging experiences and use sound coping strategies in online teaching. This way, they shall be enlightened on how to counteract such challenges in their online teaching duties. This shall make them aware of their role in creating tactics or strategies that will best meet the different problems that the teachers experience. The results should also serve as a basis for creating solutions for overcoming the challenges in online teaching.

2. The Guidance Office of schools must also offer helping and capacitation programs both for schools and teachers, using this study to address the challenges of online teaching among ESOL teachers and how to handle them. In this way, when they hold a seminar on stress and stressor management, they have concrete evidence that there are online teaching issues that need to be adequately resolved.

3. The Department of Education may create a program/project that addresses the fundamental strategies for overcoming the difficulties associated with online teaching.

4. More research should be done on how to meet the individual needs of faculty and students through online teaching and learning. Additionally, thorough preparation should be done specifically for students and students engaged in online learning.

**LITERATURE CITED**


Korneev, M (2020). The 5 Most Common Challenges ESL Learners Face (And How to Solve Them). Retrieved from: https://news.elearninginside.com/the-5-most-common-


Panoy, et. al (2022). Perceived Proficiency with Technology and Online Learning Expectations of Students in the Graduate Students in One State University in the Philippines. https://www.researchgate.net/publication/360188594_Peceived_Proficiency_with_Technology_and_Online_Learning_Expectations_of_Students_in_the_Graduate_Students_in_One_State_University_in_the_Philippines


Xu & Jaggars Adaptability to Online Learning: Differences Across Types of Students and Academic Subject Areas. https://ccrc.tc.columbia.edu/media/k2/attachments/adaptability-to-online-learning.pdf

