

## Issues in Online Teaching: Elementary Teachers Perspectives

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### Abstract

*The purpose of this study was to identify the main problems elementary teachers face when teaching online. 13 elementary teachers were interviewed and asked to list the main problems they face when teaching online. Their answers were grouped into the following groups: Assessing students; Behaviour; Communication; Engaging students; Incorporating social-emotional learning; Instructions, modelling, demonstrating; Motivating students; Organisation; Parents over or under support; Planning and delivering lessons; Supporting students; and Technology issues. Then, 554 elementary teachers were surveyed using Microsoft Forms. The findings indicated that the four main problems teachers face when teaching online are related to assessing students, engaging students, parents over or under support and technology. When teacher votes were grouped by country, the findings correlated cross-culturally at .92 correlation, indicating a correlation of significance. A secondary aim of the study was to find whether teachers felt as competent in the online teaching environment as they do in the traditional classroom. The survey showed that 55% of teachers did not feel as competent.*

**Keywords:** engaging students, assessing students, modelling, Microsoft forms, correlation, elementary teacher.

### Introduction

Teachers around the world have had to make a shift to online teaching during the COVID- 19 pandemic without prior preparation. As a result of this abrupt move, there have been some negative impacts for students' learning (Barton, 2020). Not only have teachers had to change to a setting wherein they lack competence, but over time, it became clear that teachers are working longer hours in online settings and the pressure is enormous (Acquaro et al., 2020).

Often, there has not been adequate training available for these teachers moving into the online setting. This is partly due to lack of research and information that has been available. The author of this paper had taught online for a number of years, therefore, when the COVID-19 epidemic began, the author trained 150 teachers within their company to teach subjects online. This was a lengthy process and highlighted to the author that online education was a domain which required an increased amount of research with regards to the problems teachers are facing.

Whilst online classes have been taught for some time, there has not been extensive research or study in the field. As such, teachers are unprepared for the challenges they face when entering this environment. The current study helps to solve this problem as it more clearly identifies the main problems teachers report. This can be a guide for teachers' training, for example, if classroom management is the primary problem for elementary teachers, then this should be addressed comprehensively while focusing on online learning, rather than a problem that ranks relatively low.

### **Purpose**

This study focuses on examining the main problems elementary teachers face in the online teaching environment and in the order in which the problems are an issue. Moreover, the study explores if teachers feel as competent in the online teaching environment as they do in their traditional teaching environment. These objectives are achieved through teacher interviews and questionnaires. A combination of qualitative and quantitative data optimal data triangulation (Morse, 1991). Rather than focusing directly on solving the problems teachers face when working online, this study aims to comprehend the problems and the weightage each problem is given by elementary teachers.

This study contributes to the field by providing teacher education professionals an idea of the most prominent problems that teachers face, so that they can deal with the more critical problems first, and focus on the smaller problems later. There is a strong rationale for this study because the results could give an indication of the globally faced problems that elementary teachers are facing when teaching online. The study clearly identifies the problems so that training agencies and teachers themselves can find methods of solving these problems with the required levels of focus, time and resources.

## **Research Questions**

1. What are the main problems Elementary Teachers face in the online teaching environment?

Considering the similarities between teaching online and teaching in a traditional classroom, a hypothesis for this question is that the main problems that emerge will be similar to problems faced in traditional classrooms. If this is the case, then perhaps the methods of overcoming these problems can be slightly adapted as opposed to totally recreated.

2. In what order are these problems an issue for teachers?

Considering the increased focus on technology when teaching online, a hypothesis for this question is that technology will be at the forefront of the problems faced. If this is the case, then the training required may be less pedagogical and more technological.

3. Do teachers feel as competent in the online teaching environment?

Since most teachers are trained firstly to work in a traditional classroom, and not online, a hypothesis for this question is that the majority of teachers will not feel as competent in the online setting as it is a newer domain of education. If this is the case, then perhaps it is wise for schools to include online teacher training in their inductions.

## **Literature Review**

This literature review firstly introduces some of the impacts that COVID-19 has had globally. Following that, research relating to school faculty opinions, student motivation, school closures and the challenges teachers face are presented.

## **COVID-19 Impacts**

The COVID-19 epidemic has resulted in millions of teachers around the world moving from an in-class teaching practice to an online one (Mishra et al., 2020). This means students all around the world are being moved to a learning environment that their teachers may or may not be fully equipped to deal with. This

has led to a reduction in learning goal achievement, student well-being, teacher well-being and general school and class productivity. This is likely because there are problems and barriers that teachers are not fully equipped to deal with (Hassan et al., 2020).

### **COVID-19 Survey of School Faculty**

A study by Barton (2020), elucidates results from a survey of 117 school faculty, regarding academic problems that online teaching has created. These issues pertain to learner centeredness, active learning, and a reduction in learning outcomes. This research also revealed negative instructor opinions regarding remote teaching. These doubts are echoed by reliable education magazine publishers like TES, 2021. This indicates that the problems teachers face are not only impacting at the teacher level, they are impacting at the student level as well. Knowing this, it is all the more important to clearly define these problems and the order of magnitude they carry.

### **A Quantitative Study On 45 Teachers**

A quantitative study that was done on 45 teachers showed that whilst teachers may understand the online learning environment contextually, there were implementation errors revolving around aspects such as: Facilities Network and Internet, Planning, Implementation, Evaluation and Collaboration with parents. 80% of teachers even felt dissatisfied with teaching online (Fauzi & Khusuma, 2020). This is backed up by links to the problems elucidated by Barton (2020). These problems further demonstrate the need to solve key barriers to effective learning in the online platform, yet the barriers are still not specifically enough identified. This gives further credence for the need to find out exactly what the barriers are and organise them hierarchically.

### **Student Motivation in the Online Environment**

A study by Bulić and Blažević (2020) focused on levels of student motivation in the online environment in comparison to modern classroom instruction. This was done on 162 primary school students. It showed that there was no significant difference in student's motivation (Bulić & Blažević, 2020). This is however contrasted by Lee (2000), who points out the high student dropout rates of online courses. It is clear that there is a debate as to whether motivation is a key issue or

not. This indicates that when the online teaching environment is not set up well, it can potentially impact student motivation. This links to the need to find the biggest problems teachers are facing and then begin to tackle them.

### **School Closure During COVID-19**

A study considering inequalities in the school closure response to COVID-19 discussed the unfair impacts that school closures have had on students. Findings showed that there is an unequal level of distress, limitations to study and social-emotional learning when students are isolated. For example, students with a propensity for depression would suffer in excess of their peers. Furthermore, there are economic barriers to learning for many students around the world. For example, there are many families without an internet connection or access to a laptop (Armitage & Nellums, 2020). These are difficult problems to solve and they will be more prominent in poorer countries; however, the level to which this is impactful needs to be known. If the primary problem is access to technology, this information would be very useful for education sectors.

### **Teacher Perspectives About Learning Online**

A study by Hassan et al. (2020) shows Indian teacher perspectives about learning, challenges and issues faced as they integrate into the online platform. Whilst this study reported a range of issues that Indian teachers faced, ranging from technological to student behaviour, this study showed that 95.7% of teachers considered online teaching to be a suitable replacement during the pandemic. This indicates that teachers can, in great numbers, agree with the appropriateness of online education (Hassan et al., 2020).

## **Methodology**

### **Study Population**

The target geographical scope of this study are elementary teachers; the teachers are differentiated by country and opinions will be tested for cross-cultural correlation. The number of participants are over 400 to maximise the reliability of results and give opportunity for cross-cultural comparisons. Student opinions were also considered but that will be reserved for a subsequent study should that be pursued. The participants are not grouped based on race, gender or sexuality. Since the survey is taken through Microsoft Forms, the link can be shared with schools globally.

## **Population Justification**

The reason the population is being opened up to all elementary teachers globally is to see if there are common problems across countries. Using as many participants as possible for an individual researcher, (provided they are elementary teachers), will in theory increase the reliability of the information gathered. As mentioned earlier, race, gender and sexuality of teachers will not be considered in this study.

## **Sources of Data and Instrumentation**

This study uses a mixed-methods approach for data collection. This method has been argued to provide deeper analysis and broader scope (Almalki, 2016). Mixed-methods research involves a project in which a selection of different types of data, like qualitative and quantitative are collected (Wilson, 2014). A study by Hussein (2009) indicates that whilst both qualitative and quantitative research methods can stand on their own and that they provide information in different ways, both are fundamentally used to derive understanding about an area of interest. When combined, the reliability of information gathered becomes stronger and analysis can be supported by this (Hussein, 2009). This is well backed up by other published works which agree that for data triangulation, a mixed-methods approach is effective (Wilson, 2014).

Qualitative – the qualitative data that will be collected is from teacher interviews. These will consist of 2 open-ended questions: “What are the problem areas you face when teaching online” and “Which is the most problematic and why.” These questions will be asked before the next step of data which is surveys. These questions give the teachers the ability to be as detailed as they want to be. The answers provided will be grouped into “problem areas” such as classroom management using a factor analysis. The areas that are revealed from the factor analysis will be used during the survey stage.

Quantitative – The quantitative data will be gathered through a survey. The questions asked are as follows: What country do you teach in? What 2 areas are the most problematic when teaching online? Do you feel as competent in the online teaching environment?

Asking these questions with multiple choice selections will create data that is easy to graph.

**Table 1**

*Data Collection Procedures*

<b>Applied Research Questions</b>	<b>Data Collection Instrument</b>	<b>Where Will the Data Be Collected?</b>	<b>How Will the Data Be Collected?</b>
What are the main problems Elementary Teachers face in the online teaching environment?	This will be collected through face-to-face interviews with teachers. This will give them the opportunity to list as many problems as they can think of. A factor analysis can be done to group these problems to be used for the survey stage.	These will be face-to-face in the researcher's school and over video call for those who wish to participate but cannot be present.	Data will be collected in a written list form and relevant information will be written down in order to supplement the data analysis section.
In what order are these problems an issue for teachers?	This will be answered in part during the teacher interviews. The primary data collection instrument will be online surveys where teachers can pick 2 of the problems as ones that stand out as most problematic.	Data will be collected partly through the interviews and partly through online surveys.	The data will be transferred to excel. This can then be used to create correlations, find common patterns and organize the hierarchy of problems.
Do teachers feel as competent in the online teaching environment?	This will be asked both in the face-to-face interview and during the online surveys.	This will be collected both through online surveys and through face-to-face teacher interviews.	This data will also be recorded in excel and used for correlations.

**Ethical Considerations**

Risk is all around us. Stay at home and risk vitamin D deficiency which can lead to increased mortality as we age (Molloy & Murphy, 2020). Leave home, risk being run over by a car. This does not mean we avoid all risks. It means that risk is all around us and we have to engage with it conscientiously. When conducting research, it is important to ensure that individuals taking part in the research are not exposed to risk which goes beyond that of day-to-day life ("The Belmont Report", 1979). As such, the impact on the participants has to be considered carefully before engaging in a study.

## **Considerations During Data Collection**

One potential impact from my research could be misguided findings. If the sample is too small, the information may be skewed and misdirect future researchers, teachers and trainers. However, diluting the sample to increase its number of responses are not recommended (Khalilzadeh & Tasci, 2017). Sending the survey out to lawyers and plumbers would increase the sample size but not provide answers based on teacher experience. Thus, using a larger sample size is a good way to ensure results are more accurate only if it remains focused on its target group. There is also the bias of people who answer questionnaires, that in itself is a personality type, there could be a chance that people who tend to answer questionnaires have different problems than people who do not (Marshall, 2005). Since this study is not conclusive, it is a signpost for other researchers to dig more deeply into these ideas, in their respective countries, cities and locations.

These issues could impact the student level. For example, if the research indicates that student motivation is the biggest problem and it is not, a lot of resources may be wasted on pursuing the wrong avenue.

When conducting research, it is important to ensure individuals taking part in the research are not exposed to risk which goes beyond that of day-to-day life (“The Belmont Report”, 1979). Perhaps if they get to the end of the questionnaire and the participant’s computer crashes, they will feel stress, this would not be beyond normal day-to-day stress encounters though, this means the study remains ethical.

## **Considerations of Researcher Bias**

The researcher has no bias as there is no reason to desire any hierarchy to reveal itself in particular. There is no intention other than to see what teachers think are the biggest problems. Thus, the aim of the researcher is to highlight data which can be used to create a hierarchy of teacher problems when teaching online. It indicates answers to the question of teacher feelings of competency in the online teaching environment. The additional data collected on the country of origin can be used to test cross-cultural correlation. If this shows a strong correlation, the data is more reliable in a global sense. Moreover, data can be analysed in relation to qualitative data to further test its reliability.



## **Data Analysis and Results**

This section looks firstly at the procedure for data analysis and why this approach was chosen. It goes on to explain in detail how the results are ensured to be valid and reliable.

### **Data Analysis Procedure**

The responses were first shown as percentage representations. This indicates what the data deem as a hierarchy of problems teachers face when teaching online.

The next step is to show country wise data: Countries with over 13 subjects will stand alone while countries with fewer will be grouped into an imaginary country called “rest of the world.” Each country has its votes per problem represented in percentage form and then graphed into a line graph alongside “full data.” This will visually indicate if there is a cross-cultural correlation in the data.

The next step is to test if larger sample sizes have skewed the full data by a large degree or not. This will be done by giving each of the countries with over 13 subjects equal weightage regardless of their sample sizes. If there are large discrepancies, then the data is not necessarily reliable in a cross-cultural sense. If there are not, then it indicates the data is more likely to be globally representative. The full data is compared with this “one country one vote” in a line graph and tested for correlation using a correlation coefficient.

The data collected about teacher feelings of competence is also split into countries and full data using the same method. This will be shown as a full data pie chart and compared in a table.

### **Validity and Reliability**

The validity of data is tested as mentioned in the previous section, by checking the correlation between the full data and the individual countries. It is also tested by giving each of the countries equal weightage and by comparing the outcome of an equal weightage full data line with the standard full data line in a line graph. Whilst this study is an indication of the hierarchy, it will not be a definitive answer, it will simply act as a current guide/indicator.

## Results

The initial 13 teacher interviews created a long list of different problems. They were grouped into categories using a common factor analysis, these categories were: Assessing students; Behaviour; Communication; Engaging students; Incorporating social emotional learning; Instructions, modelling, demonstrating; Motivating students; Organisation; Parents over or under support; Planning and delivering lessons; Supporting students; and Technology issues. These teachers were from Ireland, England, Jamaica, Scotland and Wales. The list created was run by 5 elementary teachers who agreed it was comprehensive enough. This list has some cross-over with the Fauzi & Khusuma (2020) study mentioned in the literature review.

The survey resulted in a total of 554 participants ranging across the following countries: Argentina, Bahrain, Bangladesh, Belgium, Bolivia, Brazil, Cambodia, Canada, Chile, China, Colombia, Croatia, Cuba, Cyprus, Czech Republic, Ecuador, Egypt, England, Greece, Hong Kong, India, Indonesia, Iraq, Ireland, Italy, Japan, Jordan, Korea, Lebanon, Lithuania, Malaysia, México, Morocco, Nigeria, Pakistan, Perú, Philippines, Poland, Qatar, Romania, Somalia, South Africa, Spain, Taiwan, Thailand, Tunisia, Turkey, U.S, UAE, Ukraine, Vietnam and Zambia, There were 8 countries with 13 or more participants; these are clearly listed in the table below.

**Table 2**

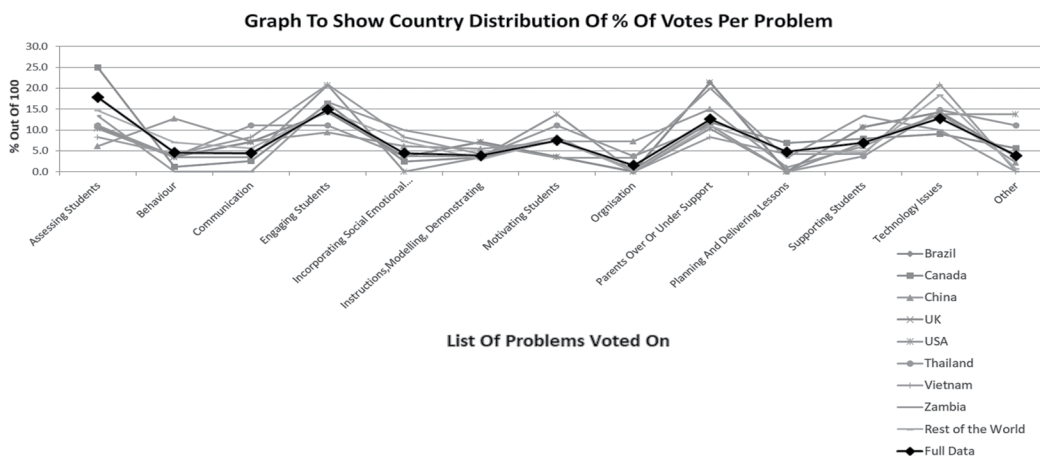
*Country Contributions*

<b>Countries</b>	<b>% of whole sample</b>
Brazil	2.3
Canada	47.5
China	15.2
UK	2.5
USA	2.5
Thailand	2.3
Vietnam	2.2
Zambia	2.5
Rest of the World	22.9
Full Data	100.0

Vietnam was included in this group of countries, there were 12 participants making it only one short of the initially decided number. The two largest samples were Canada with 263 participants and China with 84 participants. During data analysis, it was noticed that a few people had selected more than the two main problems they face when teaching online. There is some reason to be concerned that Canada will skew the data due to its size (taking up 47.5% of the sample in comparison to many of the others which take up around 2% of the sample size). This can be tested by graphing the percentage of votes each country allocated to each problem and looking for patterns of correlation. The figure 1 shows that:

**Figure 1**

*Country Wise Distribution of Votes Per Problem*



There is a clear pattern which has emerged between the countries' individual lines and the full data line. The emergence of the four main peaks stand out: Assessing students, engaging students, parents over or under support and technology.

The full data result as a percentage of the votes per problem was then put into the table below. This indicated that assessing students, engaging students, technology and parents over or under support were the 4 main problems teachers face when teaching in the online teaching environment. This remained true when all of the countries were given an equal weightage (the one country one vote column). There were a couple of changes worth noting, Canada did seem to skew the data

Somewhat in favour of assessing students. However, it still showed the four main problems in the one country one vote column. It is also worth noting that the rest of the problems faced, fell almost perfectly into place along the hierarchy that was created by the full data line.

**Table 3**

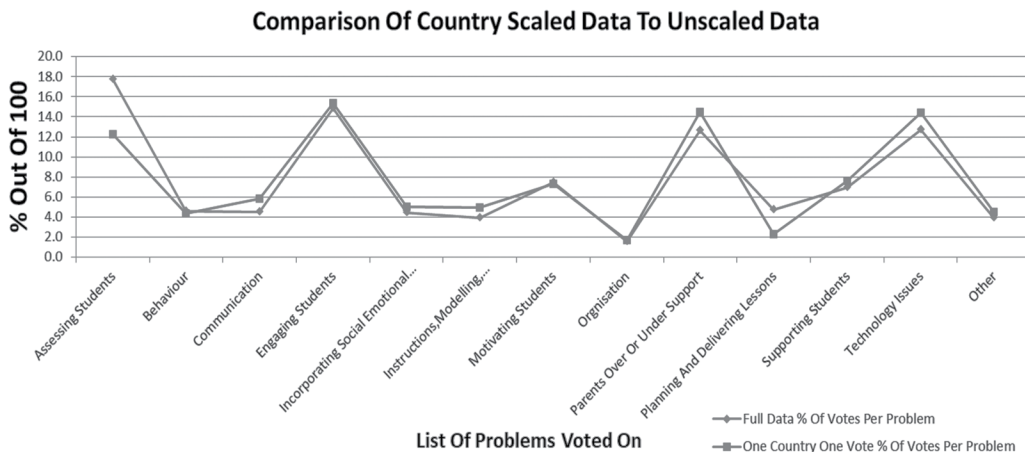
*Comparison of the Full Data Percentage of Votes Vs. One Country One Vote*

<b>Problems</b>	<b>Full Data % of Votes per Problem</b>	<b>One Country One Vote % of Votes per Problem</b>
Assessing	17.7	12.3
Engagement	14.9	15.4
Technology	12.7	14.4
Parents over	12.6	14.5
Motivating	7.5	7.3
Supporting	6.9	7.6
Planning and	4.7	2.3
Behaviour	4.5	4.4
Communication	4.5	5.8
Incorporating	4.4	5.0
Other	4.0	4.5
Instructions	3.9	4.9
Organisation	1.6	1.7

Table 3 indicates the top four problems remain in the top four, even when each country has its contribution equalised. Which also indicates, the data collected may be cross-cultural.

Figure 2 shows a comparison of these two data sets. This shows they are almost identical, indicating that the full data line is strongly representative of the global data. When tested for correlation, they correlated at 0.92. Which signifies a significant correlation.

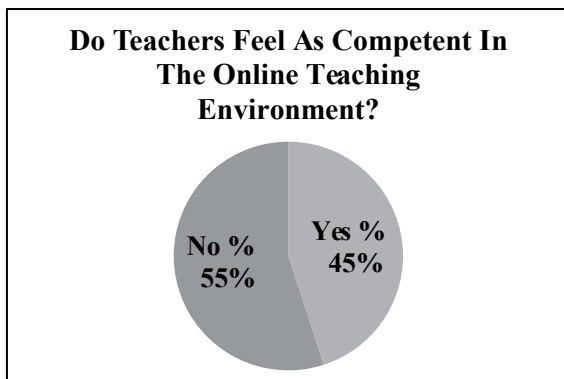
**Figure 2**  
*Comparison of Country Scaled Data to Unscaled Data*



Looking at and comparing these two lines, visually demonstrates the extent to which these two data sets correlate. This makes the hierarchy of problems that have manifested as a result of the interviews and surveys a more reliable guide than if the correlation was low.

The following pie chart and table show the percentage of votes no and yes counted for the question “Do you feel as competent in the online teaching environment?”

**Figure 3**  
*Pie Chart*



**Table 4**

*Percentage of votes no and yes counted for the question “Do you feel as competent in the online teaching environment?”*

<b>Country</b>	<b>Yes%</b>	<b>No%</b>
Brazil	31	69
Canada	29	71
China	58	42
UK	43	57
USA	50	50
Thailand	69	31
Vietnam	50	50
Zambia	50	50
Rest of the World	67	33
Full Data	45	55

When looking at the breakdown of countries, it is clear to see that overall, this is a fair representation of countries around the world with some slight variance for Canada, Thailand, Brazil and Rest of the world. This data also indicates that teachers, overall, are not fully prepared for the online teaching environment. Taking this into account, there is an apparent need for additional support and training in the online education environment.

## **Discussion**

This section considers the hypotheses that were put forward in relation to the three research questions and then leads up to the limitations of this study and the final conclusion.

The first question: “What are the main problems Elementary Teachers face in the online teaching environment?” has to be considered in relation to the data and the analysis provided. It is clear that due to the sample size of this study, there is a requirement for exploring this more deeply. However, the categories which emerged from the teacher interviews, were accepted by the surveying participants and the “other” category, had issues raised which slotted into the existing categories easily. The hypothesis for the first question was that the main problems that emerge will be similar to problems faced in traditional classrooms. This hypothesis held some accuracy, as the domains of common problems that came out from the teacher interviews were applicable to the traditional classroom. An interesting follow-up to

this study would be a replication of it focused on the main problems' teachers face in the traditional classroom. Then, a comparison of the two studies could be made.

The second question: "In what order are these problems an issue for teachers" found consistent representation, regardless of how data was grouped. A key aspect of its reliability was revealed when each country was allocated a 1 country 1 vote policy, and the results correlated at .9, with the main 4 problem areas remaining in the top 4 by a wide margin, almost double the percentage of votes at number 4 in comparison to number 5. The hypothesis for the second question was that technology would be at the forefront of the problems faced. Whilst technology was in the top 4 problems that were represented, it was not at the forefront. It came in third place for both the full data and the 1 country 1 vote data set. This indicates that whilst one might be experienced in the field, one's instinct on what might be the main problem faced in the field, may lack a degree of accuracy.

The third question: "Do teachers feel as competent in the online teaching environment?" This question fits nicely as an additional statistic which future researchers could refer to during critical analysis and planning of studies. The hypothesis for the third question was that the majority of teachers will not feel as competent in the online setting as it is a newer domain of education. This hypothesis was correct and this is an implication that additional training is required for education standards to be maintained at least up to the level they are currently maintained in traditional classrooms.

## **Limitations**

Some limitations of this study include:

1. Only people who answered surveys. Therefore, there is some potential for the sample to be biased towards votes from this group of people.

This was addressed to some extent through the use of interviews to select the problems teachers face.

2. The number of participants from each country was not equal and the number of responses is not large enough to accurately represent the opinions globally.

This was addressed to some extent by using the "one country one vote"

method of analysis and comparing the results with the full data results. Whilst there were slight differences, the results remained largely the same.

3. The surveys were limited to teachers who spoke English

This was addressed to some degree by having the surveys completed by teachers in a range of countries.

### **Conclusion and Recommendations**

The literature review identified the need for the researcher to use a multi-method approach for data collection and analysis of this project. This was to ensure that data triangulation is optimised to the highest degree. The review also indicated that whilst teachers were dissatisfied with teaching online, they generally believed that it was a good alternative to in-class teaching at this current point in time. This gives an open doorway to the purpose of this study because we need to know specifically what the barriers are and to what degree they are bothersome to the teachers at the forefront of this. There are also elucidations as to debates about issues such as motivation and it has been shown that the way things currently are impacts learning outcomes.

It is therefore important to have an ordering of the problems based on teachers' perceptions. This will allow trainers and teachers to prioritise the areas that need to be addressed first. It will also allow researchers to tackle the biggest and most profound issues, spending less time on minor problems.

This study indicates that the problems teachers face when teaching online are largely similar across countries. The results of this study show that the four main problems teachers encounter are assessing students, engaging students, parents over or under support and technology. The problems faced by elementary teachers also appear to correlate cross-culturally at .92, which is significant. This emerged as a pattern when looking at the cross-cultural data which indicates that the full data could be globally representative. Data also indicates that 55% consider themselves lacking in competence in the online teaching environment. Considering these two points, it is reasonable to conclude that teachers need more preparation for teaching online. It would also be apt to conclude that on average, teachers need further training and development with regards to assessing students, engaging



students, dealing with parents and technology.

The first and second questions were answered, demonstrating that the main problems teachers face when teaching online (in rank order), are: Assessing Students; Engaging Students; Technology Issues; Parents Over or Under Support; Motivating Students; Supporting Students; Planning and Delivering Lessons; Behaviour; Communication; Incorporating Social Emotional Learning; Other; Instructions, Modelling, Demonstrating; and Organisation. The third question was answered, as mentioned earlier that 55% of teachers do not feel as competent in the online teaching environment.

Relevant recommendations from this study comprise issues related to investigation of training needs of teachers prior to an institution's shift to online platforms. Additionally, researchers can use the data obtained via this study to support their own studies, form hypotheses and for critical reviews and meta-analyses. However, students who are reading this research and form their own views of the online educational world, need to read widely and critically, considering multiple domains before forming a full opinion.

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