Preservice Teachers' Self-efficacy Through COVID-19: A Large Scale Survey of Students at a Regional University In Australia

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Pre-service Teachers' Self-Efficacy during Professional Experience through COVID-19: A Large-Scale Survey of Pre-service teachers at a Regional University in Australia

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Abstract: Throughout 2020, the world was significantly impacted by the COVID-19 pandemic. In the context of higher education, the pandemic critically affected professional experience, a core component of teacher education. This paper shares data from a large-scale survey about teachers' sense of self-efficacy and the impact of COVID-19 on professional experience. Findings showed that the disrupted context had a moderate effect of pre-service teachers' self-efficacy in relation to their classroom management, instructional strategies, and student engagement. Qualitative results illuminated that the modes of learning, changing classroom contexts and communication between the pre-service teachers, school and their university were the underlying contextual factors that impacted pre-service teacher's self-efficacy. Implications from these findings challenge universities to consider how to best support pre-service teachers' progression in times of disruption and consider how Initial Teacher Education (ITE) programs prepare pre-service teachers to teach in disrupted classrooms.

Introduction

Teacher retention rates continue to be a well-documented international challenge (Ovenden-Hope et al., 2018), with indication that between 25% and 50% of Australian teachers choose to leave the profession within the first 5 years (Queensland College of Teachers, 2019). Additionally, teachers across all stages of their career continue to have the second highest rate of industry claims relating to mental health (Australia Safe Work, 2015). According to the Australian Institute for Teaching and School Leadership [AITSL] (2015) most teachers enter the profession with positive motivations to teach; however, stress associated with high workload and low teacher efficacy perceptions were commonly identified as factors for leaving the profession. Research on pre-service teachers' self-efficacy has therefore placed an increased focus on the relationship between teacher preparation, efficacy, and retention (Clark & Newberry, 2019).

The literature has clearly established the importance of teacher self-efficacy for perseverance, confidence (Pendergast et al., 2011), teaching effectiveness and the relationship to student achievement (Duffin et al., 2012). However, the context of the global COVID pandemic has highlighted the need for more research in understanding the relationship

between teacher preparation programs and pre-service teachers' sense of self-efficacy while navigating speculation, uncertainty, and the rapid implementation of organisational responses.

A Review of the Literature

This literature firstly examines the role of professional experience placements, along with student perspectives as captured in extant literature, followed by self-efficacy, as a way of determining how well student mitigate environmental factors. Finally, the disruption of placements during the height of the COVID-19 pandemic is examined to explain the context in which this study occurred.

Quality Placements

Teacher education has, for some time, been a highly politicised space. This is particularly true in Australia, where external regulatory bodies such as AITSL and state-based teacher registration boards strongly influence accreditation expectations. The area of professional experience is a case in point where many teacher registration organisations have strict conditions for pre-service teachers' completion of their degree. ITE programs within Australia are nationally accredited against the Australian Professional Standards for Teachers [APST's] (AITSL, 2022) to ensure they provide opportunities for pre-service teachers to develop an array of skills that enable them to demonstrate a "combination of technical and personal competencies" in teaching practice (AITSL, 2015, p.4). The development of these competencies together with the development of deep curriculum knowledge, knowledge of their learners and how they learn and competencies in communicating with a range of stakeholders support pre-service teachers to provide "high quality effective teaching in 21st century schools" (AITSL, 2015, p.4).

Within each ITE program there are two key components: theoretical work (curriculum, pedagogy and learning theory) and professional experience placements (also referred to as field experiences or work integrated learning). Each program is "sequenced coherently" (AITSL, 2015, p.13) to reflect effective connections between theory and practice, which includes sequencing theory to prepare pre-service teachers for effective teaching and learning placements.

Professional experience placements length and frequency is determined by each ITE program and provider however, the overall program must comply with the Accreditation Standards, (AITSL, 2022) which stipulates the mandated minimum number of placement days. The application of national accreditation standards (AITSL, 2022) within ITE programs, requires universities and school partnerships to "facilitate the delivery…of professional experience for pre-service teachers" (AITSL, 2022, para. 1). It is through these partnerships that universities graduate classroom-ready teachers (TEMAG, 2014) with assurance from schools.

The continuation of placements and the attainment of regulatory requirements become more confounded in times of crises (for all pre-service teachers) such as COVID-19 and catastrophic natural disasters including bushfires, drought and floods; all of which have been experienced by many Australian communities across 2020 (Allen et al., 2020; Ersin et al., 2020; Ferdig et al., 2020; Quezada et al., 2020).

Much of the scholarly literature about professional experience for pre-service teachers has identified common issues (Martin & Mulvihill, 2017); which include, the lack of communication between the university, student and school (Allen et al., 2019); differences of

opinions with supervising teachers (Moussaid & Zerhouni, 2017); financial concerns due to not being able to work (Grant-Smith et al., 2018); tiredness, given many pre-service teachers still try to support themselves with income during professional experience periods (Väisänen et al., 2018); caring responsibilities that are impacted negatively during placements (Gillet-Swan & Grant-Smith, 2017); and to a lesser extent transportation to and from their professional experience schools. Barton et al (2015) have carried out a number of studies involving international professional experience placements, finding that this particular cohort experience even more challenges than their domestic peers, such as not having the usual support around them including family and friends; communication misunderstanding with supervising teachers; and a lack of cultural understanding on the part of the supervising or host teachers toward the pre-service teacher.

The challenges shared above align with work carried out by Murtagh (2015) who highlighted that there is a reductionist approach to pre-service teachers who may not fit 'a normative model' (as cited in Gillet-Swan & Grant-Smith, 2017). She argued that often teacher education, and professional experience specifically, need to better accommodate the diversity of pre-service teachers. At the university where this study was being conducted, over 70% have chosen to study online and are located across Australia and overseas. Many are also parents/carers, working and undertaking their studies. As such Murtagh's (2015) findings provide a foundation for thinking about how in times of uncertainty universities can support their pre-service teachers' diverse needs more effectively.

Agency, Self-Efficacy and Pre-service Teachers

Several studies have explored the concepts of pre-service teachers' agency and self-efficacy (Pendergast et al., 2011, İpek & Camadan, 2012, Ciampa & Gallagher, 2018). Bandura's (1977) foundational research defined self-efficacy as "the degree of one's feelings about one's ability to accomplish goals" (p. 3) and agency has been explained as the ability to act purposively and reflectively (Inden, 2000) and being in control of the ways in which we behave (Holland et al., 1998). Related to these concepts of agency and self-efficacy are self-regulation and dispositions (Billett, 2008).

A person's disposition is important when thinking about the development of their personal and professional working lives (Tack & Vanderlinde, 2016) and self-regulation allows one to achieve personal goals (Zimmerman, 2000). Billett's (2008) work acknowledges dispositions in relation to how people interact and react in workplace environments. Tack and Vanderline (2016) state that "[d]ispositions – as an active and executive component of cognitive processes – are an important explanatory basis in shaping how individuals think, act and play a key role in how individuals tackle problem-solving activities in their vocational practice" (p. 46). When faced with adversity, it is important for people to remain focused on their goals and find ways to address issues with relatively little interruption meaning their agency and self-regulation form the most appropriate dispositions to deal with challenges. Such skills are particularly important for pre-service teachers in times of change such as during professional experience (Barton et al., 2017).

Ma et al's (2018) research built on previous studies that acknowledged the impact that pre-service teachers' prior classroom experiences had on their self-efficacy was inconclusive. As a result of this, their research explored factors that impacted on first-year pre-service teachers, identifying that there is a strong connection between how ITE programs connect theory to practice prior to placements. Within this study, we explore what factors inhibit or enhance students' self-efficacy when engaging in placements within a disrupted context in order to understand how ITE programs prepare students for disrupted contexts.

McDonald (2018) shows that rather than pre-service teachers and support staff viewing professional experience as a just 'meeting set requirements' activity, pre-service teachers should be encouraged to be "challenged to acquire the skills and practices of self-regulated learning and the development of adaptive expertise, an integral part of being an effective teacher" (p. 99). Similarly, Tschannen-Moran and Woolfolk Hoy (2001) note that:

> *Teacher efficacy has proved to be powerfully related to many meaningful educational outcomes such as teachers' persistence, enthusiasm, commitment, and instructional behaviour, as well as student outcomes such as achievement, motivation, and self-efficacy beliefs. However, persistent measurement problems have plagued those who have sought to study teacher efficacy (p. 783).*

When outcomes such as achieving a passing grade are deemed more important than the process of learning, pre-service teachers are at risk of 'ticking the boxes' to complete their degrees. When the usual approach to professional experience is disrupted, creative and supportive methods of achieving a quality professional experience are necessary. In this paper, we ask what is needed in relation to completing professional experience in times of great personal, social, and global concerns.

COVID-19: The Queensland, Australia Context

On the 25th of March 2020, The Australian Government through the National COVID-19 Coordination Commission [NCCC] and in collaboration with all States and Territories, developed and implemented a coordinated national response to the identified global COVID-19 pandemic. The promotion of good personal hygiene, social distancing rules and COVID-testing were at the forefront of this response.

In Queensland, this national response was translated into the Queensland Whole-of-Government Pandemic Plan (Queensland Government, 2020). The plan acknowledged that "the impact of [this] pandemic may be long lasting and cause widespread disruption, concern, and uncertainty for populations" (p. 6). As a result, the Queensland Government developed an emergency management framework that was led by Queensland Health and included the implementation of simultaneous strategies to prevent, prepare, respond, and recover from COVID outbreaks (p11).

In April 2020, isolated outbreaks were detected across communities and within individual schools. At this time researchers and the national Chief Medical Officer agreed that the transmission of COVID-19 in children and in educational settings was limited. At the same time, it was acknowledged that school closures could be effective in controlling outbreaks, although these closures would have significant social and economic impacts (Douglas et al, 2020). As a result, most, Australian Schools remained open during the first epidemic wave. However, as panic and uncertainty increased across Australia, social pressure was placed on governments to close schools. In response, many states and territories commenced mid-year (June/July) holidays early and transitioned into a period of learning from home in July, August and September, with essential workers' children allowed to attend school. Schools were therefore responsible for providing online and face-to-face learning opportunities for their own students during this time.

As school closures began to occur across Australia, with vulnerable individuals working from home, the continuation of pre-service teacher placements was questioned. Within Queensland, the Queensland College of Teachers [QCT] advised schools and ITE "programs [would] show flexibility to minimise any impact on pre-service teachers and their capacity to meet requirements for course completion, in that same way as it has for other types of disasters or incidents (e.g., Townsville floods)". This response acknowledged that

while there were challenges, pre-service teacher placement could continue where they were safe and possible. This meant that each university would develop their own COVID-19 placement response aimed at minimising progression and graduation outcomes

In alignment with this response, the case university examined in this study, referred to from here as the University, continued to source and provide pre-service teachers with the opportunity to complete placements to demonstrate their full program graduation requirements. To achieve this, a flexible student focussed placement strategy (Figure 1) was developed in consultation with key stakeholders, including education departments and schools which resulted in 1100 pre-service teachers completing placements during the learning-from-home response strategy.
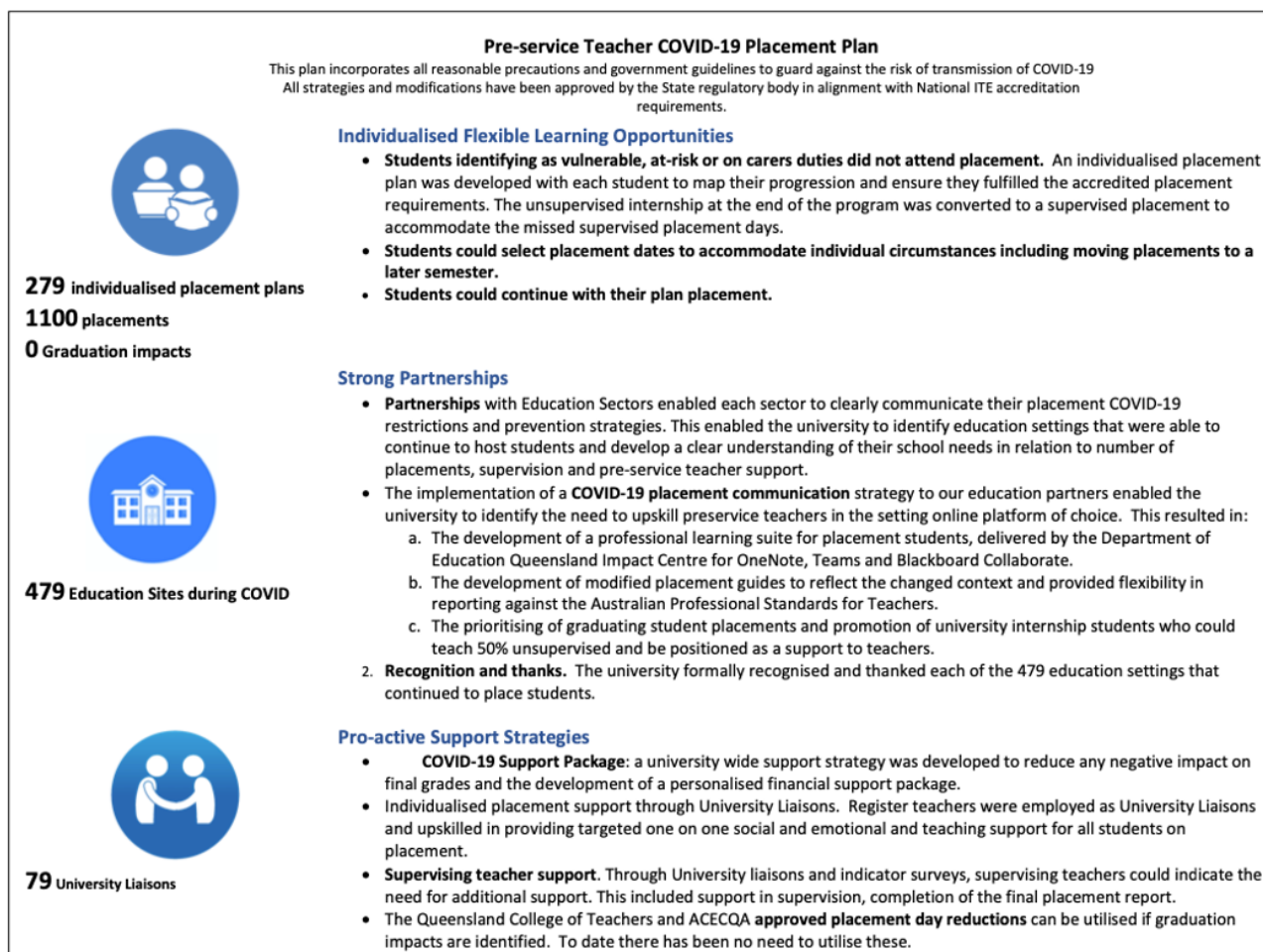

Pre-service Teacher COVID-19 Placement Plan
This plan incorporates all reasonable precautions and government guidelines to guard against the risk of transmission of COVID-19
All strategies and modifications have been approved by the State regulatory body in alignment with National ITE accreditation requirements.

Individualised Flexible Learning Opportunities
- **Students identifying as vulnerable, at-risk or on carers duties did not attend placement.** An individualised placement plan was developed with each student to map their progression and ensure they fulfilled the accredited placement requirements. The unsupervised internship at the end of the program was converted to a supervised placement to accommodate the missed supervised placement days.
- **Students could select placement dates to accommodate individual circumstances including moving placements to a later semester.**
- **Students could continue with their plan placement.**

279 individualised placement plans
1100 placements
0 Graduation impacts

Strong Partnerships
- **Partnerships** with Education Sectors enabled each sector to clearly communicate their placement COVID-19 restrictions and prevention strategies. This enabled the university to identify education settings that were able to continue to host students and develop a clear understanding of their school needs in relation to number of placements, supervision and pre-service teacher support.
- The implementation of a **COVID-19 placement communication** strategy to our education partners enabled the university to identify the need to upskill preservice teachers in the setting online platform of choice. This resulted in:
  a. The development of a professional learning suite for placement students, delivered by the Department of Education Queensland Impact Centre for OneNote, Teams and Blackboard Collaborate.
  b. The development of modified placement guides to reflect the changed context and provided flexibility in reporting against the Australian Professional Standards for Teachers.
  c. The prioritising of graduating student placements and promotion of university internship students who could teach 50% unsupervised and be positioned as a support to teachers.
  2. **Recognition and thanks.** The university formally recognised and thanked each of the 479 education settings that continued to place students.

479 Education Sites during COVID

Pro-active Support Strategies
- **COVID-19 Support Package**: a university wide support strategy was developed to reduce any negative impact on final grades and the development of a personalised financial support package.
- Individualised placement support through University Liaisons. Register teachers were employed as University Liaisons and upskilled in providing targeted one on one social and emotional and teaching support for all students on placement.
- **Supervising teacher support**. Through University liaisons and indicator surveys, supervising teachers could indicate the need for additional support. This included support in supervision, completion of the final placement report.
- The Queensland College of Teachers and ACECQA **approved placement day reductions** can be utilised if graduation impacts are identified. To date there has been no need to utilise these.

79 University Liaisons

Figure 1: Pre-service Teacher COVID Placement Plan

The development of responses that met the contextual challenges of school closures, the increasing workload of teachers and the ongoing need to develop high-quality teacher graduates to meet teaching shortages was complex with little known about the impact on pre-service teachers.

Therefore, this study explored the impact of the University's placement plan and continuation of placements on pre-service teachers' self-efficacy during the COVID-19 pandemic.

Research Methodology

This study was situated within an interpretivist research paradigm supporting the ontological assumption that "people experience reality in different ways and that their experiences are influenced by their beliefs, values, reasons, understandings, and their interactions within their social system" (Leach, 2021, p.8). As a result, an interpretivist, qualitative approach to exploratory case study was chosen as the method of inquiry (Creswell, 2014). This method supported the research focus on exploring the experiences and perceptions of individuals, to illuminate the way in which they interpreted and translated policy into action.

The first aim of this study was to explore the pre-service teachers' perceived self-efficacy during disrupted placements and secondly to identify factors that enhanced or inhibited their self-efficacy. Utilising an exploratory mixed method approach (Creswell, 2014), this study analysed self-efficacy data and qualitative open-ended questions from 129 pre-service teachers enrolled in an ITE program (Bachelor of Education (Early Childhood), Bachelor of Education (Primary), Bachelor of Education (Secondary), Masters of Learning and Teaching (Primary) or Masters of Learning and Teaching (Secondary)) offered at a regional Queensland university. To be eligible for this study, pre-service teachers needed to be enrolled in a placement course in Semester 1, 2020 and within their 1- 4th year of study. For compatibility pre-service teachers needed to have completed a placement during the COVID-19 learning-from-home response or missed their semester 1 placement and continued into their Semester 2 placement. The study commenced in September 2020 upon receipt of the Human Research Ethics Committee approvals.

Survey Instrument

The online survey was developed using Lime Survey tool. Ethics was sought and pre-service teachers were informed of the purpose of the survey, with instructions provided on completing specific sections throughout the survey. The survey was administered in October 2020.

The four-part survey was developed to explore the impact of COVID-19 on pre-service teachers' professional experience. Section 1 captured characteristics of the program and study in which pre-service teachers were currently enrolled, including mode of study and number of previous professional experience placements. Section 2 acquired pre-service teachers' demographic information, such as gender or age groupings. Section 3 comprised of three open-ended questions seeking pre-service teachers' overall professional experience during COVID-19. Section 4 included a 24-item scale measuring teacher efficacy on a 5-point Likert scale, ranging from 1='nothing', 2='very little', 3='some influence', 4='quite a bit', to 5='a great deal'. In addition to the use of this teacher efficacy scale, another five questions are attempted to measure the extent to which COVID-19 impacts on different aspects of pre-service teachers' professional experience.

Teacher efficacy has significant implications for many meaningful educational outcomes such as student achievement, motivation, and pre-service teachers' efficacy. A teacher's efficacy belief is a judgment of his or her capabilities to bring about desired outcomes of student learning and engagement. Teachers' perceptions of their own capabilities are important as they impact their behaviour in classroom teaching. There are several existing measures of teacher efficacy. In this study, we used the Teachers' Sense of Efficacy Scale (TSES) (24 items) developed by Tschannen-Moran and Woolfolk Hoy (2001). This developed construct derived from reviewing many of the major measures such as the Rand

measure (Armor et al., 1976), Responsibility for student achievement (Guskey, 1981), Teacher locus of control (Rose & Medway, 1981), the Webb scale (Ashton et al., 1982), and Bandura's teacher self-efficacy scale (Bandura, 1977), noting problems arisen in each. The validity and reliability check have been conducted with three separate studies (Tschannen-Moran & Woolfolk Hoy, 2001).

Data Analysis

Descriptive analyses were conducted with the collected data using SPSS version 26 and subsequent descriptive coding. An initial descriptive overview of the characteristics of the pre-service teachers was tabulated. Following descriptive statistics, a reliability assessment was conducted to measure the internal consistency of the efficacy scale of 24 items and the COVID-19 impact scale of 5 items used in the survey, showing the Cronbach alpha $\alpha = .957$ and $.896$, respectively, suggesting a very high and high consistency of responses among the pre-service teacher group.

The 24-item scale was then subjected to a factor analysis. Principal-axis factoring with Varimax (orthogonal) rotation revealed the following three strongly impacted dimensions of efficacy for the pre-service teachers: *classroom management* (dimension 1), *instructional strategies* (dimension 2), and *student engagement* (dimension 3). Initially, the factorability of the 24 TSES items was examined. Several well-recognised criteria for the factorability of a correlation were used. Firstly, it was observed that 22 of the 24 items correlated at least .3 with at least one other item, suggesting reasonable factorability. Secondly, the Kaiser-Meyer-Olkin measure of sampling adequacy was .93, closer to 1 and well above the commonly recommended value of .6, and Bartlett's test of sphericity was significant $((129) = 2086.98, p < .05)$. The diagonals of the anti-image correlation matrix were also all over .5. Finally, the communalities were all above .3, further confirming that each item shared some common variance with other items. Given these overall indicators, factor analysis was deemed to be suitable with all 24 items.

Qualitative data obtained from open-ended question about challenges during the pandemic was analysed using the process of two coding cycles. The process started with first cycle coding (Huberman et al., 2014) using a descriptive coding method in which labels were assigned to data summarised in a word or phrase. The first cycle coding process resulted in the development of 160 initial codes. In the second cycle coding (Huberman et al., 2014), pattern codes were generated by grouping similar codes identified in the first stage, and the frequencies of the emergence of each code were noted. These pattern codes were labelled 'themes' in this article.

Results

This section commences with a description of the pre-service teachers, providing a range of background information on the whole cohort, followed by results of the impacted dimensions of pre-service teachers' self-efficacy. Next, a cohort comparison between 1st, 2nd, 3rd and 4th year pre-service teachers is presented to identify pre-service teachers' perceptions of the impact of COVID-19 on their professional experience. This comparison utilised both quantitative (impact of COVID-19) and qualitative (challenges during the pandemic) data.

Characteristics of Pre-service Teachers

A total of 145 pre-service teacher informants were recorded as responding to the survey. However, 16 of these were partially completed. Consequently, for an initial descriptive account of these data, it was decided to draw upon the 129 fully completed responses. The range of demographic information about these pre-service teachers provided an overall composition of this cohort as seen in Table 1.

Variables	Values	Number of Pre-service Teachers	% Of Pre-service Teachers
Gender	Male	25	19.4
	Female	104	80.6
Age	18-24	57	44.2
	25-34	35	27.1
	35-44	24	18.6
	45+	13	10.1
Has dependents	Yes	53	41.1
	No	76	58.9
Program enrolled	Bachelor of Education (Early Childhood, Primary and Secondary)	113	87.6
	Master of Learning and Teaching (Primary and Secondary)	16	12.4
Year enrolled	1st year	8	6.2
	2nd year	51	39.5
	3rd year	20	15.5
	4th year	50	38.8
Mode of study	Face-to-Face	10	7.8
	Online	90	69.8
	Mixed mode	29	22.5
Current Placement Number	1-2	52	40.3
	3-5	58	45.0
	6-8	19	14.7

Table 1: Demographic Information of Pre-service Teachers

First, the majority is female (80.6%), with 19.4% indicating being male. This study's gender distribution is reflective of the teaching workforce that has 72% female and 28% male teachers (Australian Bureau of Statistics, 2021). The pre-service teachers' reported age

groupings are well distributed, with a predominance of those at school leaving age (18) through to 24 (44.2%). However, there are reasonable samples from each age grouping. There is a large number of pre-service teachers from the Bachelor of Education (early childhood, primary and secondary) programs (87.6%), representing the full range of years of study (1-4), with the majority in their 2nd (39.5%) and 4th year (38.8%) of their study. The pre-service teachers represent the perspectives of those who enrolled in their courses as either face-to-face, online or mixed mode, with online mode predominating.

Factors Underlying Pre-service Teachers' Self-efficacy

The pre-service teachers were asked a series of questions relating to teachers' sense of efficacy. The factor analysis yielded three dimensions explaining a total of 61.9% of the variance for the entire set of variables. Dimension 1 was labelled *classroom management* comprising 10 items. This first dimension explained 25.3% of the variance. Dimension 2, comprising 8 items, derived was labelled *instructional strategies*. The variance explained by this dimension was 19.5%. Dimension 3, labelled *student engagement,* comprises 6 items. This dimension explained 17.1% of the variance. The dimension loading matrix is presented in Table 2.

Questions	CM	IS	SE	Communalities
1. To what extent can you make your expectations clear about student behaviour?	0.684		0.425	0.661
2. How well can you establish routines to keep activities running smoothly?		0.457	0.511	0.589
3. How much can you do to get pre-service teachers to believe they can do well in schoolwork?	0.819			0.728
4. To what extent can you provide an alternative explanation or example when students are confused?	0.512		0.551	0.590
5. How much can you do to get children to follow classroom rules?	0.762			0.699
6. How much can you gauge student comprehension of what you have taught?	0.534		0.503	0.638
7. How well can you respond to difficult questions from your students?		0.724		0.598
8. To what extent can you craft good questions for your students?	0.563			0.512
9. How much can you do to adjust your lessons to the proper level for individual students?	0.528		0.475	0.591
10. How well can you provide appropriate challenges for very capable students?		0.465	0.461	0.551
11. How much can you do to foster student creativity?		0.658		0.546

	CM	TS	SE	Communalities
12. How much can you do to control disruptive behaviour in the classroom?	0.427			0.458
13. How much can you do to help your students value learning?	0.714			0.668
14. How much can you do to help your students think critically?		0.420	0.623	0.638
15. How well can you establish a classroom management system with each group of students?	0.743			0.646
16. How much can you do to calm a student who is disruptive or noisy?	0.624			0.605
17. How much can you use a variety of assessment strategies?		0.596	0.583	0.730
18. How well can you implement alternative strategies in your classroom?		0.528	0.468	0.555
19. How well can you keep a few problem students from ruining an entire lesson?	0.656			0.645
20. How much can you do to motivate students who show low interest in schoolwork?		0.772		0.674
21. How well can you respond to defiant students?	0.551			0.550
22. How much can you do to improve the understanding of a student who is failing?			0.757	0.675
23. How much can you do to get through to the most difficult students?		0.568	0.478	0.656
24. How much can you assist families in helping their children do well in school?		0.723		0.647

Note: Dimension loadings <.4 are suppressed; **CM**=Classroom Management; **TS**=Teaching Strategies; **SE**=Student Engagement

Table 2: Dimension loadings and communalities based on a principal components analysis with oblimin rotation for 24 items from the Teachers' Sense of Efficacy Scale (TSES) (N = 129)

Internal consistency for each of the scales (i.e., dimensions) was examined using Cronbach's alpha. The alphas were very high: .925 for Classroom management (10 items), .893 for Instructional strategies (8 items), and .868 for Student engagement (6 items). Composite scores were created for each of the three dimensions, based on the mean of the items and their primary loadings on each dimension. Higher scores indicated a greater sense of efficacy. All three dimensions were reported to have a moderate influence on self-efficacy (*Mean* > 3.5) with *instructional strategies* having the most impact with a negatively skewed distribution. Descriptive statistics are presented in Table 3. The skewness and kurtosis were well within a tolerable range for assuming a normal distribution and examination of the histograms suggested that the distributions looked approximately normal.

	No. of items	*M* (*SD*)	Skewness	Kurtosis	Cronbach's α
Classroom Management	10	3.74 (.65)	-.28	-.07	.93
Instructional Strategies	8	3.79 (.62)	-.20	.01	.89
Student Learning and Engagement (Differentiation)	6	3.55 (.67)	.04	-.53	.87

Table 3: Descriptive statistics for the three Teachers' Sense of Efficacy dimensions (N = 129)

Overall, these analyses indicated that three distinct dimensions were underlying pre-service teacher responses to TSES items (i.e., classroom management, instructional strategies, and student engagement), and that these dimensions were highly internally consistent. An approximately normal distribution was evident for the composite score data in the current study.

Impact of COVID-19 on Pre-Service Teachers Self-Efficacy

Within the survey pre-service teachers were asked to indicate the level of impact of COVID-19 on different aspects of their professional experience. The response data is presented in Table 4.

Impact of COVID-19 on:			% Of responses				
	n	Mean	Nothing	Very Little	Some Influence	Quite a bit	A great deal
professional experience, in general	128	3.59	7.8	16.4	20.3	19.5	35.9
ability to improve your teaching on professional experience	128	3.07	18.8	21.9	18.0	16.4	25.0
the pedagogies used during professional experience	128	3.05	18.0	18.0	25.0	18.8	20.3
ability to differentiate for pre-service teachers	128	2.80	23.4	25.0	17.2	16.4	18.0
ability to control pre-service teachers on professional experience	128	2.64	24.2	27.3	21.9	13.3	13.3

Table 4: Results of Responses to the Impact of COVID-19 on Different Aspects of Professional Experience

Across the cohort of pre-service teachers, general professional experience received the most impact with approximately 76% indicating some level of influence (i.e., aggregated total of *some influence*, *quite a bit*, and *a great deal*), followed by the pedagogies used during

professional experience (64.1%). While pedagogies were impacted, approximately 50% of the pre-service teachers reported with no or little impact (i.e., aggregated total of *nothing* and *very little*) on their ability to differentiate and control student behaviour.

Pre-service Teacher Cohort Comparison

To gain insights into individual pre-service teachers' experience, the three identified dimensions (classroom management, instructional strategies, and student engagement), were then considered in relation to where pre-service teachers were situated within their program and how many placements they had previously completed. The following findings are presented according to the question groups outlined in Table 2 and consider the similarities and differences between the disrupted placement experiences of first-year (pre-service teachers who have completed 1-2 placements), second-year (pre-service teachers who have completed 3-4 placements), third-year (pre-service teachers who have completed 4-5 placements) and fourth-year (pre-service teachers who have completed 7-8 placements).

Classroom Management Cohort Comparison

Ten survey items were utilised to identify students' self-efficacy in relation to their ability to apply classroom management techniques during their placement. Figure 1 visually represents responses with the similarities and differences discussed below.
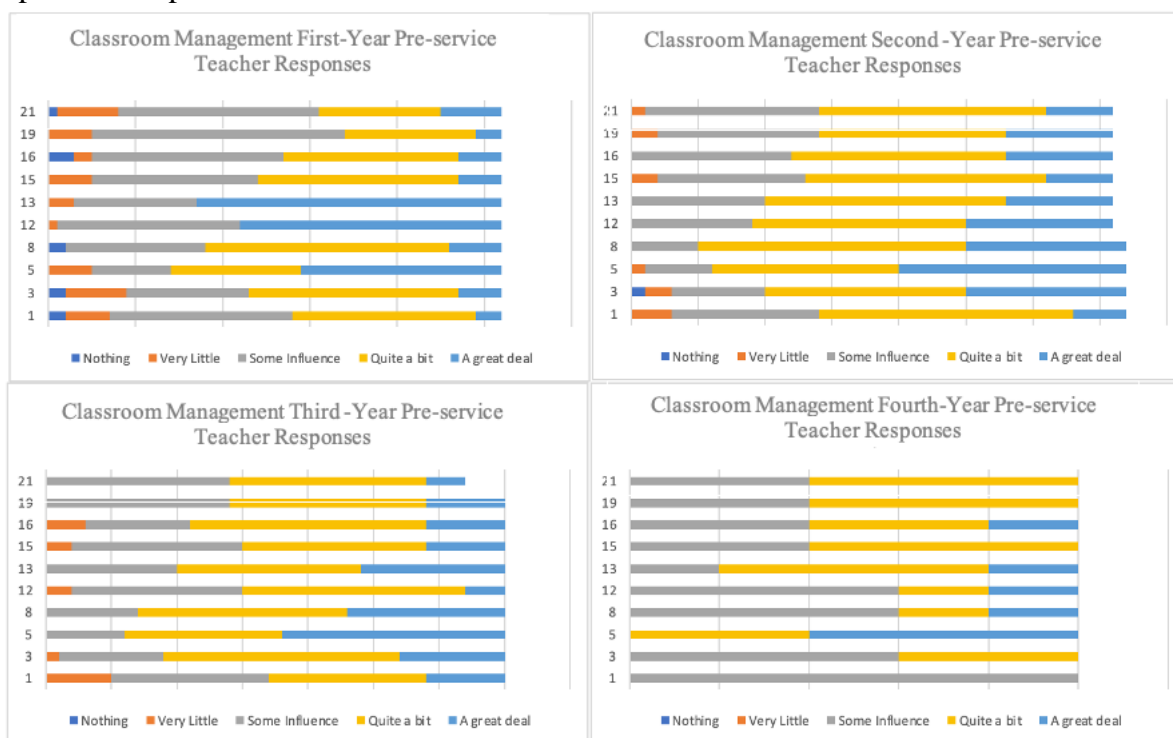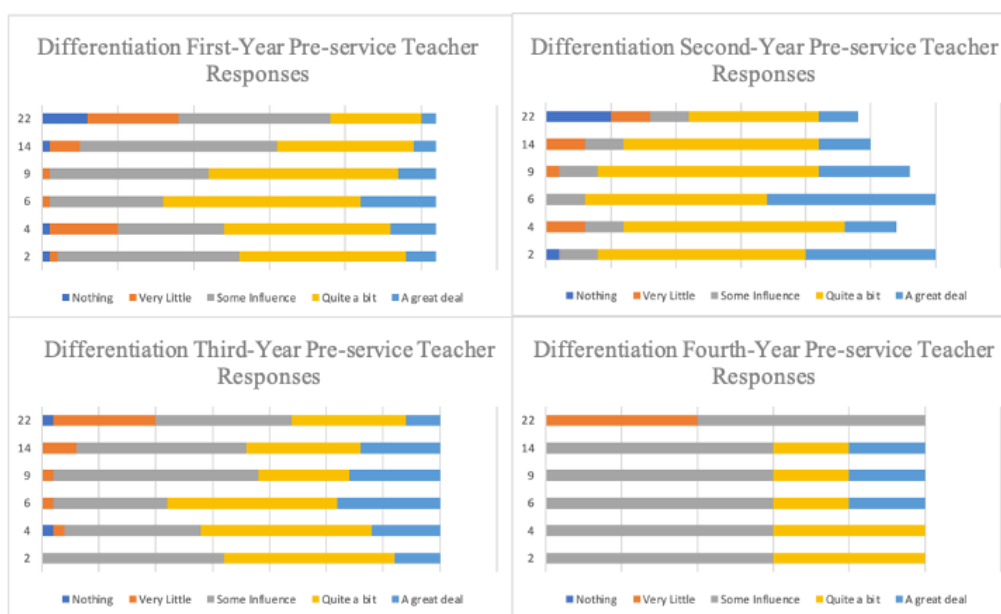

Figure 1: Visual representation of First, Second, Third and Fourth-Year Pre-Service Teacher's Classroom Management Self-Efficacy Survey Responses

Descriptive analysis identified that 9.6 % of the first-year pre-service teacher cohort, who were completing their second placement, stated that there was "none" or "very little impact" on their classroom management self-efficacy compared to 3.5 % of the second and third-year pre-service teacher cohorts and 0% of the fourth-year pre-service teacher cohort.

While each of the pre-service teacher year cohorts had over 50% of their pre-service teachers identify that their placement had "quite a bit" and "a great deal" of impact on their self-efficacy, the second-year pre-service teacher cohort identified the greatest impact with 70.1% of responses sitting within these categories compared to 54% of the first and fourth-year pre-service teacher cohorts.

Items 12 and 13 were related to how well pre-service teachers could manage disruptive behaviours within the classroom and help students value learning. Pre-service teachers, across all year cohorts (first, second, third and fourth) indicated that their self-efficacy in these areas was impacted more than other classroom management aspects. The data across all the year cohorts also indicated that the more placements pre-service teachers had experienced prior to their disrupted placement, the greater the impact the changes to the teaching context impacted on their classroom management self-efficacy.

Differentiation Cohort Comparison

Six survey items were utilised to identify the students' self-efficacy in relation to their ability to differentiate during their placement. Figure 2 visually represents responses with the similarities and differences discussed below.
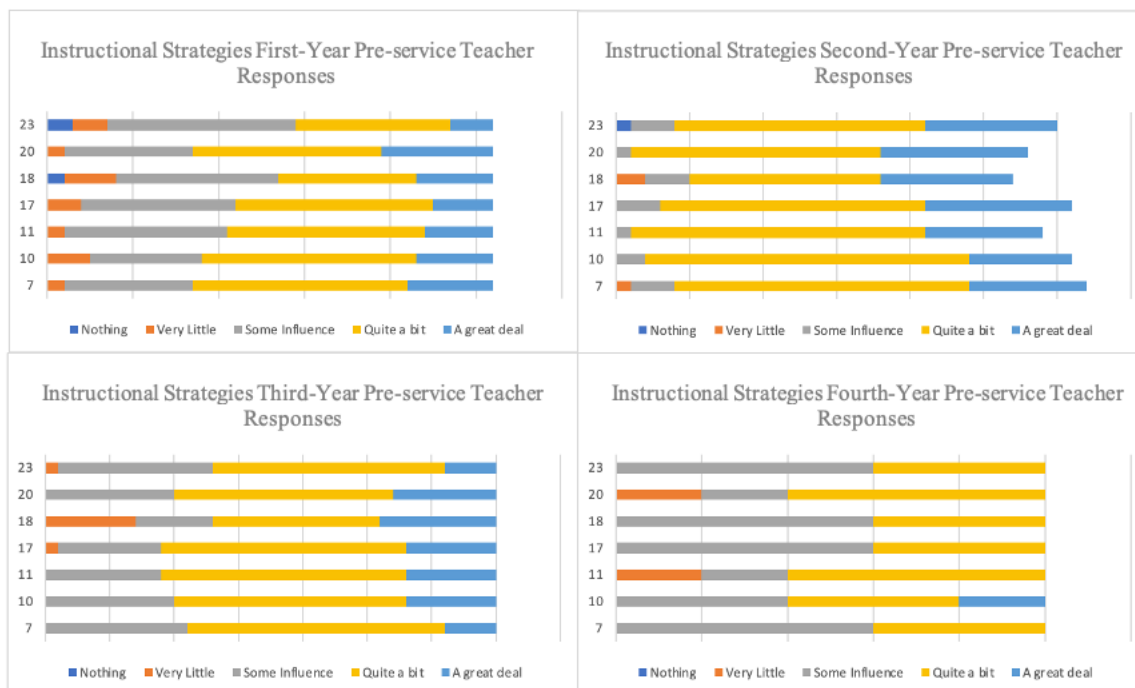

Figure 2: Visual representation of First, Second, Third- and Fourth-Year Pre-Service Teacher's Differentiation Self -Efficacy Survey Responses

Descriptive analysis of each pre-service teacher cohort identified that the first-year pre-service teacher cohort, had 11.8% identify that there was "none" or "very little impact" on their differentiation self-efficacy compared to 8.5 % of the second-year and third-year pre-service teacher cohorts and 6% of the fourth-year pre-service teacher cohort.

While each pre-service teacher year cohort had over 88% identify that their placement had either "some influence", "quite a bit" or "a great deal" of impact on their self-efficacy, the second-year pre-service teacher cohort identified the greatest impact with 79.3% of responses within the "quite a bit" and "a great deal" categories compared to 52% of the third-year pre-service teacher cohort and 26% of the fourth-year pre-service teacher cohort.

The data indicated that the disrupted placement context had less of an impact on the fourth-year cohort's self-efficacy in catering for individual pre-service teachers learning needs than on the second-year pre-service teacher cohort.

Instructional Strategies Cohort Comparison

Seven survey items were utilised to identify the students' self-efficacy in relation to their ability to utilise instructional strategies during their placement. Figure 3 visually represents responses with the similarities and differences discussed below.

Figure 3: Visual representation of First, Second, Third- and Fourth-Year Pre-Service Teacher's Instructional Strategies Self -Efficacy Survey Responses

Descriptive analysis of the pre-service teacher year cohorts identified that the first-year pre-service teacher cohort, had 8% identify that there was "none" or "very little impact" on their ability to utilise instructional strategies compared to 2.5% of the second-year and third-year pre-service teacher cohorts and 5.7% of the fourth-year pre-service teacher cohort.

While each pre-service teacher cohort had over 90% of their responses identifying that their placement had either "some influence", "quite a bit" or "a great deal" of impact on their pedagogical self-efficacy, the second-year pre-service teacher cohort identified the greatest impact with 90.2% of responses within the "quite a bit" and "a great deal" categories compared to 69% of and the third-year pre-service teacher cohort and 48% of the fourth-year pre-service teacher cohort.

The data indicated that the disrupted placement context had less of an impact on the fourth-year pre-service teacher cohort's self-efficacy on utilising instructional strategies than on the second-year pre-service teacher cohort.

Factors Impacting on Pre-Service Teachers Self-Efficacy

Pre-service teachers were also asked to express in open-ended questions the challenges they faced during these disrupted placements. Utilising descriptive coding analysis, rich qualitative responses were obtained. These provide a profound understanding of the challenges these pre-service teachers had to endure and manage during their professional experience in this unprecedented circumstance. The discussion focused on the themes that emerged from analysis of this data. These themes are organised around the key self-efficacy dimensions of classroom management, differentiation, instructional strategies, and the identified impact that communication had on pre-service teachers unprecedented experience.

Classroom Management

With 15% of coding references attributed to classroom management, pre-service teachers discussed that their ability to effectively manage student behaviour was attributed to the following two themes: mode of teaching and classroom context.

Pre-service teachers (n =14) identified that while teaching online "challenged [them] to be flexible and adapt [their] teaching (pre-service teacher 116), they also noted that "it was challenging trying to demonstrate the teaching standards and to control behaviour online" (pre-service teacher 90).

Pre-service teachers (n =20) also perceived that the lack of face-to-face teaching limited their "opportunity to practice and refine [their] behaviour management skills (pre-service teacher 128). They noted that as there were "not as many opportunities to teach face to face and interact with a full classroom" (pre-service teacher 152), which according to pre-service teacher 224 meant that "classroom management was something that [they] could not really practice".

The impact of COVID lock down directives, significantly impacted on the number of school students physically attending schools and more noticeable the consistency of their attendance, both face to face and online. Pre-service teacher 218 stated that "with very few students it made it difficult to get a good feel for the usual classroom dynamics" and that in response to low student numbers, "classrooms were often a combination of students from across all classrooms" (pre-service teacher 90). Some pre-service teachers (n=6) felt that their ability to plan for students was impacted by their "significantly limited…engagement with hands-on teaching" (pre-service teacher 144).

Pre-service teacher 121, also noted that the "children in the schools [were] also noticeably different in their behaviours due to covid safe practices" with some pre-service teachers (n=9) noting that many classrooms "consisted of students with more challenging behaviours" (pre-service teacher 87).

While most pre-service teachers (n=122) noted that the disrupted classroom challenged them, seven pre-service teachers identified that these challenges provided them with opportunities to enhance their behaviour management skills. Pre-service teacher 206, stated that the "opportunity to support pre-service teachers and manage inappropriate conversation during class time was valuable", with pre-service teachers (n=7) noting that they were able to observe a variety of practices that enabled them "to develop [their] behaviour management techniques" (pre-service teacher 60) by "seeing a variety of behaviour management techniques and strategies within the classroom by six different teachers" (pre-service teacher 204) meant that many pre-service teachers were "given the opportunity to observe and therefore learn from more than [one] teacher" (re-service teacher 128).

Differentiation

Pre-service teachers (n=92) outlined that their ability to identify and cater for student learning needs was predominantly impacted by the multiple modes of learning and the continually changing cohort composition. As pre-service teacher 69 explained "it was challenging because the students were all online and it was hard to ascertain who was actually engaging in the learning and provide adequate adjustments". Six pre-service teachers also identified the challenge of engaging with students who could not access home computers, as illustrated by pre-service teacher 176 when she explained that "it was difficult getting to know students over the phone and trying to work out what content they were to learn" and pre-service teacher 167 who outlined that there was a "lack of communication with students who had no access to internet and/or phone" which significantly impacted on their ability to identify and monitor student engagement.

According to pre-service teachers (n=47), the pandemic impacted on their ability to engage in complete learning and teaching cycles as illustrated by pre-service teacher 80 who outlined that "due to COVID-19 teachers were unable to formally teach a lesson, instead they guided learning therefore I was not able to [implement] complete lesson planning cycles". For 12 pre-service teachers this impacted on their ability to identify students learning needs as depicted by pre-service teacher 128 who stated, "I wasn't able to deliver lessons face-to-face and gauge my pre-service teachers' level of interest and understanding".

Five pre-service teachers also identified that student engagement in learning was impacted. This was reflected by pre-service teacher 88 who outlined that they "worked with the students that were on campus however none of the students had actually done any of the work"

For eight pre-service teachers this led to increased levels of stress as expressed by pre-service teacher 158 who "felt like [she] was letting [her] pre-service teachers down" and pre-service teacher 82 who stated that being unable to "meet most of my pre-service teachers…also created stress, as I did not know who I was creating my lessons for and could not provide specific differentiation as I wanted to".

Pre-service teachers (n=35) identified that changing classroom compositions were challenging as they were unable to gauge students ongoing learning needs. Pre-service teacher 76 stated this was because they were "in a different classroom nearly every day with different teachers and different pre-service teachers, so [they] didn't have a class to stick with and get to know the students". Pre-service teacher 87 explained that "for most of the placement there was always at least one child away a day which made it hard to get to know the students and complete activities and assessment for the placement".

While 109 pre-service teachers identified an impact on their ability to cater for student learning needs. A total of 18 pre-service teachers outlined that teaching across the school provided them with additional opportunities, as reflected in a comment from pre-service teacher 224 who stated that she "was able to see how the school operated more holistically [providing me with] more opportunities to provide feedback to pre-service teachers and assess their work". Pre-service teacher 102 also identified that while the placement was challenging it also provided them with the opportunity "to learn how to differentiate [their] planning more and ensure every student was on board with what was being taught".

Instructional Strategies

The disrupted classroom and lockdown resulted in pre-service teachers learning from home and online for a period of time. Coding references (n=80) reflected that pre-service teachers' ability to practice and learn instructional strategies during their placement was

impacted by the modes of learning and the teaching roles pre-service teachers were assigned to.

For 28 pre-service teachers', the application of instructional strategies in an online learning environment was a challenge as reflected by pre-service teacher 69 who stated that what they "had learnt about did not apply to the online environment. It was tough teaching lessons online". For 15 pre-service teachers this also resulted in them feeling as though they "didn't feel like [they] got what [they] most needed, being in the classroom" (pre-service teacher 19) and for pre-service teacher 173 this "restricted their learning as they were unable to formally teach a lesson".

Pre-service teachers (n = 22) also identified how the disrupted placement provided them with additional opportunities. This was reflected by pre-service teacher 43 who outlined that while the placement was "a different style of placement [it] allowed [her] to explore new ways of teaching". A similar experience was reflected by pre-service teacher 69 who also identified that while the placement "had its own challenges and really highlighted the need for planning, clear instruction and explanation, checking for understanding at every step to ensure no pre-service teachers got left behind".

Communication of Placement Expectation

A key aspect of the disrupted placement experience was the communication of placement details and changing expectations to the school sites and pre-service teachers. During the disrupted placement pre-service teachers identified how the communication of placement expectations impacted their teaching, the provision of support from the hosting school and their mental wellbeing.

The University Placement plan (Figure 1) removed all associated course assessment from each placement to enable the school to negotiate the amount and type of teaching required with pre-service teachers. The school supervising teacher was still required to complete a placement report at the end of the placement with permission to overlook areas where no opportunities were provided for the pre-service teacher; for example, student may have had to implement pre planned lesson, so no planning was required by the university pre-service teacher.

Pre-service teachers (n=57) expressed a lack of clarity in school expectations due to the rapidly changing context within each school. For example, pre-service teacher 51 stated that "the school did not really want me there during COVID as they were also juggling with the differences at that, particularly difficult time".

During their placements, some pre-service teachers (n = 10) reported the lack of support from their supervising teachers, expressing resentment. This was reflected in the comment by pre-service teacher 41 who outlined that they "did have an extremely challenging supervising teacher which left me asking for a transfer of placement location after the first day. I'm not one to complain or quit but this was a terrible experience". The notion of being supported by stressed supervising teachers was also reflected by pre-service teacher 94 who commented that they "believed that [the] supervising teacher was under a great deal of strain and that unfortunately, she took this stress out on me and made it difficult for me to continue.

Pre-service teachers viewed the changing expectation to shift their teaching from face to face to online as either a challenge or positive learning experience. Many pre-service teachers (n=38) identified this teaching experience as a challenge expressed by a lack of active teaching opportunities due to the shift to online teaching within an unprecedented teaching context. For some pre-service teachers (n=22), this created high levels of anxiety

and stress as reflected by pre-service teacher 56 who stated that "anxiety levels were high, without knowing what to expect of the placement venue, social distancing measures in school". For two pre-service teachers the impact was so significant that they expressed the desire to end their placement. Pre-service teacher 113 outlined that "it has been epic, and I am ready to quit". Pre-service teachers (n=4) also expressed a lack of opportunity to learn how to teach as a waste of time. Pre-service teacher 41 stated that "at times I felt kind of useless. There wasn't a significant amount of work to do during my placement".

The ongoing changing placement expectations also created uncertainty for many pre-service teachers (n=23) as outlined by pre-service teacher 92 who commented that "the professional experience was challenging because, though I knew where I was going for the placement, no staff could tell me what would be undertaken…It was challenging to not know what new tasks I was to be allocated each day".

Some pre-service teachers (n=11) identified additional expectations while teaching in a COVID environment that required them to be cognisant of implementing COVID policy requirements and supporting students during times of uncertainty. Pre-service teacher 75 stated that "it was challenging to ensure social distancing when the class was used to working together in groups" with pre-service teacher 126 outlining that they "found the social distancing a challenge when trying to assist pre-service teachers".

While pre-service teachers were provided with the option of attending placement if they were vulnerable or felt they were at risk, several pre-service teachers (n=26) who attended felt that the placements were not safe enough to go ahead as university support personnel were only able to support them virtually. Pre-service teacher 12 stated that "this made me wonder why it was safe for us to go on prac [professional experience placement], but not for our liaison officer to come and check on how we were doing". This created high levels of anxiety in some pre-service teachers (n=14) who expressed concern, for example pre-service teacher 50 who had "a genuine fear of going out into the COVID world and was constantly in fear of contracting the virus".

While the removal of placement assessments was implemented as a direct result of stakeholder feedback, some pre-service teachers (n=4) expressed that they and their school were unsure how to navigate the flexible nature of the placement and the uncertainty of what teaching would look like during COVID, as reflect in the following comments from pre-service teacher 142:

> I had to wait for the principal to confirm that he was still happy to have me at the school, he did keep me but strongly suggested I consider whether it was an effective use of my time or a productive learning experience (leaving the impression that it was a waste of time)…The school allowed me to stay, however my supervising teacher and myself struggled to get any decent information from the university.

In summary, pre-service teachers reported many challenges associated with their teaching placements during the pandemic. These included unprecedented experiences which were both positive and negative because of the different modes of teaching, the continuous changes to student attendance and how the changing expectations and communication of support which impacted on their mental health and wellbeing. These findings highlight that implementing a flexible placement plan that is developed on behalf of pre-service teachers does not always result in a positive placement experience, as for many students "their identity as a learner became threatened" (Leach & Wheeldon, 2022, p.88).

Discussion

Research shows that there is a deep understanding and commitment to professional experience opportunities and the role that industry and universities have in the delivery of quality professional experience opportunities (Jackson et al., 2016; Venville et al., 2021). Given the usual stressors associated with preparing for and participating in professional experience (Moussaid & Zerhouni, 2017; Allen et al., 2019), uncertain circumstances such as COVID-19, can exacerbate these concerns (Leach & Wheeldon, 2022). Utilising self-efficacy as a lens for how well pre-service teacher's mitigate environmental conditions (Bal-Tastan et al, 2018), provides universities with an opportunity to consider the placement factors that impact on the provision of quality placements during times of disruption. Findings from our study revealed that when teaching in a disrupted context, pre-service teachers' sense of self-efficacy was moderately affected across the following three areas of classroom management, instructional strategies, and student engagement.

Reflecting on the research findings, pre-service teachers, in the absence of clearly defined placement expectations, experienced diverse placements that were influenced by the range of teaching roles they were tasked to engage in. Common factors influenced their self-efficacy in relation to how they managed classroom behaviour, implemented instructional strategies, and differentiated for student learning needs during their disrupted placement. These factors were: teaching within one or more modes (online and or face to face); the continuous changing classroom context including student attendance and allocated classes; and the communication of placement expectations.

The disrupted context environment supports McDonald's (2018) findings that placements should provide opportunities for pre-service teachers to be "challenged to… development…adaptive expertise" (p. 99). However, many pre-service teachers identified that they were unable to do this, especially when teaching across various modes. Some viewed teaching in alternative modes as not a real teaching experience. This finding prompts universities to consider if and how their ITE programs may privilege face to face teaching over other modes and the impact this can have on pre-service teachers' perception of what teaching roles entail.

It is interesting to note that pre-service teachers indicated that COVID-19 had some level of influence on the pedagogies used and their ability to differentiate for students but less on how well they could control student's behaviour. Some noted this was due to not being able to meet their classes face-to-face but rather having to teach them online. Others noted that the lack of face-to-face teaching impacted on their ability to learn or apply their learnings while on placement. The disparity in pre-service teachers expressed disposition towards teaching in a disrupted environment demonstrated how students interacted and reacted differently within their teaching environments (Billett, 2008).

A few pre-service teachers viewed the disrupted context as an opportunity to tackle the problems they faced (Tack & Vanderline, 2016) through adaption and engagement. Others became immobilised, unable to consider the experience as a learning opportunity. Students who expressed how their learning was limited focussed on what they were unable to demonstrate with limited discussion on how they translated their theoretical and practical knowledge and skills into this new disrupted context. This finding again prompts universities to consider if and how their programs prepare pre-service teachers to adapt and translate their acquired theoretical and practical underpinnings into new teaching and learning environments.

The cohort data comparison highlighted that second-year pre- service teachers' (completing their third or fourth placement) self-efficacy was impacted more than other cohorts. This finding is in contrast to Yuksel's (2014) research, who identified that pre-

service teacher's self-efficacy most often decreases within their first two experiences and increases between their third and fourth experience after developing confidence. The increased impact on this cohort could be attributed to an increased awareness of the role of teachers (developed in their first two placements) and the impact the disrupted placement had on pre-service teachers being able to learn how to maximise student learning, as well as the flow on effect this may have on their learning progression. This finding provides an important insight into how universities perceive progression (as successful course completion) and the need to consider the learning progression impacts of disrupted placements on student's future placement expectations.

Qualitative results also showed a strong theme associated with communication. Communication between the pre-service teachers, school and their university as well as related to COVID-19 directives were paramount and a significant issue warranting attention. This finding supports research from Rief et al (2007) that identified communication can be a contributing stress factor for pre-service teachers. The university predominately utilised email, online learning platforms and SMS modes (Figure 1) to communicate to pre-service teachers and school sites. While many of the pre-service teachers felt supported, identifying that they had clear directions and guidance regarding professional experience during the pandemic, there were those that did not. Pre-service teachers mentioned that the stress on supervising teachers in schools meant that they could not clearly direct pre-service teachers in what was expected of them during this time. While these issues could also be the case with professional experience in usual times (Allen et al., 2019), a heightened sense of stress for the pre-service teachers and teachers may have resulted from the impact of COVID-19 and its resulting disruption. Overall, pre-service teachers commented on just how different the disrupted professional experience was compared to others. Most of them accepted the situation and were able to deal with the 'newness', indicating a strong sense of self-efficacy and agency.

Research Limitations

The limitations identified in this study were focused on the case being limited to one HEI and that the data, while aimed at being reflective of the broad composition of pre-service teachers within the university, was reliant on qualitative responses and the sample size. It is acknowledged that further research into teaching within disrupted contexts, as explored in this study, would contribute to an essential and growing body of research on Australian ITE programs and the policy nexus in preparing pre-service teachers to be classroom ready (TEMAG, 2014).

Conclusion

Implications from this study mean that in times of great disruption most pre-service teachers cope well. However, despite best efforts to support pre-service teachers there may still remain some whose learning and wellbeing will be negatively impacted. It should not be understated that disrupted contexts places a lot of pressure on teachers in schools as well as pre-service teachers. For the pre-service teachers at this one regional university many were still able to complete their professional experience, albeit very differently.

The findings from this study have illuminated further considerations for how universities can support pre-service teachers to teach in disrupted contexts. Firstly, the University strategy assumed that pre-service teachers and supervising teachers had the support

they needed. It was shown they did not. Secondly, it was assumed that the continuation of placements, with a focus on reducing the impact on student progression would be welcomed by pre-service teachers. Some pre-service teachers however felt differently and questioned the value of the placement. Many schools continued to host pre-service teachers during this time to lend an extra helping hand to its stressed teachers. For some pre-service teachers, their identity as a leaner was negatively impacted. Possibly the greatest reflection was how some pre-service teachers perceived teaching in online learning environments as a waste of time that inhibiting their ability to apply teaching strategies and practice teaching. This study therefore challenges universities to consider how their programs equip pre-service teachers learning progression in times of disruption, prompting the larger consideration of how ITE programs prepare, or not, pre-service teachers to teach in disrupted classrooms while navigating the policy and accreditation environment.

References

Allen, J., Singh, P., & Rowan, L. (2019). Professional experience in initial teacher education: keeping abreast of change in the 21st century. *Asia Pacific Journal of Teacher Education, 47*(4), 323-326. https://doi.org/10.1080/1359866X.2019.1637599

Allen, J., Rowan, L., & Singh, P. (2020). Teaching and teacher education in the time of COVID-19. *Asia Pacific Journal of Teacher Education, 48*(3), 233-236. https://doi.org/10.1080/1359866X.2020.1752051

Ambrosetti A., Capeness R., Kriewaldt J., Rorrison D. (2018). Educating future teachers: Insights, conclusions and challenges. In J. Kriewaldt, A. Ambrosetti, D. Rorrison & R. Capeness. (Eds.), *Educating Future Teachers: Innovative Perspectives in Professional Experience* (pp. 235-244). Springer. https://doi.org/10.1007/978-981-10-5484-6_14

Ashton, P. T., Olejnik, S., Crocker, L., & McAuliffe, M. (1982, April). *Measurement problems in the study of teachers' sense of efficacy*. [Paper presentation]. Annual meeting of the American Educational Research Association (AERA), New York.

Australian Bureau of Statistics. (2021). Schools: data on students, staff, schools, rates and ratios for government and non-government schools, for all Australian states and territories. https://www.abs.gov.au/statistics/people/education/schools/latest-release

Australian Institute for Teaching and School Leadership (AITSL). (2015). Supervising pre-service
teacher program review. AITSL.

Australian Institute for Teaching and School Leadership (AITSL). (2022) Accreditation Standards
and Procedures. https://www.aitsl.edu.au/deliver-ite-programs/standards-and-procedures

Bal-Taştan, S., Davoudi, S. M. M., Masalimova, A. R., Bersanov, A. S., Kurbanov, R. A., Boiarchuk, A. V., & Pavlushin, A. A. (2018). The impacts of teacher's efficacy and motivation on student's academic achievement in science education among secondary and high school pre-service teachers. *EURASIA Journal of Mathematics, Science and Technology Education*, *14*(6), 2353-2366. https://doi.org/10.29333/ejmste/89579

Barton, G., Hartwig, K., Bennett, D., Cain, M., Campbell, M., Ferns, S., ... & Westerveld, M. (2017). Work Placement for International Student Programmes (WISP): A model of effective practice. In *Professional learning in the workplace for international students* (pp. 13-34). Springer, Cham. https://doi.org/10.1007/978-3-319-60058-1_2

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*, 191-215. https://doi.org/10.1037/0033-295X.84.2.191

Billett, S. (2005). Being competent: the relational interdependence between individual and social agency in working life. In H. Gruber, C. Harteis, R. Mulder & M. Rehrl (Eds.), *Bridging Individual, Organisational, and Cultural Perspectives on Professional Learning* (pp.113–132). Roderer.

Billett, S. (2008). Subjectivity, learning and work: sources & legacies. *Vocations and Learning, 1*(1), 149–177. https://doi.org/10.1007/s12186-008-9009-y

Clark, S., & Newberry, M. (2019). Are we building pre-service teacher self-efficacy? A large-scale study examining teacher education experiences. *Asia-Pacific Journal of Teacher Education*, *47*(1), 32-47. https://doi.org/10.1080/1359866X.2018.1497772

Ciampa, K., & Gallagher, T. L. (2018). A comparative examination of Canadian and American pre-service teachers' self-efficacy beliefs for literacy instruction. *Reading and Writing*, *31*(2), 457-481. https://doi.org/10.1007/s11145-017-9793-6

Creswell, John W. (2014). *Research design: Qualitative, quantitative and mixed methods approach* (4th ed.). Sage.

Douglas, M., Katikireddi, S. V., Taulbut, M., McKee, M., & McCartney, G. (2020). Mitigating the wider health effects of covid-19 pandemic response. *Bmj*, *369*. https://doi.org/10.1136/bmj.m1557

Duffin, L. C., French, B. F., & Patrick, H. (2012). The teachers' sense of efficacy scale: Confirming the factor structure with beginning pre-service teachers. *Teaching and Teacher Education, 28*(6),827–834. https://doi.org/10.1016/j.tate.2012.03.004

Ersin, P., Atay, D., & Mede, E. (2020). Boosting pre-service teachers' competence and online teaching readiness through e-practicum during the COVID-19 outbreak. International Journal of TESOL Studies, 2(2), 112-124. doi.org/10.46451/ijts.2020.09.09

Ferdig, R. E., Baumgartner, E., Hartshorne, R., Kaplan-Rakowski, R., & Mouza, C. (Eds.). (2020). Teaching, technology, and teacher education during the COVID-19 pandemic: Stories from the field. Association for the Advancement of Computing in Education.

Gillett-Swan, J., & Grant-Smith, D. (2017). Complex, compound and critical: Recognising and responding to the factors influencing diverse pre-service teacher experiences of practicum. Editorial. *Asia Pacific Journal of Teacher Education, 45*(4), 323-326. https://doi.org/10.1080/1359866X.2017.1343590

Grant-Smith, D., de Zwaan, L., Chapman, R., & Gillett-Swan, J. (2018). 'It's the worst, but real experience is invaluable': Pre-service teacher perspectives of the costs and benefits of professional experience. In D. Heck & A. Ambrosetti (Eds.), *Teacher Education in and for Uncertain Times* (pp. 15-33). Springer. https://doi.org/10.1007/978-981-10-8648-9_2

Guskey, T. R. (1981). Measurement of the responsibility teachers assume for academic successes and failures in the classroom. *Journal of Teacher Education*, *32*(3), 44-51. https://doi.org/10.1177/002248718103200310 0

Holland, D., Lachicotte Jr., W., Skinner, D., & Cain, C. (1998). *Identity and agency in cultural worlds*. Harvard University Press.

Huberman, A. M., Miles, M., & Saldana, J. (2014). *Qualitative data analysis: A methods sourcebook.* Sage.

Inden, R. B. (2000). *Imagining India*. Indiana University Press.

Jackson, D., Rowbottom, D., Ferns, S., & McLaren, D. (2016). Employer understanding of work-integrated learning and the challenges of engaging in work placement opportunities. *Studies in Continuing Education*, *39*(1), 35-51. https://doi.org/10.1080/0158037X.2016.1228624

Leach, T. H. (2021). *System reform: an exploration of policy interpretation and translation through the enacted role of Regional Education Officers* (Doctoral dissertation, University of Southern Queensland).

Leach, T., & Wheeldon, A. L. (2022). Partner Perspectives Matter: Lessons Learnt When Navigating Continued Pre-service Teacher Placements During Disruption. In *School-University Partnerships—Innovation in Initial Teacher Education* (pp. 73-90). Springer, Singapore. https://doi.org/10.1007/978-981-19-5057-5_6

Ma, K., & Cavanagh, M. S. (2018). Classroom ready?: Pre-service teachers' self-efficacy for their first professional experience placement. *Australian Journal of Teacher Education (Online)*, *43*(7), 134-15. https://doi.org/10.14221/ajte.2018v43n7.8

McDonald, L. (2018). Self-regulatory practices: Key aspects of learning for student teachers on practicum. In D. Heck & A. Ambrosetti (Eds.), *Teacher Education in and for Uncertain Times* (pp. 99-112). Springer. https://doi.org/10.1007/978-981-10-8648-9_7

Martin, L. E., & Mulvihill, T. M. (2017). Current issues in teacher education: An interview with Dr. Linda Darling-Hammond. *The Teacher Educator*, *52*(2), 75-83. https://doi.org/10.1080/08878730.2017.1294921

Murtagh, L. (2015, September). *Invisible attitudes: Understanding the perceptions of university tutors and school-based mentors towards trainee teachers with parental responsibilities*. [Paper presentation]. The Education and Transition – Contributions from Educational Research European Conference on Educational Research, Budapest, Hungary.

Moussaid, R., & Zerhouni, B. (2017). Problems of pre-service teachers during the practicum: An analysis of written reflections and mentor feedback. *Arab World English Journal (AWEJ) Volume*, *8*. https://doi.org/10.24093/awej/vol8no3.10

Ovenden-Hope, T., Blandford, S., Cain, T., & Maxwell, B. (2018). RETAIN early career teacher retention programme: evaluating the role of research informed continuing professional development for a high quality, sustainable 21st century teaching profession. *Journal of Education for Teaching*, *44*(5), 590-607. https://doi.org/10.1080/02607476.2018.1516349

Pendergast, D., Garvis, S., & Keogh, J. (2011). Pre-service student-teacher self-efficacy beliefs: An insight into the making of teachers. *Australian Journal of Teacher Education, 36*(12), 4. https://doi.org/10.14221/ajte.2011v36n12.6

Queensland College of Teachers (2019). Attrition of Recent Queensland Graduates: Report 2019. https://cdn.qct.edu.au/pdf/QCT_Qld_Graduate_Attrition_Report_2019.pdf?_ga=2.37841067.900631482.1671503519-188504246.1671503519

Queensland Government (2020), Queensland Whole of Government Pandemic Plan. https://www.qld.gov.au/__data/assets/pdf_file/0025/124585/FINAL-QLD-WoG-Pandemic-Plan.pdf

Quezada, R. L., Talbot, C., & Quezada-Parker, K. B. (2020). From bricks and mortar to remote teaching: A teacher education program's response to COVID-19. *Journal of Education for Teaching*, *46*(4), 472-483. https://doi.org/10.1080/02607476.2020.1801330

Rose, J. S., & Medway, F. J. (1981). Measurement of teachers' beliefs in their control over student outcome. *The Journal of Educational Research*, *74*(3), 185-190. https://doi.org/10.1080/00220671.1981.10885308

Safe Work, Australia (2015). *Work-related mental disorders profile*. Safe Work Australia.

Saldaña, J. (2015). *The coding manual for qualitative researchers*. Sage.

Tack, H., & Vanderlinde, R. (2016). Measuring teacher educators' researcherly disposition: Item development and scale construction. *Vocations and Learning*, *9*(1), 43-62. https://doi.org/10.1007/s12186-016-9148-55

Teacher Education Ministerial Advisory Group [TEMAG]. (2014). Action now: Classroom ready
teachers. Canberra: ACT: Department of Education. https://docs.education.gov.au.

Tschannen-Moran, M., & Hoy, A. W. (2001). Teacher efficacy: Capturing an elusive construct. *Teaching and Teacher Education*, *17*(7), 783-805. https://doi.org/10.1016/S0742-051X(01)00036-1

Väisänen, S., Pietarinen, J., Pyhältö, K., Toom, A., & Soini, T. (2018). Student teachers' proactive strategies for avoiding study-related burnout during teacher education. *European Journal of Teacher Education*, *41*(3), 301-317. https://doi.org/10.1080/02619768.2018.1448777

Venville, A., Kostecki, T., Lynch, B., Santhanham, E., & Whitty, A. (2021). Formalizing feedback in work-integrated learning partnerships: Opportunities for collaboration. *International Journal of Work-Integrated Learning*, *22*(1), 17-23.

Yüksel, H. G. (2014). Becoming a teacher: tracing changes in pre-service English as a foreign language teachers' sense of efficacy. *South African Journal of Education*, *34*(3). https://doi.org/10.15700/201409161104

Zimmerman, B. J. (2000). Attaining self-regulation: A social cognitive perspective. In M. Boekaerts, P. R. Pintrich, & M. Zeidner (Eds.), *Handbook of Self-regulation* (pp. 13-39). Academic Press. https://doi.org/10.1016/B978-012109890-2/50031-7