

## **Teachers' perceptions of the impact of COVID-19 on writing instruction in Australia**

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Education interruption can influence educational outcomes for students, particularly those already experiencing disadvantage. Little is known about how education interruption caused by COVID-19 has influenced the literacy learning of Australian students. This article provides insights into the impact of COVID-19 related education interruption on writing instruction of primary school aged children from the perspectives of their teachers. Drawing on data from a single-stage mixed-methods survey tool, it explores extent of perception of an impact of COVID-19 writing instruction in Australia, as well as capturing data on the nature of this perceived impact. As expected, the COVID-19 pandemic had an impact on writing instruction in the majority of cases, with impact typically perceived to be negative, though for some respondents, an unexpected benefit of the disruption was the collaborative response of educators and education systems. The diverse facets of the nature of this perceived impact were identified by respondents, some of which were related to context and home affordances, with findings highlighting how uneven levels of parental and technological resourcing at home can support or impede student learning of writing skills. The findings can be drawn upon to mitigate barriers to the teaching of writing during times of education interruption.

### **Introduction**

Student learning is strongly reliant on the availability of schooling. Education interruption in the form of absenteeism has long been implicated as a key factor in impeding young people's literacy skill development (Merga, 2020a). More broadly, absenteeism has been related to unequal outcomes in education associated with students' socioeconomic status (SES), as the children from low SES backgrounds who benefit most from attending school also have higher levels of absenteeism (Ready, 2020). Similarly, research that focuses on declines in students' literacy skills over the lengthy summer vacation period in the United States supports the premise that education interruption can further exacerbate unequal educational outcomes for underprivileged students (Allington et al., 2020).

This known association between physical school attendance and student learning has prompted unease in the context of the necessary COVID-19 related school closures implemented to reduce mortality from the virus. Around 138 countries have experienced

nation-wide school closures, and school closures have affected around 80% of all children in the world (Dietrich et al., 2021). Just as there have been notable differences in the ways individual countries have adjusted their delivery of schooling during the COVID-19 pandemic, there has also been variation within countries. In the USA, remote instruction has varied greatly both between and within states (Klugman & Ho, 2020), and the situation in Australian states and territories has been similar. As noted by Sacks et al. (2020), “in Australia, K-12 schools have experienced interruptions in every state and territory, although the extent and period of closures have varied significantly across jurisdictions”, however, “in early May, only 3 percent of children in Victorian government schools were in attendance, whereas the Northern Territory had returned to normal levels of 79 per cent” (para. 1). At the beginning of Term 2, 2020, schools across Australian states and territories in Australia had widely varying policies (see Table 1 in Ewing & Vu, 2020). Western Australia’s hard border closure continued beyond the state’s first lockdown, which arguably contributed to a nearly 10-month long period of no locally acquired cases. However, Victoria, and specifically, the city of Melbourne endured a second lengthy lockdown which lasted for 112 days from 7 July 2020 to 27 Oct 2020 (British Broadcasting Corporation, 2020).

Recently attempts have been made to assess potential impacts of COVID-19 related education interruption. Projections using varying timeframes as the basis of estimates have attempted to quantify the impact of this learning loss on students’ economic prosperity. A working paper from the World Bank found that without “effective remedial action, each student from today’s cohort in primary and secondary school could face, on average, a reduction of \$872 in yearly earnings. This is approximately equivalent to \$16,000 over a student’s work life at present value” (Azevedo et al., 2020, p. 4). Research has also focused on impacts on students’ academic gains. Based on estimates from previous research on the impacts of absenteeism and summer vacation learning loss on student reading performance, Kuhfeld et al. (2020) contended that

... compared with a typical academic year, students will likely (a) not have grown as much during the truncated 2019-2020 academic year and (b) will likely lose more of those gains due to extended time out of school. Based on our COVID Slide projections, students who did not receive remote instruction in the spring would begin this fall with approximately 63% to 68% of the learning gains in reading relative to a typical school year (p. 560)

It is worth noting that the obvious issue in conflating COVID-19 pandemic related school closures with absenteeism and summer vacation periods is that in many cases, education interruption in COVID-19 related closures does not involve total exclusion from school-directed learning. Rather, it often entails a shift to remote, home learning that may be supported by educators and family members to widely varying degrees. This is why we have employed the term ‘education interruption’ rather than ‘education cessation’, as interruption encompasses both stoppage and hindering of an activity. It is also noteworthy that COVID-19 pandemic related education interruption experienced by students may vary significantly in length with that encountered in absenteeism and summer vacation scenarios, though “early indications suggest that remote instruction has been a poor

substitute for in-person schooling for many students” (Domina et al., 2021, p. 1), and therefore some degree of association between absenteeism and education interruption may be inferred.

Concerns about the possible impact of school closures on student learning prompted the Australian Government to investigate the potential impact of home learning on the educational outcomes of disadvantaged students (Australian Government Department of Education, Skills and Employment, 2021). These research papers explored probable adverse impacts of education interruption in Australia, noting that it has “the potential to result in poorer educational outcomes for almost half of Australian primary and secondary students if continued for an extended period”, and that “students at particular risk of poorer learning outcomes include those from low socioeconomic backgrounds, those with English as a second language, those with special learning needs and those in rural and remote areas” (Finkel, 2020, p. 1). However, given the currency of recent events, there is very little research that explores the impact of COVID-19 education interruption on literacy instruction, and this research is imperative as the effects of COVID-19 and chances of further education interruption are ongoing, and indeed, beyond the current pandemic, it is likely that future episodes of *en masse* education interruption may occur (Centers for Disease Control and Prevention, 2020).

Writing skill instruction in primary school is vital for establishing a functional foundation in a literacy dimension that is a cornerstone for communicative competence, both in the early years and beyond. As noted by Mackenzie and Hemmings (2014), “by eight years of age, children spend up to half of their school day engaged in writing tasks suggesting that those who find learning to write difficult may be disadvantaged” (p. 41). Declining scores in high stakes testing of writing in Australia (Thomas, 2020) and concern about students’ writing development across the globe (Graham & Rijlaarsdam, 2016) have increased attention to the need for student exposure to high quality writing instruction. Projections and reports on the impact of COVID-19 pandemic related education interruption have tended to focus on reading rather than writing (e.g., Kuhfeld, et al., 2020), and therefore very little is known about how instruction in this area may have been affected on a pragmatic level. Writing instruction in the early years is strongly related to students’ writing development and performance (Darling-Hammond, 1998; Graham, 2019), with writing a fundamental skill, increasingly recognised as critical in fostering students’ success in school and beyond (Graham, 2019). In Australia, researchers have also suggested that writing instruction is key to promoting effective writing development and performance (Christensen, 2005), with findings from a recent study supporting an association between types of writing instruction (i.e., planning and revising), and writing performance in Year 1 students (Malpique, Pino-Pasternak & Roberto, 2020).

The purpose of the Australia-wide *Teaching writing for all in primary education* project (hereafter the Project) was to investigate primary school teachers’ preparedness, practices and perceptions of writing and writing instruction, while also examining instructional adaptations for struggling writers. Teachers are essential informants given that “teachers’ support is critical to children’s writing development” (Mackenzie, Scull & Munzie, 2013, p. 387). In order to gain insights into how education interruption related to the COVID-

19 pandemic has influenced writing instruction, the Project also sought to investigate the following research questions (RQs):

1. Has the COVID-19 pandemic affected writing instruction?
2. Where an effect has been noted, how has COVID-19 pandemic affected writing instruction?

## Methods

The Project involved collection of both qualitative and quantitative data in a single-tool, single-stage mixed-methods approach. This tool included quantitative survey items to enable generalisation of views within the sample, and qualitative items to allow for explanations behind the quantitative findings, and further exploration of novel issues (Mat Roni, Merga & Morris, 2020). Due to this approach, and the nature of the research as dealing with pertinent, real-world issues, this research aligns best with a pragmatic viewpoint. Pragmatism “offers an alternative worldview to those of positivism/postpositivism and constructivism and focuses on the problem to be researched and the consequences of the research” (Feilzer, 2010, p. 7). After institutional ethics approvals were granted, primary school teachers were recruited through social media and professional associations. They were asked to complete a survey with closed and opened-ended questions assessing their perceptions of the aforementioned dimensions of the project. The project’s approach to the study of classrooms practices via survey assumes that teachers are aware of the elements of their teaching and are able to relate this knowledge to questions about their teaching practices (Cutler & Graham, 2008).

The Project was seriously impacted upon by education interruption caused by the pandemic; however, it also offered a new opportunity to capture novel data around the impact of education interruption on writing instruction. Prior to commencing data collection, we requested amendment of our original institutional ethics approvals and secured funder support to add items to the survey in order to seize this research opportunity for the pragmatic goal of collecting early data about the impact of COVID-19 on writing instruction in Australian primary schools. Approvals were granted, and the following survey items were added as a unique subsection within the survey tool reported on here.

1. Has COVID-19 affected writing instruction in your class? (dichotomous yes/no question)
2. How has COVID-19 affected writing instruction in your class? (open question)

This paper reports solely on responses to these two questions. Skip logics were programmed into the survey to ensure that only respondents who indicated that COVID-19 had affected writing instruction were directed to this second explanatory question.

Survey responses were collected between 24 May 2020 and 1 November, 2020. The survey had N=310 respondents to the relevant items, and we used *GPower* (Faul et al.

2009) to determine a minimum sample size needed for statistical analysis. We then applied Cohen's convention of a medium effect size threshold of .30 (Cohen, 1998), with a 95% confidence interval, and found that the suggested threshold would be  $N = 138$ , a figure comfortably exceeded by the  $N = 310$  sample in this instance. Respondents were from a range of geographic contexts within Australia, as per Table 1 below.

Table 1: Respondent characteristics (N = 310)

Characteristic		No.	%
Gender	Female	272	87.7
	Male	38	12.3
	Other	0	0
State/territory where teaching	ACT	27	8.7
	NSW	48	15.5
	NT	22	7.1
	QLD	31	10
	SA	50	16.1
	TAS	35	11.3
	VIC	15	4.8
	WA	82	26.5
Level of educational attainment	Vocational	5	1.6
	Bachelor	179	57.7
	Graduate diploma	78	25.2
	Masters	44	14.2
	Doctorate	4	1.3
Years of teaching experience	<3	10	3.2
	3-6	40	12.9
	7-10	63	20.3
	11-14	28	9
	15-18	55	17.7
	19-22	45	14.5
	23-26	33	10.6
	27-30	21	6.7
>30	15	4.8	
Year groups currently taught	1	42	13.5
	2	56	18.1
	3	47	15.2
	4	60	19.4
	5	57	18.4
	6	48	15.5

We employed a range of analytic approaches appropriate to our RQs. While addressing RQ1 simply involved reporting on data in response to a dichotomous item (yes/no), RQ2 was concerned with how the COVID-19 pandemic has affected writing instruction, and we analysed the 115 text responses that provided explanation of this impact. A hybrid content analysis approach was employed which involves both qualitative and quantitative

content analysis to meet the specific research purpose (White & Marsh, 2006). These data are then presented in a joint display (Table 2), where the quantitative data that are presented alongside the qualitative data, facilitating integration of these data (Guetterman, Fetters & Creswell, 2015).

In this hybrid content analysis approach, first the text responses were analysed using an iterative thematic coding approach to enable the influences of COVID-19 pandemic to emerge from the data through inductive analysis (Kondracki, Wellman & Amundson, 2002). This involved “iterative reading of the data to identify emerging recurring salient themes” (Merga, 2020b, p. 5). Once themes coalesced through this iterative process, a deductive analysis determined the frequency of themes within the qualitative data (with one being the maximum count per respondent) as a theme count across respondents. This gives the reader a sense of the level of salience of recurring themes within the sample, while not implying that findings have broader statistical probabilistic generalisability. We applied a very low salience criteria threshold for inclusion of themes (themes must be common to at least two respondents), as this is early exploratory work, and therefore it was desirable to collect a breadth of impacts of the COVID-19 pandemic on writing instruction for primary students. As per Table 2, we present these findings in relation to each theme with a summative theme scope that we have generated to give the reader a sense of what was incorporated into the theme across the breadth of responses. We also provide the aforementioned count across respondents, the percentage of responses the theme was found in, and a verbatim or very lightly edited verbatim (with meaning carefully preserved) text example to give the reader insight into how the theme was presented in its native context as a response.

## **Results**

### **Has the COVID-19 pandemic affected writing instruction?**

The majority of respondents indicated that COVID-19 had affected writing instruction in their class, with 225 of 310 respondents to this item selecting Yes (72.6%).

### **How has COVID-19 pandemic affected writing instruction?**

Insights into how the COVID-19 pandemic has affected writing instruction are detailed in Table 2.

## **Discussion**

### **Perceived impact of COVID-19 pandemic on writing instruction and context**

As expected, the COVID-19 pandemic had an impact on writing instruction in the majority of cases, though 27.4% did not agree that there was an effect. Where an effect was reported, this impact was typically perceived to be negative, though as we explore further herein, not universally so.

Table 2: Influence of COVID-19 pandemic on writing instruction (115 respondents)

Theme	Theme scope	No.*	%	Text example
Interruption, regression and curricular adjustment	There was less time for writing instruction. There was a focus on familiar tasks and skills rather than introduction of new ones. In some cases, there was no writing instruction during periods of education interruption. Routines were interrupted and planned curricular delivery needed adjustment. Children's writing skills regressed, and new material covered online had to be re-taught once classrooms reopened.	64	55.6	Too much is done from home, and when children return to school, they clearly need more time to revise the basics than ever. Huge interruption to our normal routine. (R52)
Limitations on instructional approach**	There was less explicit instruction and limited learning facilitated through peer interaction. Teachers adjusted their instructional approaches, such as through creation of instructional videos to explain key features of writing.	36	31.3	Although students submitted work daily and feedback was provided in written form daily, my students are too young to understand how to check their feedback and then understand what to do with it. Face to face teaching allows for a conversation about the student's writing and you can ensure they understand how to improve what they have written. (R87)
Device reliance and limitations	Students may have unequal and unreliable access to devices and Internet within their homes. Not all students had access to online learning, and some had their learning supported by telephone or physical delivery of learning materials. Students became reliant on device-related supports (e.g., spell check) rather than developing the skills and approaches needed to perform these tasks. Lower achieving students were not always available for support sessions designed to assist them. Teachers of children too young to independently use devices for learning at home found device reliance particularly challenging.	35	30.4	...especially in the beginning of the year, with constant changes in delivery, (this is a) good moment to understand the constraints of trusting computers only. Most of my students didn't have a computer to work from home (shared PCs only most of them). I can imagine the impact of continuing remote teaching for the whole year. Not positive, at least in regional and remote areas such as ours. (R74)
Meeting individual needs	Differentiation was often not possible, and provision of individual support and feedback was limited.	29	25.2	Little one-to-one support: kids who struggled with writing will definitely be behind. (R91)

Parent support	Parents needed to act as home schooling education supports and to facilitate students' device use. Parents were not necessarily equipped or available to be educators. Parents were not always fluent English language speakers able to support writing in English. Parents needed teacher support and instruction to be able to support home schooling. Where parents provided heavy assistance to their children, teachers were unsure about students' real progress.	20	17.4	More time discussing strategies with parents, with most parents wanting to support their kids but needing teaching as well (teaching children and parents simultaneously...), the most challenging year of my career. (R48)
Wellbeing and motivation	Teacher wellbeing was affected by the pressures of adapting their modes of delivery and supporting families to learn from home. Student anxiety and stress impacted upon their learning. Student motivation was lower. Teachers also had to deal with parental stress.	11	9.6	Most of my students have family overseas, some close family. This made it much more difficult to manage behavioural issues and overall anxiety. (R53)
Positive outcomes	Positive changes to writing instruction focussed on increased support from colleagues for planning and sharing of resources.	8	7.0	We have worked as a year level team for the first time to plan lessons. Because of this I have had more assistance with planning writing lessons and my colleagues have helped me teach better writing lessons. (R19)
Assessment	Teachers found it difficult to assess student learning in writing during this time, and manner of assessment changed. The cancellation of high stakes NAPLAN testing (NAP, 2021) of writing was viewed as a positive.	5	4.3	Very hard to assess children's learning progress across areas, including in writing. (R46)
No theme	One word or brief responses with unclear meaning that could not be coded without supposition.	3	2.6	Ideas. (R4)
* Limited to one per respondent even if that respondent made multiple mentions. ** Where limitations on instructional approach solely focused on device reliance and limitations, these were coded separately.				

Further research is needed to explore why slightly over a quarter of Australian teachers reported no effect of the COVID-19 pandemic on writing instruction.

It would be worth investigating if the roots of such differences relate to different levels of preparedness and support at individual, school and state and territory levels to adjust to education interruption. For example, research is needed to explore varying impacts of different levels of resourcing to manage the transition to home learning; different levels of schooling implicated (e.g., teachers of students in lower primary years might report higher levels of interruption that those of students in upper primary); and perhaps differences at individual teacher level, such as base line sense of teacher efficacy prior to pandemic. These are some of the many possibilities warranting further investigation.

## **The influence of COVID-19 pandemic on writing instruction**

### **Interruption, regression and curricular adjustment**

The teachers in our study described the challenges of interruption of writing instruction that they endeavoured to manage and mitigate through curricular adjustment where possible. This period of interrupted instruction was followed by a perceived regression in writing skills, necessitating a need to return to fundamental skills. Not only did COVID-19 related school closures pose a significant interruption to school routines, but they were also typically implemented with no fixed ending in sight (Bansak & Starr, 2021). This meant that writing instruction was either entirely interrupted or delivered in a very different mode. Adapting instructional approaches to meet the vastly different requirements triggered by COVID-19 related school closures needed to be done swiftly, and levels of support for this change may have been widely varying as experienced in the European context (Grasso et al., 2021).

Mastering writing involves the development of lower-order (e.g., handwriting, keyboarding, and spelling) and higher-order skills (e.g., strategies for planning and revising texts), which in turn require the development of linguistic, cognitive and sensory-motor skills (Berninger & Swanson, 1994). Because of its complexity and the need to include the teaching of all these writing skills in tandem, learning to write takes many years of guided practice and explicit teaching (Graham, 2019). As such, interrupted instruction, especially long interruptions as experienced in many countries due to COVID-19 restrictions, may have an adverse impact on writing development in the primary years of schooling when children are still “relatively early in the process of acquiring and mastering the needed know-how” of effective writing (Graham et al., 2019, p. 488).

### **Limitations on instructional approach**

The impacts of limitations on instructional approach over this time will be further realised retrospectively. With explicit instruction in writing vital for student attainment in this area (Graham et al., 2019; Malpique, Simão & Frison, 2017), and with this instruction complicated or entirely interrupted for sustained periods in many cases, we can expect to see an impact on student learning of writing. However, loss of opportunities for peer and group learning in writing instruction may also have a negative impact on student writing skills, and one study of the experiences of migrant children in Poland during the COVID-19 pandemic found that students regret the loss of opportunities to learn with peers

(Popyk, 2021). Though this Polish study does not focus specifically on writing instruction, the benefits of collaborative writing are well established, with empirical research advocating for the advantages of peer support in enhancing students' persistence in writing and planning texts (Malpique & Simão, 2019). In a meta-analysis of true and quasi-experimental writing instruction studies, findings showed that giving children opportunities to plan and revise their texts together also improved the quality of the texts they produce (Graham et al., 2015). Considering the challenges of providing individual support and feedback during COVID-19, and the face-to-face restrictions that some teachers reported in our study, it becomes pertinent to understand if and how peer and group writing is being implemented during this pandemic and its implications for writing development.

### **Device reliance and limitations**

The concern around device reliance and limitations articulated by respondents is compelling, and further research should seek to determine if these reservations are more highly concentrated in schools serving disadvantaged communities, as could be anticipated. Lower SES students are less likely to have access to these tools and affordances (Domina et al., 2021), and Kuhfeld et al (2020) predicted that “differential access to technology and remote instruction during the COVID-19 school closures could widen school SES achievement gaps” (p. 560). Many of our respondents highlighted that unequal resourcing was an issue experienced first-hand by themselves and their students. However, it is also worth noting that even pre-COVID-19, crucial considerations around device use were being sidelined in relation to burgeoning implementation of online learning and assessment, and perhaps these issues will gain higher visibility in the context of the remote learning necessitated by the COVID-19 pandemic. For example, Australia continues to plough ahead with its movement toward high-stakes online writing assessment in 2022 for children as young as Year 3 (ACARA, n.d.), without sufficiently accounting for how wealthier children with more access to keyboards may find their advantage compounded by such a shift, with the reverse experience for disadvantaged students. Seeing inequities further perpetuated in COVID-19 related education interruption should ideally give some pause to these changes, and greater consideration to how they may impact on children from lower SES contexts.

### **Meeting individual needs**

One of the disadvantages that teachers in our study reported for writing instruction during COVID-19 was the lack of opportunities to differentiate writing instruction and to provide individual feedback to students in completing writing activities. Similar findings have been reported by Letzel et al. (2020) in a nation-wide research project developed in Germany, examining parents', students' and teachers' home-schooling experiences during COVID-19. Participants felt that “hardly any differentiation was implemented to address not only special education needs students, but all learners' needs” (p. 169). An additional important finding from their study was that approximately 50% of students reported not having received the feedback and support they needed from their teachers. While the study looked at general home-schooling experiences during education interruption, the

impact of lack of differentiation and individual support is particularly relevant for writing instruction and development. Indeed, tailoring instruction to address students' individual differences and needs is a key component of effective writing instruction (Bazerman et al., 2017). Differentiation in writing instruction includes responding to diversity and developing instructional practices that cater for students with different backgrounds (e.g., gender, culture and language); developing opportunities to provide individual feedback and continuous support while students' progress in learning lower and higher-order writing skills; adapting instruction and assessment to meet individual needs; and offering accommodations to address individual students' challenges and specific difficulties in writing (Graham, 2019). Our findings indicate that some of these practices may not be happening during the COVID-19 pandemic, potentially advancing the existing gap in the writing performance of primary school children (Kim et al., 2015). In line with Letzel and colleagues (2020), we argue for the urgency of prioritising educational equality for home-based and school-based writing instruction during the COVID-19 crisis.

### **Parent support**

In normal schooling circumstances, parents can be valuable partners in writing skill acquisition. Students' first literacy experiences (e.g., alphabet writing, writing notes, getting cards) take place in the home environment in interaction with parents and siblings (Alston-Abel & Berninger, 2018; Camacho & Alves, 2017). However, parents are not equally positioned to provide student support, and "home learning environment and family support" has already been implicated as a key factor that can influence the quality of remote learning (Finkel, 2020, p. 1). U.S. research from Pew Research Center suggests that parents from lower SES backgrounds are most concerned about their children being disadvantaged by COVID-19 pandemic related school closures (Horowitz, 2020). Parental education is related to student access in home schooling, and parents are not equally able to provide their children with educational expertise (Dietrich et al., 2021), no matter how willing they are to support their children.

Findings from a recent U.S. survey of nearly 10,000 parents of primary school students exploring predictors of student engagement during the early stages of COVID-19 related remote learning found that "students of relatively highly educated parents have more success in completing and submitting assignments online and log on to remote instruction relatively frequently" (Domina et al., 2021, p. 8). Parents have varying educational capital, time availability, and attitudes toward supporting their child's learning. Parents' self-determination, self-efficacy, confidence, and responsibility to support homework-related writing activities may also vary. The limited available research examining the effects of parental involvement in writing during regular schooling suggest parental reinforcement and praise foster primary children's effective writing and achievement (Camacho & Alves, 2017). In a study examining home literacy practices in primary education in the U.S., Alston-Abel and Berninger (2018) found that parents were more involved in supporting their children's homework-related writing activities than reading activities.

However, our study suggests that high levels of parental engagement were not always in the best interests of student learning in writing during COVID-19 related home schooling. Teachers reported excessive parental intervention during COVID-19 restrictions and related home-schooling experiences, where it was felt that some parents did their children's work for them. Klugman and Ho (2020) have also raised this issue in relation to reliable student assessment during COVID-19 related home schooling, alongside issues with technology. Because of the multiple aspects of home schooling, further research should attempt to explore the effects of parental involvement in writing during COVID-19 remote learning to understand implications for children's writing acquisition and development.

### **Wellbeing and motivation**

Previous qualitative research from Brazil has suggested that student engagement and motivation declined in remote learning mode, with teachers having to work hard to maintain student connection (Halpern, 2021). Furthermore, parental educational background, while implicated, is not the only factor at play as households struggle with varying degrees of COVID-19 related stressors (Bansak & Starr, 2021). Even in Australia, which has experienced comparatively low COVID-19 related mortality, families had to grapple with challenges such as economic difficulties, job losses, and deaths of family overseas. Student engagement and motivation are key resources in learning and achievement in writing (Collie et al., 2016), however favourable dispositions toward writing could be negatively influenced by unfavourable circumstances and their impacts, such as the stressors of the pandemic scenario. Further research is needed to capture the impact of COVID-19 related education interruption on students' motivation and engagement in learning in general, but also specific to literacy learning. However, it should also explore the impact on teachers who find themselves needing to foster wellbeing in students and their families while also experiencing significant pressures in their own lives.

### **Positive outcomes**

We were interested to note that in the few instances where the impact of COVID-19 was seen to be positive, this was often related to increased support from colleagues for planning and sharing of resources. Research shows writing instruction is influenced by teachers' beliefs, knowledge, and preparation to teach writing, with teachers allocating more time and effort to teach writing "if they are better prepared to teach it, feel more confident in their capabilities to teach it, derive greater pleasure from teaching it, and consider it an important skill" (for a review see Graham, 2019, p. 282). Teachers often report that their preparation to teach writing is inadequate (e.g., Brindle et al., 2016; Myers et al., 2016). Teachers' preparation, knowledge, and experiences of teaching writing vary due to a complexity of social, cultural, and historic factors that shape the writing community in which writing instruction takes place (Graham, 2019; Malpique, Pino-Pasternak & Roberto, 2020). Hence, developing formal and informal opportunities for teachers to learn and share evidence-based practices for writing instruction to respond to the challenges of COVID-19's teaching restrictions becomes more relevant than ever.

## **Assessment**

Finally, though it emerged as a relatively minor consideration in this sample, assessment of writing was a challenge during this time that was difficult to mitigate. Klugman and Ho (2020) noted that in crisis scenarios such as the current COVID-19 pandemic, “many physical and psychological factors” may impact on the accuracy of assessment, introducing “construct-irrelevant variance”. Furthermore, and also relating to our prior discussion around wellbeing, “physical health and safety must come first in a crisis, followed by assessments of social and emotional wellbeing”, and “students must be safe and feel safe before they can learn or demonstrate what they have learned” (p. 68). Given the current challenges, education interruption has the potential to be recurring in the current unstable environment of burgeoning virus strain variations and questions about the efficacy and availability of vaccinations (e.g., Steinhäuser, 2021), and therefore the question of how to sensitively and reliably assess student writing achievement to support their continued improvement warrants further investigation.

## **Conclusions**

Future interventions to enhance the delivery of home-based learning of writing during education interruption can be informed by these findings. Further research will be needed to accurately quantify levels of interruption, degree of regression in learning, factors influencing student learning during education interruption conditions and best-practice in curricular adjustment for such circumstances, in order to mitigate the impacts of such events on students' learning of the essential skill of writing. The uneven levels of parental and technological resourcing children can draw on in their homes is a perennial issue, but one further exacerbated by education interruption. While technologies may advance to overcome limitations on instructional approach and assessment, they will still only benefit those with the access to technology to make use of them. Periods of education interruption are likely to be times where inequities are exacerbated, and capacity to support individual needs are greatly curtailed. Furthermore, the increased demand for teachers to bolster the wellbeing of students and their families warrants further attention. The silver lining of collaborative planning and resource sharing enjoyed in education interruption hopefully is not lost when normal schooling resumes.

It is essential that research in this space continue to be conducted, as the COVID-19 pandemic is a persistent issue unprecedented in modern times that will require considerable agility and responsiveness from Australian governments at national and state/territory levels. If we are to minimise its impact on children's learning, we must have a pragmatic and comprehensive understanding of how education interruption impacts on diverse facets of learning beyond hypothetical projections. We must evaluate the effectiveness of resources designed to reduce the impacts of education interruption, such as online resources for educators and parents produced by state departments of education. It would also be of value for future research to consider how specific lower-order and higher-order writing skill development may have been influenced differently by COVID-19.

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