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Australian grades 4 to 6 teachers' beliefs and practices about teaching writing to low SES students

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ABSTRACT

The current study examined writing beliefs and practices of 187 grades 4 to 6 teachers who taught writing in schools serving predominantly low SES students in Queensland, Australia. These participants completed a mailed survey that assessed their perceptions of preparation to teach writing to low SES students, time spent on writing instruction, frequency of writing instruction, students' time spent on writing, efficacy beliefs for teaching writing, beliefs about these students' cognitive attributes for successful writing, beliefs about the suitability of basic writing instruction for low SES students, frequency of teaching basic writing skills and frequency of teaching advanced writing skills. As predicted, these teachers did not feel that they were prepared adequately to teach writing to low SES students. Neither did they consider in-service support sufficient. These teachers spent limited time on teaching writing, with a majority (81 %) spending 1 or 2 h or less teaching writing each week. Most teachers held deficit beliefs about low SES students, considering them lacking cognitive and motivational attributes for successful writing. Most also considered basic writing instruction appropriate for low SES students. As expected, most teachers taught basic writing skills more often than advanced writing skills. The results of multiple regression analyses showed that teachers' efficacy beliefs predicted frequency of teaching basic and advanced skills and moderated the effects of other teacher beliefs on how often basic writing skills were taught to low SES students.

1. Introduction

The decline in students' writing performance is a shared challenge across many developed countries (e.g., Dockrell, Marshall & Wyse, 2016; Gilbert & Graham, 2010; Hsiang & Graham, 2016; Parr & Jesson, 2016). In Australia, this issue has gained research attention, particularly in the context of successive rounds of NAPLAN tests,¹ which have revealed a declining trend in writing performance (Thomas, 2020; Wyatt-Smith & Jackson, 2016). Performance gaps have been highlighted between different student groups,

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¹ Aligned with the Australian national curriculum, NAPLAN (National Assessment Program - Literacy and Numeracy) is a standardized test administered to Australian students in grades, 3, 5, 7 and 9 annually. The test assesses Australian students' skills in numeracy and literacy - including reading and writing.

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including female and male students, indigenous and non-indigenous students, and urban and rural/remote students (ACARA, 2021). Of particular concern is the persistently poor performance of students from low-income families, who are overrepresented among those who fail to meet the minimum benchmarks in writing (ACARA, 2021).

It is crucial to recognise that the importance of writing extends far beyond the current challenges in performance. Writing is a foundational skill with wide-ranging implications for individuals and society at large. Graham (2018) underscores that proficient writing skills not only enhance individual opportunities but also play a vital role in effective communication and active participation in academic, civic and professional life. In this broader context, the persistent underperformance of Australian students from low-income families, as evidenced by the national test results, takes on added significance.

As we explore the challenges associated with writing instruction and the performance of low SES students, it is important to acknowledge the inherent importance of robust writing skills and the potential societal benefits that stem from nurturing these abilities across diverse student populations, with a specific emphasis on low SES students. This recognition underscores the right of low SES students to receive equal education in the context of learning how to write. It questions the prevalent practice of overly concentrating on basic skills training when teaching writing to low SES students, potentially at the expense of delivering a balanced curriculum that encompasses a diverse range of writing skills (McKnight, 2023).

The persistent issue of underperformance in writing among low-income students highlights the crucial need for research to examine the dynamics of how writing is both taught and learnt in schools serving predominantly low SES students. Our current understanding of this matter is limited, necessitating a comprehensive investigation of how teachers instruct writing to low SES students, how these students acquire writing skills, and the multifaceted constraints on learning and teaching arising from complex sociocultural and political influences embedded in specific contexts. Addressing these complexities requires an expanded research program. As an initial step, the present study surveyed grade 4 to 6 teachers in schools predominantly serving low SES students in Queensland, Australia. This research is pivotal, offering crucial insights into the nuances of teaching writing to low SES students and the challenges involved from the teacher's perspective.

2. Teaching writing to students from low-income families

Past studies (e.g., Artelt et al., 2003; Kim et al., 2015; Sirin, 2005) have repeatedly shown a stable and persistent relationship between students' socioeconomic status and academic achievement. The relationship is found in different subject areas including mathematics, science, reading (Buckingham, Wheldall & Beaman-Wheldall, 2003). In relation to writing, students from low-income families in developed countries such as Australia (e.g., McGaw et al., 2020) and the US (Applebee & Langer, 2011) perform at a substantially lower level when compared to their advantaged counterparts.

To understand the link between writing and SES status, we draw on Graham's writer(s)-within-community model (Graham, 2018), which conceptualises writing as a social activity shaped by the community wherein writing occurs, and particularly, by decisions and practices of community members who are, in turn, being constrained by complex influences derived from institutional, economic, and sociocultural arenas (Bazerman, 2016).

Low SES students face distinct challenges in developing writing skills, differing significantly from their more advantaged peers. Beyond financial constraints and resource disparities (Coley et al., 2020), factors like parental beliefs and literacy practices (Hoff, 2013) contribute to this divergence. The word-gap study by Hart and Risley (1995) highlights a substantial difference in home language use, asserting that, by age 4, children from low-income families hear 30 million fewer words than their high-income counterparts. Despite criticism for methodological weaknesses and conceptual limitations (Baugh, 2017; Johnson, 2015; Sperry, Sperry & Miller, 2019), this study, along with others (e.g., Hoff, 2013), highlights the profound impact of the family's linguistic environment on the language development of low SES students (Kim et al., 2015). This is aligned with extensive research, including cross-cultural studies, supporting that family SES significantly predicts literacy achievement and development (Aikens & Barbarin, 2008; Coker, 2006; Chen et al., 2018). Although there is a lack of similar studies on word gaps in Australia, Australian researchers like Comber et al. (2001) underscore the role of family and school environments in shaping writing as a social practice for low SES students. National test results consistently indicate that the literacy achievements of low SES students in reading and writing lag behind those of their more affluent counterparts (McGaw, Loudon & Wyatt-Smith, 2020).

Graham's theoretical model (Graham, 2018) draws also attention to the classroom as another important linguistic environment where most low SES students learn how to write. Graham highlights classroom as a writing community in which shared norms, practices and resources constrain how writing is taught by the teacher and carried out by students for various academic or assessment purposes. While acknowledging the social and interactive nature of writing, Graham highlights specifically teachers' capabilities, beliefs, and instructional practices in writing, given the teacher's commanding role in a classroom writing community.

A wealth of empirical evidence has consistently affirmed the significance of teachers' capabilities, beliefs and practices on students' writing and writing performance (Bañales et al., 2020; de Abreu Malpique, Valcan, Pino-Pasternak & Ledger, 2022; Håland, Hoem & McTigue, 2019; Hsiang & Graham, 2016). Significantly, these consistent findings were derived from studies conducted in different parts of the world. However, past studies have not specifically targeted teachers in low SES schools as informants. While the study of Dockrell, Marshall and Wyse (2016) involved some British teachers from low SES schools, the data were aggregated when reporting, making it difficult to draw clear conclusions about how writing was taught in these schools. Similarly, studies on struggling writers (e.g., Graham et al., 2003) may provide some insight, but it is inappropriate to equate low SES students with struggling writers, and therefore, these studies cannot provide empirical insight on teaching writing to low SES students. Consequently, we do not currently possess an accurate and sufficient empirical foundation to understand how writing is taught in low SES schools. In what follows, we offer a brief review of key variables critical for understanding writing instruction.

2.1. Time on writing and writing instruction

It is imperative that writing is taught frequently and that students are given sufficient time to write. Nevertheless, past studies have generally found that primary school students are infrequently taught how to write and given insufficient opportunities to write in school (e.g., Bañales et al., 2020) and at home (Cutler & Graham, 2008). Bañales et al. (2020) found that over 40 % of grades 4 to 6 teachers in Chile spent just 1 to 2 hrs or less on teaching writing each week, resonating the findings of Gilbert and Graham (2010). In the Chinese cities of Beijing, Taipei and Macao, Hsiang and Graham (2016) found that most grades 4 to 6 teachers (over 70 %) taught writing just once every 2–4 weeks. In an Australian study, de Abreu Malpique et al. (2022) found that most grades 1 to 6 teachers spent on average less than three hours per week on teaching writing.

Thus far, there is no data regarding how much time or how frequently teachers in low SES schools devote to teaching writing. It is likely that writing instruction time for low SES students is also insufficient. If established, it is concerning because it means that low SES students, many of whom are already underachieving and needing extra support in writing, are given limited opportunities to write or learn to write.

2.2. Preparation in writing instruction

How well teachers are prepared to teach writing is an important consideration in research on writing instructional practices. Teachers who are better prepared to teach writing are more likely to devote time to writing and writing instruction, feel confident to deliver writing lessons, adopt evidence-based practices, and value writing as both a communication and learning tool (Brindle et al., 2016; Hsiang & Graham, 2016). Nevertheless, studies on American teachers (grades 4 and above) found that many held the view that they are inadequately prepared to teach writing (Ray et al., 2016). Similarly, most grades 4 to 6 Chilean teachers in Bañales' investigation (Bañales et al., 2020) shared this view, whereas a sizable number of grades 4 to 6 Chinese language arts teachers (33 %) considered their preparation not very useful or not useful at all (Hsiang & Graham, 2016).

While there is no study, to our knowledge, that has examined how well teachers of low SES students are prepared to teach writing, it is likely that many of them may feel inadequate in their pre-service and in-service training in writing (Wyatt-Smith et al., 2018). Considering that many low SES students are underachieving writers and ill-prepared to write, a teaching force that is not well prepared to teach writing to this group of students is indeed a point of concern.

2.3. Beliefs about teaching writing

Teachers' beliefs, defined as "tacit, often unconsciously held assumptions about students, classrooms, and the academic materials to be taught" (Kagan, 1992, p. 65), are related to teaching practices (e.g., Voet & De Wever, 2019). In writing research, teachers' efficacy belief in teaching writing, or their confidence that they can teach writing, has gained much attention (Hsiang & Graham, 2016). Teachers who feel efficacious in writing instruction are more likely to spend more time on writing, deploy evidence-based practices, and tailor their teaching to meet the needs of weaker writers (Brindle et al., 2016). Expectedly, a strong sense of efficacy in teaching writing to low SES students is critically important for teachers who are tasked to improve writing for underachieving students in this group. Past studies, however, have not examined the moderating role of teachers' efficacy belief in teaching writing. Given the importance of this teacher variable, we addressed this gap and examined whether teachers' efficacy belief would moderate the effects of two additional beliefs constructs, explained below, on writing instructional practices.

Schoenfeld (1998) maintained that teachers hold beliefs not just about themselves as a teacher or how confident they are in teaching writing in this case, but also 'about the nature of the discipline they teach, about learning, about individual students, *about groups of students*, about the environment in which they work, and more' (p.18, italics added). Aligned with Schoenfeld (1998), in this study, we added a measure of teachers' beliefs about the cognitive attributes for successful writing of low SES students, which include students' confidence, motivation and self-regulation in writing. Past research has shown that students who feel confident and motivated in writing write better (Troia et al., 2013) and that students who regulate their writing are able to manage writing focus, avoid distraction, produce better writing (Graham, 2018). It is therefore important to know whether teachers think that low SES students have these cognitive attributes for writing, because such beliefs are likely to affect teachers' expectations and their writing instruction (Wang, Rubie-Davies & Meissel, 2018). Second, we included a measure of teachers' pedagogical beliefs about writing instruction for low SES students. Hsiang et al. (2020) examined teachers' beliefs about writing and writing instruction. Likewise, the pedagogical belief construct in this study draws attention to teachers' views about whether a focus on basic writing skills is suitable for teaching writing to low SES students, which inadvertently will affect teachers' writing instructional practices.

2.4. Writing instructional practices

Writing instructional practices refer to strategies that teachers use to help students learn to write and develop into competent writers (Graham, 2018). They generally cover knowledge and skills about writing that teachers consider important for students to master (Dockrell et al., 2016). Teachers' writing instructional practices are affected by a host of personal and contextual considerations, including teachers' beliefs, training and experiences (Rietdijk et al., 2018); prevailing approaches to writing (Graham et al., 2002); students characteristics (Dockrell et al., 2016); demands derived from school curriculum (Parr & Jesson, 2016) and relevant policies (Rietdijk et al., 2018); as well as macro influences derived from culture, society, history and politics (Hsiang & Graham, 2016; Graham, 2018). In the context of the current study, the writing underachievement of low SES students, as shown in successive rounds

of national testing, has skewed Australian educators' attention to the provision of basic writing skills, such as spelling and grammatical knowledge. This aligns with the government's call for a 'Back to Basic' approach to lift literacy performance (Tehan, 2019). Writing instruction in many Australian classrooms has therefore become formulaic (McGaw et al., 2020) and a focus on basic writing skills for struggling writers seems justified, given the problem of declining writing performance (Dockrell et al., 2016). Many, however, were concerned about the negative effects of 'teaching to test' practices (Gardner, 2018), though few (McKnight, 2023) have examined the teaching-to-test phenomenon in relation to writing instruction for low SES students. An important question is the extent to which low SES students are given sufficient opportunities to learn advanced writing skills and knowledge, such as incorporating multiple perspectives and use of multimodal resources in writing. This is because advanced writing skills are not only part of the Australian national curriculum, but also critical for improving writing competence and performance.

The distinction between basic and advanced writing skills is in line with the model of simple view of writing (Berninger, Garcia & Abbott, 2009). According to this model, writing production depends on three related components – text generation, transcription, and executive functions. Transcription mostly involves basic skills such as spelling while executive function involves mainly advanced skills such as reviewing and revising. Text generation may involve both basic and advanced skills depending on the type of text generated. Both basic and advanced skillsets are critical to writing. Strong evidence derived from experimental and interventional studies has underscored the importance of teaching both sets of writing skills (e.g., Cutler & Graham, 2008). It is therefore important to examine whether teachers of low SES students focus mostly on basic skills or advanced skills or both skillsets in their writing instruction.

3. The current study

The current study aims to examine the beliefs and writing instructional practices of teachers who teach predominantly students from low-income families in schools located in low SES suburbs in the Australian state of Queensland. While surveying has limitations in confining responses to pre-set questionnaire items, it remains a cost-effective and established research method for understanding teachers' writing instructional practices. In our study, surveying enabled access to teachers working in schools situated in different low SES suburbs.

3.1. Research questions and predictions

The current study was designed to examine five research questions, as listed below:

1. How often is writing taught among grades 4 to 6 teachers of low SES students?
2. How do grades 4 to 6 teachers of low SES students feel about their training and preparation for teaching writing?
3. What are grades 4 to 6 teachers' beliefs about low SES students' cognitive attributes for successful writing, beliefs about the suitability of basic writing instruction for these students, and beliefs about their self-efficacy to teach writing to these students?
4. How frequently are basic and advanced writing skills taught to low SES students?
5. Do grades 4 to 6 teachers' beliefs (beliefs about students' cognitive attributes and beliefs about the suitability of basic writing instruction) predict how writing is taught to low SES students? Can teachers' efficacy for teaching writing moderate these predicted relationships?

We predicted that most teachers would spend little time on teaching writing and that students would not be asked to write often in school and at home. This was because writing remains a neglected skill (Graham, 2018), with most attention being drawn to teaching reading. It is only recently that attention was drawn to writing and writing instruction in Australia (Thomas, 2020).

We predicted that most teachers would feel inadequately prepared to teach writing to low SES students, as teacher education programs in Australia do not normally have a focus on teaching writing for the economically disadvantaged (Gardner & Kuzich, 2022). Likewise, most teachers in this study would consider in-service training inadequate because the importance of writing has always been overshadowed by reading (Thomas, 2020).

We predicted that most teachers would consider low SES students less motivated and less capable when compared to their advantaged counterparts. This hypothesis was consistent with studies (e.g., Artelt et al., 2003) that have examined the relationship between SES status, motivation, and learning. We also predicted that most teachers would consider basic writing instruction appropriate for low SES students, given the mandate of meeting national minimum benchmarks shared among policy makers, school administrators, and teachers (McGaw et al., 2020).

In relation to teachers' efficacy to teach writing, we predicted that most teachers' self-efficacy for teaching writing to low SES students would be weak for two reasons. First, as stated above, most teachers would consider their preparation to teaching writing inadequate. Second, low SES students' underachievement in writing may remind them of their inability to improve these students' writing. This predication was aligned with past studies conducted in different nations (e.g., Brindle et al., 2016; Hsiang et al., 2020).

In relation to teaching practices in writing, we predicted that most teachers would teach basic writing skills more often, as a main concern was to help low SES students meet minimum benchmarks in the national test (McGaw et al., 2020). This prediction was consistent with Dockrell et al. (2016). We also predicted that teachers' beliefs about low SES students' cognitive attributes for successful writing and beliefs about basic writing instruction for low SES students would positively predict the reported frequency of teaching basic writing skills, but negatively predict the frequency of teaching advanced skills. In contrast, teachers' efficacy beliefs for teaching writing would positively predict the reported frequency of teaching advanced skills, as teachers who feel efficacious in

Table 1
Teacher characteristics.

Variable	Frequency (n)	Percentage (%)
<i>Age</i>		
21–30	28	15
31–40	54	28.9
41–50	54	28.9
51–60	46	24.6
60 and over	5	2.7
<i>Gender</i>		
Male	34	18.2
Female	153	81.8
<i>Qualification</i>		
Bachelor	187	100
<i>No. of years teaching primary school</i>		
1–5 years	23	12.3
6–10 years	28	15.0
11–15 years	26	13.9
16–20 years	19	10.2
21–25 years	48	25.7
26–30 years	22	11.8
31–35 years	19	10.2
36–40 years	2	1.1
<i>No. of years teaching low SES students</i>		
1–5 years	82	43.9
6–10 years	64	34.2
11–15 years	21	11.2
16–20 years	18	9.6
21–25 years	1	0.5
26–30 years	1	0.5
<i>Current grade level</i>		
Grade 4	54	28.9
Grade 5	66	35.3
Grade 6	67	35.8
<i>Current class size</i>		
18	4	2.1
19	3	1.6
20	59	31.6
21	5	2.7
22	87	46.5
23	8	4.3
24	21	11.2
<i>Percentage of current students from low-income families</i>		
100 %	187	100
<i>No. of current students with special needs</i>		
1	24	12.8
2	31	16.6
3	27	14.4
4	77	41.2
5	23	12.3
6	5	2.7
<i>Estimated percentage of current students who write better than an average student</i>		
0 %	137	73.3
5 %	19	10.2
10 %	31	16.6

(continued on next page)

Table 1 (continued)

Variable	Frequency (n)	Percentage (%)
<i>Estimated percentage of current students who write worse than an average student</i>		
60 %	26	13.9
65 %	1	0.5
70 %	117	62.6
75 %	1	0.5
80 %	41	21.9
90 %	1	0.5
Compared to the writing aptitudes of advantaged students, most students from low-income families are rated...		
In the bottom 10 %	23	12.3
In 11 %–30 %	106	56.7
In 31 %–50 %	40	21.4
In 51 %–70 %	18	9.6
In 71 %–90 %	0	0
In the top 10 %	0	0
Compared to the writing performance of advantaged students, most students from low-income families are rated...		
In the bottom 10 %	27	14.4
In 11 %–30 %	120	64.2
In 31 %–50 %	31	16.6
In 51 %–70 %	9	4.8
In 71 %–90 %	0	0
In the top 10 %	0	0

teaching writing are more likely to instruct students on advanced writing skills. These predictions were supported by past studies (e.g., Brindle et al., 2016; Hsiang et al., 2020). We also hypothesized that teachers' self-efficacy beliefs would moderate the effects of deficit beliefs teachers held about low SES students and their beliefs about basic writing instruction. Specifically, we expect that the effects of teachers' deficit beliefs about low SES students' cognitive attributes for writing and beliefs about the appropriateness of basic writing instruction would be more apparent when teachers' self-efficacy for teaching writing is weak. The effects of these beliefs on writing instruction would be less apparent when teachers hold strong self-efficacy for teaching writing. The moderating effects of self-efficacy for teaching writing is supported by past studies (e.g., Brindle et al., 2016) that have affirmed that significant role of this variable in teaching writing.

4. Methods

4.1. Participants and sample size

A priori power analysis was conducted to determine the sample size required, after consulting past studies (e.g. Cohen's f^2 ranged from 0.04 to 0.33, with an average of 0.11 in Hsiang & Graham, 2016). Following Gelman and Carlin's recommendations (2014, p. 648), we considered lower estimates of effect size, setting Cohen's f^2 at 0.10 and 0.15, along with $\alpha = 0.05$, power $(1-\beta) = 0.95$, and four predictors in multiple regression for priori power analysis. The minimum sample size required was 129 when the effect size was set at $f^2 = 0.15$, and 191 for $f^2 = 0.10$. Given these analyses, our objective was to obtain responses from at least 129 teachers from low SES schools in this survey.

Our survey was directed at teachers who instruct students in grades 4 through 6 in state schools situated in low SES suburbs in both urban and regional Queensland. We focused on grades 4 to 6 teachers in low SES state schools because it is at this stage of schooling where (a) 'the writing slump' is particularly noticeable (McGaw et al., 2020) and (b) low SES students' declining performance in writing become apparent when compared their high SES counterparts (Thomas, 2020). In addition, we strategically targeted students in grades 4 to 6 due to pivotal developmental milestones and curricular emphases during these formative years. At these upper primary grade levels, as required by the Australian English Curriculum, students progress from foundational to more sophisticated writing skills (e.g., planning, evaluating, monitoring, regulating, and revision etc.), engaging in the complexities of the writing process and expanding their repertoire of writing genres and use of multimodal resources. These grades witness a heightened focus on critical thinking, analysis, and an increased emphasis on using writing as a tool for learning and communication. Additionally, the inclusion of various writing genres, coupled with increased assessment demands, underscores the need for a nuanced understanding of how writing is taught in these grade levels.

To reach these teachers, we selected 28 primary state schools in suburbs classified in the lowest 20 % based on the Socio-Economic Indexes for Areas (SEIFA), which is a census measure gauging the relative socio-economic disadvantage of a suburb based on factors like residents' education, occupation, as well as access to economic and social resources. The participating teachers confirmed that all of their students (100 %) were drawn from low-income families in the vicinity of the school. Moreover, most teachers (75 %) noted that between 60 % and 70 % of their current students demonstrated below-average writing skills compared to students of the same grade level (see Table 1).

We dispatched an invitation letter to the principals of the aforementioned low SES schools, seeking their cooperation in circulating a survey package to their grades 4 to 6 teachers. The survey package comprised an invitation letter addressed to the teacher, a survey questionnaire, and a stamped return envelope. By filling out the enclosed survey and returning it using the stamped envelope, the teachers provided their consent to participate. To boost survey completion rates, anonymity and confidentiality were ensured, and no personal or school information was collected, which prevents school-based analysis, a constraint of the present study. In total, 580 survey packages were sent and 202 teachers responded, yielding a response rate of 34.82 %.

4.2. Data cleaning and final data set

Twenty-one teachers were removed from the dataset, as they failed to complete the questionnaire. No significant differences were found between these participants and those who completed the full questionnaire in terms of gender ($\chi^2(1, 202) = 0.66, p = .41$), age ($\chi^2(36, 202) = 32.67, p = .63$), years of teaching experience ($\chi^2(36, 202) = 46.49, p = .21$), years of teaching experience with low SES students ($\chi^2(15, 202) = 15.23, p = .44$), beliefs about efficacy in teaching writing ($\chi^2(17, 202) = 16.41, p = .49$), pre-service preparation for teaching writing to low SES students ($\chi^2(3, 202) = 1.30, p = .73$), and beliefs about low SES students' attributes for writing ($\chi^2(32, 202) = 24.23, p = .83$). Additionally, 55 missing data points were present, which were replaced using group means.

The final sample consisted of 187 participants who were comparable to the state cohort of teachers in Queensland. According to the Queensland College of Teachers (QCT, 2020), 76.6 % of registered teachers in 2020 were female. In our sample, 75.90 % of were female. Regarding age, 51.3 % of registered teachers were over 45, with an average age of 45.6, while in our sample, 49.20 % were over 45, with an average age of 43.37. Thus, our sample is similar to the state cohort of teachers in terms of gender composition and age distribution.

4.3. Instrumentation

A questionnaire was developed for this study. The questionnaire was piloted with 10 grades five and six teachers who were our partners in a previous study on reading instruction. We sought teachers' feedback on clarity of items, measurement scales, and completion time. We also asked teachers to comment on the writing instructional practices in the questionnaire. In response to teachers' feedback, we made several minor changes to the wording of some items. Below, we describe the major constructs.

Background information. Teachers were asked to provide demographic information about their gender, highest educational qualifications, and years of teaching experiences (total and specifically teaching low SES students). Teachers also provided information about percentages of students from low-income families; number of students with special needs; and percentages of students who write better and worse than an average student in the same grade.

Perceptions of preparation. Two items assessed teachers' preparation for teaching writing. First, teachers self-assessed how much pre-service preparation in teaching writing to low SES students they received at the university (none/minimal/adequate/extensive). Second, teachers self-assessed how much in-service preparation in teaching writing they received at school serving this student category (none/minimal/adequate/extensive). The four-point scale was adopted from Brindle et al. (2016) due to its demonstrated effectiveness in eliciting responses from teachers.

Time spent on writing and writing instruction. Two items assessed students' time spent on writing. First, teachers were asked to indicate how many minutes students spent writing paragraph length or longer texts at school in an average week (1=less than 15 mins; 2=less than 30 mins; 3=less than 60 mins; 4 = 60–75 mins; 5 = 76–90 mins; 6=more than 90 mins). Second, teachers indicated how much time they expect students to spend on writing when they assign homework in an average week. (1=less than 15; 2=less than 30 mins; 3=less than 60 mins; 4 = 60–75 mins; 5 = 76–90 mins; 6=more than 90 mins). The 6-point Likert scale for these two items were designed after consulting practicing teachers.

Two additional items assessed teachers' time spent on writing instruction. First, teachers indicated how much time they devote to teaching writing to their class in an average week (1=no devoted time; 2= less than 1 hour; 3 = 1 to 2 h; 4 = 3 to 4 h; 5 = 5 to 6 h; 6=more than 6 h). The 6-point Likert scale was modelled on Bañales and colleagues (2020). Second, teachers indicated how often they teach writing to the class (1=once a month; 2=once every three weeks; 3= once every two weeks; 4= once a week; 5=every other day; 6=every day). The 6-point Likert scale was modelled on Hsiang and Graham (2016).

Teachers' efficacy beliefs in teaching writing to low SES students. Teachers' efficacy beliefs in teaching writing were assessed using five items adapted from Tschannen-Moran and Johnson (2011). Each item asked the participants to assess the extent to which they were able to deal with a particular situation where students face some difficulties in writing (To what extent can you: adjust writing strategies based on ongoing informal assessment of your students? model effective writing strategies? use students' writing to teach grammar and spelling strategies? assist your students to apply their prior knowledge to writing tasks? meet the needs of struggling writers?). Teachers responded to these items using a 6-point Likert scale (1=very little; 6 = a great deal).

An exploratory factor analysis with oblique rotation was conducted on these five items. The Kaiser-Meyer-Olkin measure (KMO = 0.80) verified the sampling adequacy for analysis. This analysis produced one factor that had an eigenvalue of 2.86, accounting for 57.23 % of the total variance. The Cronbach Alpha value was 0.78 for this construct.

Teachers' beliefs about low SES students' cognitive attributes for successful writing. Eight items were used to assess teachers' beliefs about low SES students' cognitive attributes for writing in relation to motivation, confidence, interest, management of distraction, self-regulation, persistence, and experience of difficulties in writing, when compared to their advantaged counterparts. Each statement describes a relative situation comparing low SES students to their counterparts from well-off families. A sample item is 'compared to advantaged students, students from low-income families are less motivated to write'. Teachers responded to these items using a 6-point

Likert scale (1=strongly disagree; 6 = strongly agree). An exploratory factor analysis with oblique rotation was conducted on these items. The Kaiser-Meyer-Olkin measure (KMO = 0.89) verified the sampling adequacy for analysis. This analysis produced one factor that had an eigenvalue of 4.82, accounting for 60.25 % of the total variance. The Cronbach Alpha value was 0.89. A high score indicates that a teacher holds deficit beliefs about low SES students who are considered as lacking cognitive attributes for successful writing.

Teachers' beliefs about the suitability of basic writing instruction for low SES students. Six items assessed teachers' beliefs about whether writing instruction for low SES students should focus on basic writing skills. A sample item is: 'Teachers of low SES students should focus on teaching writing mechanics including grammar, punctuation and sentence structure'. Teachers responded to these items using a 6-point Likert scale (1=strongly disagree; 6=strongly agree). An exploratory factor analysis with oblique rotation was conducted on these five items. The Kaiser-Meyer-Olkin measure (KMO = 0.88) verified the sampling adequacy for analysis. This analysis produced one factor that had an eigenvalue of 3.72, accounting for 61.97 % of the total variance. The Cronbach Alpha value was 0.87. A high score indicates that the teacher believes writing instruction should focus on basic writing skills.

Writing instructional practices. Eighteen items assessed teachers' writing instructional practices. These writing practices covered basic writing skills such as spelling and grammar knowledge and more advanced skills such as process writing skills, self-regulatory skills, and effective use of multimodal resources. An exploratory factor analysis with oblique rotation was conducted on these items. The Kaiser-Meyer-Olkin measure (KMO = 0.94) verified the sampling adequacy for analysis. Two distinct factors were located. The first factor had an eigenvalue of 8.58 and accounted for 47.69 % of the total variance. The second factor had an eigenvalue of 1.40 and accounted for 7.78 % of the total variance. The first factor was labelled as 'advanced writing instruction' because it was made up of the average of 12 items assessing teaching practices in relation to advanced writing skills and knowledge. Sampled items include, *Teach students how to use multimodal resources in writing; engage students in inquiry or research activities for writing.* The Cronbach Alpha value for this factor was 0.92. A high score indicated that teachers frequently taught advanced writing skills to their students. The second factor was labelled 'basic writing instruction', as it was formed based on the average of 6 items assessing the teaching of basic writing skills and knowledge. Sampled items include, *Teach grammar knowledge and skills; teach punctuation and capitalisation; teach sentence combining.* The Cronbach Alpha value for the second factor was 0.82. A high score indicates that teachers often teach basic writing skills to their students.

4.4. Analysis

We first summarised the characteristics of the teacher participants included in the final dataset (see Table 1). Second, we examined teachers' responses to the questionnaire items relevant to research questions 1 to 4. In each case, we provided the number and percentage of teachers' responses across the scale in each item. Chi-square test was used to examine whether the percentages of teachers' responses across the scale in each item were significantly different. We calculated the value of Cohen's *w* (Cohen, 1992) to ascertain the effect size, where *w* equals or less than 0.1 is considered small effect, and equal or higher than 0.5, large effect.

To address Research Question 5, hierarchical regression analyses were conducted to examine the unique contribution of teachers' beliefs on writing instructional practices after controlling for the effects of other predictor variables (total years of teaching low SES students; total years of teaching; pre-service training; in-service training; time spent on writing instruction; frequency of writing instruction and number of students with special needs). The reasons for controlling for the effects of these variables is because that these variables are likely to influence writing instructional practices (Gilbert & Graham, 2010). The ordinal variables set in Likert scale were treated as continuous in regression analyses. We checked for univariate and multivariate outliers. No univariate outliers were located (>3.29 or <-3.29). Using Mahalanobis distance, two multivariate outliers were located and deleted. Multicollinearity was not a concern, as multicollinearity indicators (VIF= 1.43 - 5.01; Tolerance= 0.20 - 0.70) were within acceptable ranges (Hair et al., 2014). Interaction between teaching self-efficacy and beliefs constructs was assessed using cross-product multiplicate terms. To reduce multicollinearity, all the predictor variables were centered while the dependent variables were kept in their original metric. Following Aiken et al. (1991), significant interactions detected were graphed to facilitate interpretation.

Table 2
Teachers' perceptions of preparation for teaching writing to low SES students.

	None (1)		Minimal (2)		Adequate (3)		Extensive (4)		<i>M</i>	<i>SD</i>	CI	χ^2 Test	Cohen's <i>w</i>
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%					
How much pre-service preparation in teaching writing did you receive in college or at university?	47	25.1%	79	42.2%	46	24.6%	15	8.0%	2.16	.89	2.03–2.28	χ^2 (3, 187) =43.82, <i>p</i> <.001	0.48
How much in-service preparation in teaching writing have you received at schools you have worked?	78	41.7%	88	47.1%	21	11.2%	0	0.0%	1.70	.66	1.60–1.79	χ^2 (2, 187) =41.91, <i>p</i> <.001	0.47

Table 3
Time and frequency on writing and writing instruction.

Likert Scale	1		2		3		4		5		6		M	SD	95 % CI	χ^2 Test	Cohen's w
	n	%	n	%	n	%	n	%	n	%	n	%					
1. During an average week, how much time you devote to writing in your class?	4	2.1 %	78	41.7 %	74	39.6 %	31	16.6 %	0	0.0 %	0	0.0 %	2.71	.77	2.60–2.82	χ^2 (3, 187) =81.77, $p < .001$	0.66
2. How often do you teach writing to children in your class?	2	1.1 %	71	38.0 %	83	44.4 %	29	15.5 %	2	1.1 %	0	0.0 %	2.78	.76	2.67–2.88	χ^2 (4, 187) =154.68, $p < .001$	0.91
3. During an average week, how many minutes do children in your class spend writing paragraph length or longer texts at school	23	12.3 %	108	57.8 %	50	26.7 %	6	3.2 %	0	0.0 %	0	0.0 %	2.21	.69	2.11–2.31	χ^2 (3, 187) =128.05, $p < .001$	0.83
4. During average week, how much time do you expect children in your class will spend on writing at home when you assign homework?	35	18.7 %	134	71.7 %	18	9.6 %	0	0.0 %	0	0.0 %	0	0.0 %	1.90	.53	1.83–1.98	χ^2 (2, 187) =125.91, $p < .001$	0.82

Note: Teachers responded to a scale with 6 points to:

Question 1: No devoted time=1; less than 1 h = 2; 1 to 2 h = 3; 3 to 4 hrs=4; 5 to 6 hrs=5; more than 6 h = 6.

Question 2: Once a month=1; Once every three weeks=2; Once every two weeks=3; Once a week=4; Every other day=5; Every day.

Question 3: Less than 15 mins=1; Less than 30 mins= 2; Less than 60 mins=3; 60–75 mins=4; 76–90 mins=5; More than 90 mins =6.

Question 4: Less than 15 mins=1; Less than 30 mins= 2; Less than 60 mins=3; 60–75 mins=4; 76–90 mins=5; More than 90 mins =6.

Table 4
Teachers' beliefs about low SES students.

	Strongly disagree (1)		Disagree (2)		Slightly disagreed (3)		Slightly agree (4)		Agree (5)		Strongly agree (6)		M	SD	CI	χ^2 Test	Cohen's w
	n	%	n	%	n	%	n	%	n	%	n	%					
<i>Compared to advantaged students, students from low-income families are likely to...</i>																	
Be less motivated to learn how to read and write	3	1.6 %	14	7.5 %	41	21.9 %	48	25.7 %	56	29.9 %	25	13.4 %	4.15	1.22	3.97–4.33	χ^2 (5, 187) =68.11, $p < .001$	0.60
Be less interested in completing classroom literacy tasks	3	1.6 %	15	8.0 %	44	23.5 %	45	24.1 %	55	29.4 %	25	13.4 %	4.12	1.23	3.94–4.30	χ^2 (5, 187) =64.71, $p < .001$	0.59
Be less confident in completing difficult literacy tasks	2	1.1 %	15	8.0 %	50	26.7 %	52	27.8 %	49	26.2 %	19	10.2 %	4.01	1.17	3.84–4.17	χ^2 (5, 187) =75.94, $p < .001$	0.64
Be easily distracted during reading or writing	2	1.1 %	11	5.9 %	46	24.6 %	64	34.2 %	55	29.4 %	9	4.8 %	3.99	1.03	3.85–4.14	χ^2 (5, 187) =115.98, $p < .001$	0.79
Put relatively limited effort to monitor their understanding when reading or self-regulate the write process	2	1.1 %	19	10.2 %	45	24.1 %	53	28.3 %	58	31.0 %	10	5.3 %	3.94	1.13	3.78–4.10	χ^2 (5, 187) =90.96, $p < .001$	0.70
Give up more easily when working on difficult literacy tasks	2	1.1 %	25	13.4 %	49	26.2 %	51	27.3 %	52	27.8 %	8	4.3 %	3.80	1.15	3.64–3.97	χ^2 (5, 187) =82.49, $p < .001$	0.66
Experience more struggles in reading	0	0.0 %	30	16.0 %	30	16.0 %	58	31.0 %	54	28.9 %	15	8.0 %	3.97	1.19	3.80–4.14	χ^2 (4, 187) =35.06, $p < .001$	0.43
Experience more struggles in writing	2	1.1 %	23	12.3 %	20	10.7 %	61	32.6 %	65	34.8 %	16	8.6 %	4.13	1.17	3.96–4.30	χ^2 (5, 187) =106.10, $p < .001$	0.75

Table 5
Teachers' beliefs about basic writing instruction for low SES students.

	Strongly disagree (1)		Disagree (2)		Slightly disagreed (3)		Slightly agree (4)		Agree (5)		Strongly agree (6)		M	SD	CI	χ^2 Test	Cohen's w
	n	%	n	%	n	%	n	%	n	%	n	%					
Teachers of low SES students should focus on teaching writing mechanics including grammar, punctuation and sentence structure	3	1.6 %	17	9.1 %	30	16.0 %	40	21.4 %	61	32.6 %	36	19.3 %	4.08	1.244	3.90–4.26	χ^2 (5, 187) =63.75, $p<.001$	0.58
Effective writing programs for low SES students should involve direct instruction on or explicit teaching of component writing skills (such as sentence combining)	4	2.1 %	23	12.3 %	34	18.5 %	46	24.6 %	51	27.3 %	29	15.5 %	4.07	1.246	3.90–4.25	χ^2 (5, 187) =45.91, $p<.001$	0.50
It is important for low SES students to complete vocabulary exercises regularly in order to help them write	7	3.7 %	25	13.4 %	41	21.9 %	37	18.7 %	46	24.6 %	31	16.6 %	3.82	1.390	3.62–4.02	χ^2 (5, 187) =31.21, $p<.001$	0.41
Completing sentences with missing words can help low SES students to learn how to write	4	2.1 %	31	16.6 %	50	26.7 %	42	22.5 %	36	19.3 %	24	12.8 %	3.47	1.197	3.30–3.64	χ^2 (5, 187) =41.23, $p<.001$	0.47
It is important to correct low SES students' grammatical and punctuation mistakes in writing	5	2.7 %	29	15.5 %	54	28.9 %	38	20.3 %	39	20.8 %	22	11.8 %	3.39	1.058	3.23–3.54	χ^2 (5, 187) =45.01, $p<.001$	0.49
It is unreasonable to expect low SES students in primary school to develop fluency in writing different genres	4	2.1 %	33	17.6 %	59	31.6 %	40	21.4 %	30	16.0 %	21	11.2 %	3.71	1.407	3.51–3.91	χ^2 (5, 187) =54.51, $p<.001$	0.54

Table 6
Teachers' self-efficacy for teaching writing to low SES students.

<i>To what extent can you...</i>	Very little (1)		Little (2)		Sometimes (3)		Often (4)		Very often (5)		A great deal (6)		<i>M</i>	<i>SD</i>	<i>CI</i>	χ^2 Test	Cohen's <i>w</i>
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%					
adjust writing strategies based on ongoing informal assessment of your students?	19	10.2 %	61	32.6 %	59	31.6 %	34	18.2 %	14	7.5 %	0	0.0 %	2.80	1.01	2.65–2.96	χ^2 (4, 185) =51.37, $p < .001$	0.52
model effective writing strategies?	7	3.7 %	69	36.9 %	62	33.2 %	28	15.0 %	21	11.2 %	0	0.0 %	2.93	1.01	2.78–3.08	χ^2 (4, 185) =77.14, $p < .001$	0.64
use students' writing to teach grammar and spelling strategies?	2	1.1 %	61	32.6 %	60	32.1 %	39	20.9 %	25	13.4 %	0	0.0 %	3.13	1.05	2.98–3.28	χ^2 (4, 185) =66.24, $p < .001$	0.60
assist your students to apply their prior knowledge to writing tasks?	5	2.7 %	61	32.6 %	43	23.0 %	41	21.9 %	35	18.7 %	2	1.1 %	3.25	1.20	3.07–3.42	χ^2 (5, 185) =85.89, $p < .001$	0.68
meet the needs of struggling writers?	12	6.4 %	63	33.7 %	42	22.5 %	36	19.3 %	34	18.2 %	0	0.0 %	3.09	1.23	2.91–3.27	χ^2 (4, 185) =35.70, $p < .001$	0.44

Table 7
How frequently teachers of low SES students teach specific basic writing skills?

	Never (1)		Several times a year (2)		Once every two months (3)		Once every month (4)		Once every week (5)		Several times a week (6)		Daily (7)		M	SD	95 % CI	χ^2 Test	Cohen's w
	n	%	n	%	n	%	n	%	n	%	n	%	n	%					
Teach spelling and spelling strategies	17	9.1 %	26	13.9 %	32	17.1 %	112	59.9 %	0	0 %	0	0 %	0	0 %	3.28	1.02	3.13–3.42	χ^2 (3, 185) =123.87, $p < .001$	0.87
Teach grammar knowledge and skills	0	0 %	26	13.9 %	32	17.1 %	108	57.8 %	21	11.2 %	0	0 %	0	0 %	3.66	0.85	3.54–3.79	χ^2 (3, 185) =108.29, $p < .001$	0.76
each punctuation and capitalization	2	1.1 %	29	15.5 %	40	21.4 %	90	48.1 %	26	13.9 %	0	0 %	0	0 %	3.58	0.95	3.45–3.72	χ^2 (4, 185) =113.03, $p < .001$	0.78
Teach word choice and use of vocabulary	3	1.6 %	28	15.0 %	79	42.2 %	66	35.3 %	11	5.9 %	0	0 %	0	0 %	3.29	0.85	3.17–3.41	χ^2 (4, 185) =120.78, $p < .001$	0.80
Teach sentence combining	3	1.6 %	31	16.6 %	101	54.0 %	41	21.9 %	11	5.9 %	0	0 %	0	0 %	3.14	0.82	3.02–3.26	χ^2 (4, 185) =159.87, $p < .001$	0.92
Teach strategies for paragraph writing	1	0.5 %	10	5.3 %	52	27.8 %	102	54.5 %	22	11.8 %	0	0 %	0	0 %	3.72	0.76	3.61–3.83	χ^2 (4, 185) =179.12, $p < .001$	0.98

Table 8
How frequently teachers of low SES students teach specific advanced writing skills?

	Never (1)		Several times a year (2)		Once every two months (3)		Once every month (4)		Once every week (5)		Several times a week (6)		Daily (7)		<i>M</i>	<i>SD</i>	95 % CI	χ^2 Test	Cohen's <i>w</i>
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%					
Have students summarize materials read for writing	27	14.4 %	64	34.2 %	54	28.9 %	34	18.2 %	8	4.3 %	0	0 %	0	0 %	2.64	1.07	2.48–2.79	χ^2 (4, 187) =52.60, $p < .001$	0.53
Have students study and imitate models of good writing	22	11.8 %	68	36.4 %	52	27.8 %	26	13.9 %	19	10.2 %	0	0 %	0	0 %	2.74	1.15	2.58–2.91	χ^2 (4, 187) =49.60, $p < .001$	0.51
Teach strategies for planning, drafting, revising, and editing their writing	19	10.2 %	78	41.7 %	48	25.7 %	29	15.5 %	13	7.0 %	0	0 %	0	0 %	2.67	1.08	2.52–2.83	χ^2 (4, 187) =73.94, $p < .001$	0.63
Teach students to self-regulate the writing process	26	13.9 %	69	36.9 %	53	28.3 %	24	12.8 %	15	8.0 %	0	0 %	0	0 %	2.64	1.12	2.48–2.80	χ^2 (4, 187) =54.90, $p < .001$	0.54
Teach students how different genres are structured and formed	19	10.2 %	65	34.8 %	53	28.3 %	37	19.8 %	13	7.0 %	0	0 %	0	0 %	2.79	1.09	2.63–2.09	χ^2 (4, 187) =51.85, $p < .001$	0.53
Teach students how to use multimodal resources in writing	28	15.0 %	67	35.8 %	47	25.1 %	31	16.6 %	14	7.6 %	0	0 %	0	0 %	2.66	1.15	2.49–2.82	χ^2 (4, 187) =43.99, $p < .001$	0.48
Engage students in inquiry/research activities for writing	23	12.3 %	67	35.8 %	48	25.7 %	31	16.6 %	18	9.6 %	0	0 %	0	0 %	2.75	1.16	2.59–2.92	χ^2 (4, 187) =43.13, $p < .001$	0.48
Teach students how to self-assess their writing	35	18.7 %	63	33.7 %	47	25.1 %	21	11.2 %	21	11.2 %	0	0 %	0	0 %	2.63	1.23	2.45–2.80	χ^2 (4, 187) =34.52, $p < .001$	0.43
Teach students how to write coherent texts	18	9.6 %	61	32.6 %	53	28.3 %	33	17.6 %	22	11.6 %	0	0 %	0	0 %	2.89	1.16	2.73–3.06	χ^2 (4, 187) =38.32, $p < .001$	0.45
Teach students how to write to persuade	19	10.2 %	68	36.4 %	41	21.9 %	32	17.1 %	27	14.4 %	0	0 %	0	0 %	2.89	1.23	2.72–3.07	χ^2 (4, 187) =38.11, $p < .001$	0.45
Teach students how to incorporate multiple perspectives in writing	28	15.0 %	60	32.1 %	58	31.0 %	28	15.0 %	13	7.0 %	0	0 %	0	0 %	2.67	1.11	2.51–2.83	χ^2 (4, 187) =45.65, $p < .001$	0.49
Teach students how to write for different purposes addressing different audience	26	13.9 %	69	36.9 %	52	27.8 %	28	15.0 %	12	6.4 %	0	0 %	0	0 %	2.63	1.09	2.47–2.79	χ^2 (4, 187) =55.49, $p < .001$	0.54

5. Results

5.1. Question 1- Preparation to teach writing to low SES students

As shown in Table 2, most teachers reported that they received minimal (42.2 %) or no formal training (25.1 %) on how to teach writing during pre-service teacher training. In contrast, 24.6 % indicated that they received adequate preparation whereas 8 % reported receiving extensive training.

In relation to in-service preparation, most teachers indicated that they received minimal preparation (47.1 %) or no in-service training (41.7 %) on how to teach writing to low SES students. Only 11.2 % of teachers reported that they were adequately prepared to teach writing as practising teacher serving low SES students.

5.2. Question 2 - time and frequency of writing and writing instruction

On average, as shown in Table 3, most teachers (81.3 %) devoted less than 2 h to teaching writing each week, and 41.7 % devoted less than one hour on teaching writing on a weekly basis. Only 16.6 % devoted 3 to 4 h each week on teaching writing.

In terms of frequency of writing instruction, most teachers (44.4 %) taught writing once every two weeks, whereas 38 % taught writing once every three weeks and 12.3 % taught writing once a month. Only 15.5 % taught writing once a week and 1.1 % once every other day. As shown in Table 3, most teachers indicated their students spent limited time on writing in school, with 57.8 % reporting students spent less than 30 mins on writing in school, 26.7 % spent less than 60 mins, 12.3 % spent less than 15 mins. Only a few teachers (3.2 %) reported that their students spent 60–75 mins on writing in school.

In relation to writing at home, as shown in Table 3, most teachers (71.7 %) expected their students to spend less than 30 mins on writing for school assignments at home, with 18.7 % expecting less than 15 mins on writing for homework. 9.6 % of teachers expected students to spend less than 60 mins a week on writing for homework.

5.3. Question 3 – teachers' beliefs

As shown in Table 4, teachers believed that most low SES students, when compared to their advantaged counterparts, were less motivated to learn how to read and write (69 %), less interested in completing literacy tasks (66.9 %), less confident in completing difficult literacy tasks (64.2 %), easily distracted during reading and writing (68.4 %), expended limited effort in regulating their writing or monitoring reading comprehension (64.6 %), less persistent when working on difficult literacy tasks (59.4 %), and struggled with both reading (67.9 %) and writing (76 %).

Specifically on writing instruction, as shown in Table 5, most teachers agreed that writing instruction for low SES students should focus on teaching writing mechanics (73.3 %), vocabulary learning (59.9 %), completing sentences with missing words (54.6 %) and correcting mistakes (52.9 %). These teachers were rather unified in advocating the use of direct instruction teaching key writing components to low SES students (67.4 %). Nearly 50 % of teachers considered that it is unreasonable to expect low SES students to achieve fluency in writing different genres, suggesting that these teachers held low expectation on low SES students' writing development.

In relation self-efficacy for teaching writing to low SES students (Table 6), these teachers were not positive about their efficacy to teaching writing to low SES students ($M = 3.04$; $SD=0.83$). In particular, only a few teachers felt efficacious in adjusting their writing strategies based on-going assessment of students' writing performance (25.7 %) and modelling effective writing strategies (26.2 %).

5.4. Question 4 - writing instructional practices

While writing was not frequently taught by teachers in this study, their writing instructional practices focused mostly on basic writing skills. As shown in Table 7, most teachers taught once every month spelling and spelling strategies (59.9 %), grammar knowledge and skills (57.8 %), punctuation and capitalization (48.1 %) and strategies for paragraph writing (54.5 %). Sentence combining (54 %) and word choice or use of vocabulary (42.2 %) were mostly taught bimonthly. A few teachers taught these basic skills, except for spelling strategies, once every week (5.9 %–13.9 %).

Compared to basic writing skills ($M = 3.44$; $SD=0.64$), advanced writing skills ($M = 2.72$; $SD=0.84$) were taught even less frequently. As shown in Table 8, most teachers taught advanced writing skills either once every two months (21.9 % - 31.0 %) or several times a year (32.1 %–41.7 %), with some teachers who never taught these skills to their students (9.6 % - 18.7 %). More specifically, over 50 % of these teachers never taught or taught only several times a year advanced skills such as writing process skills, self-regulation in writing, use of multimodal resources, self-assessment in writing, or writing for different purposes. Nevertheless, several teachers (4.3 %–17.6 %) concentrated on these advanced skills and taught them weekly.

5.5. Question 5 - predicting writing instructional practices

We conducted a series of hierarchical regression analyses to address research question 5 on predicting writing instructional practices. Table 9 shows standardized coefficients in each step for predicting the frequency of teaching basic writing skills. In Step 3, the predictors together explained 79 % of variance in teachers' reported frequency in teaching basic writing skills, ($R^2 = 0.79$, $F(12, 172) = 53.25$, $p < .001$). Significant interactions were detected between efficacy beliefs and beliefs about low SES students' cognitive

attributes for successful writing ($\beta = 0.15, p < .05$), and between efficacy beliefs and beliefs about suitability of basic writing instruction for low SES students ($\beta = 0.27, p < .001$). As shown in Fig. 1, the relations between beliefs about low SES students' cognitive attributes for writing and the frequency in teaching basic writing skills are moderated by teachers' efficacy for teaching writing to low SES students. Specifically, when teachers' efficacy for teaching writing was weak, the frequency of teaching basic writing skills decreased with an increase in beliefs about low SES students' lack of important attributes for successful writing. In contrast, when teachers' efficacy for teaching writing was strong, the frequency of teaching basic writing skills increased despite teachers' strong beliefs about low SES students' lack of important attributes for successful writing. Fig. 2 shows a similar moderating effect of teachers' efficacy for teaching writing on the relationship between the frequency of teaching basic writing skills and teachers' beliefs about the suitability of basic writing instruction for low SES students. These interaction results indicated the significant role of teachers' efficacy for teaching writing in moderating the effects of teachers' deficit beliefs about low SES students and their pedagogical beliefs about the appropriateness of offering basic writing instruction to these students on how frequently they teach basic writing skills to these students.

In relation to the frequency of teaching advanced writing skills, the regression results, as shown in Table 10 (Step 3), indicated that none of the interactions were significant. We therefore focused on the significant main effects as shown in Step 2. The predictors in Step 2 together explained 82 % of variance in this dependent variable, ($R^2 = 0.82, F(10, 174) = 78.29, p < .001$). After controlling for the effects of predictors in Step 1, teachers' efficacy for teaching writing positively predicted the frequency of teaching advanced writing skills ($\beta = 0.27, p < .001$). In contrast, beliefs about low SES students' cognitive attributes for successful writing ($\beta = -0.15, p < .05$) and beliefs about the suitability of basic writing instruction for this student group ($\beta = -0.44, p < .001$) negatively predicted the frequency of teaching advanced writing skills to low SES students.

6. Discussion

Students' writing development remains a major challenge in education (Graham, 2018). In Australia, this challenge is aggravated by growing performance gaps in writing between students from low-income families and those from high-income families (Thomson, 2020). Past studies have examined teachers' writing instruction in different parts of the world (Hsiang & Graham, 2016), including Australia (de Abreu Malpique et al., 2022). However, none of the past studies has examined specifically how writing is taught by teachers of low SES students. The current study addressed this knowledge gap by surveying Australian teachers who taught grades four to six in schools serving predominantly low SES students.

6.1. Preparation

Teachers participants shared the view that they were inadequately trained to teach writing to low SES students. About 2 out of 3 teachers (67.3 %, Table 1) reported that they were ill-prepared at the pre-service stage to teach writing to low SES students, resonating a general concern that pre-service teacher training on teaching writing is inadequate (Hsiang & Graham, 2016). It is consistent with prior studies where teachers in grades 4 to 6 (Gilbert & Graham, 2010), as well as those in other grade levels shared this concern of inadequate training (e.g., Brindle et al., 2016; Dockrell et al., 2016), despite some studies showing otherwise (e.g., Coelho, 2020). Compared specifically to studies of Bañales et al. (2020) and Hsiang and Graham (2016) where grades 4 to 6 teachers were also surveyed, the current study found a significantly higher percentage of teachers who reported a concern about their inadequate training to teach writing. Compared to the Australian study of de Abreu Malpique and colleagues (2022) where about 30 % of teachers reported their university preparation for teaching writing was inadequate, the current finding again indicates a gloomier picture. This is probably because studies by de Abreu Malpique et al. (2022), Bañales et al. (2020), and Hsiang and Graham (2016) did not involve specifically teachers of low SES students.

In relation to in-service preparation, almost 9 out of 10 teachers (88.8 %, Table 1) did not feel that they had adequate in-service support to teach writing to low SES students. The current finding is consistent with prior studies conducted with Chinese (e.g., Hsiang

Table 9
Predicting basic writing skills instruction.

	β Step 1	β Step 2	β Step 3
Total years of experiences in teaching	.19***	.21***	.14**
Total years of experiences in teaching low SES students	-0.64**	-0.36***	-0.19**
Pre-service training in writing	-0.14	-0.02	.04
In-serving training in writing	-0.01	.04	.03
Number of students with special needs	.01	.03	.003
Time spent on teaching writing	.03	.12	.03
Frequency of writing instruction	-0.21*	-0.14**	-0.07
Beliefs about low SES students		.19*	.17*
Beliefs about writing instruction for low SES students		.07	.19*
Beliefs about self-efficacy in teaching writing to low SES students		-0.39***	-0.20*
Self-efficacy x beliefs about low SES students			.15*
Self-efficacy x beliefs about writing instruction for low SES students			.27***
R ²	.58	.68	.79

* $p < 0.05$, ** $p < .01$, *** $p < .001$.

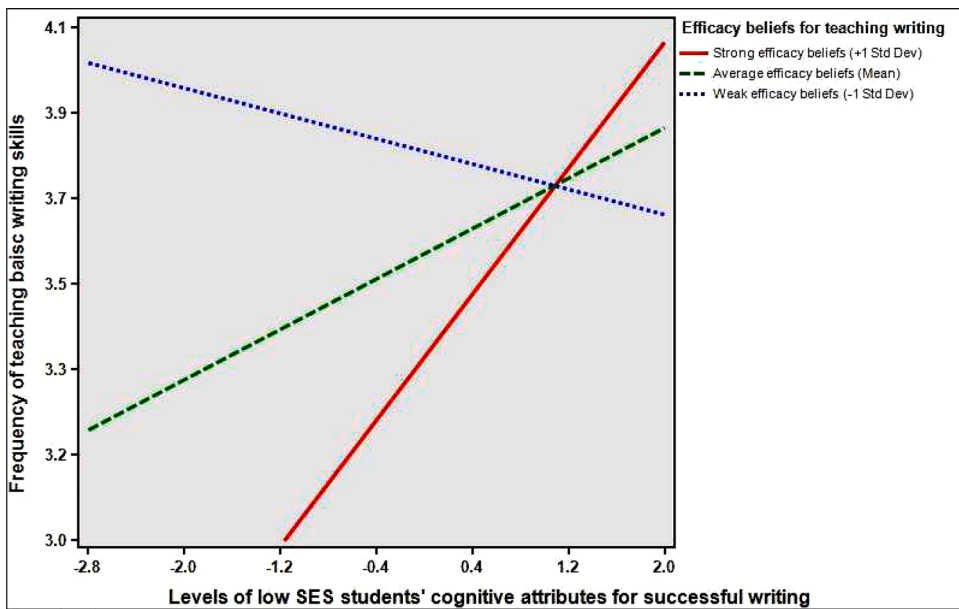


Fig. 1. Efficacy beliefs moderating the effect of beliefs about low SES students' cognitive attributes for successful writing. Note. The horizontal axis shows values of the independent variable; -2.8 represents a low level; 0.4 represents a medium level; 2.0 represents a high level. The vertical axis shows values of the dependent variable; 3.0 represents low frequency and 4.1 represents high frequency.

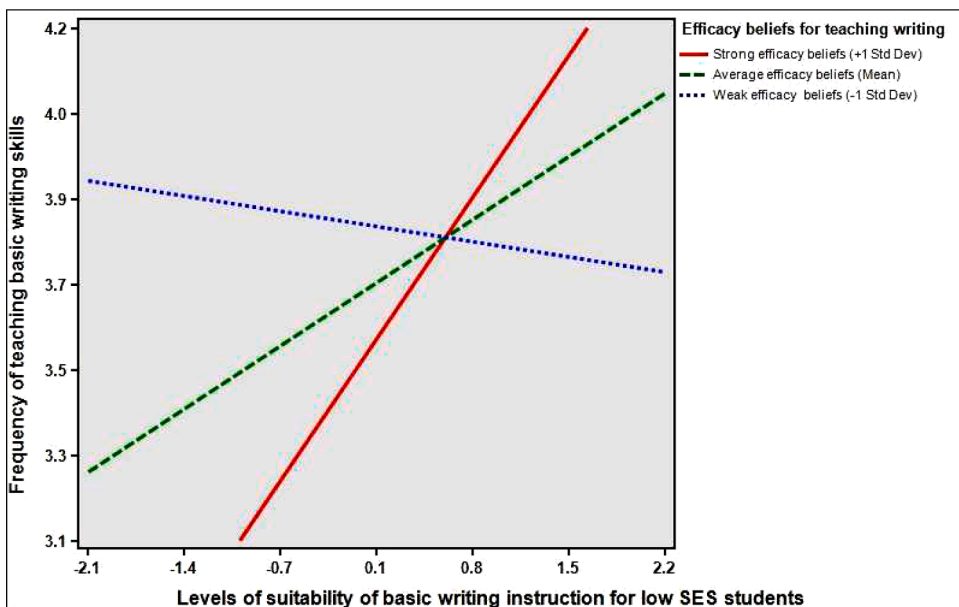


Fig. 2. Efficacy beliefs moderating the effect of pedagogical beliefs about the suitability of basic writing instruction for low SES students. Note. The horizontal axis shows values of the independent variable; -2.1 represents a low level of suitability; 0.1 represents a medium level of suitability; 2.2 represents a high level of suitability. The vertical axis shows values of the dependent variable; 3.1 represents low frequency and 4.2 represents high frequency.

& Graham, 2016) and British teachers (Dockrell et al., 2016). However, this finding stands in contrast with outcomes in several studies where American teachers expressed their positive views about in-service supports in teaching writing (e.g., Cutler & Graham, 2008). It also contradicts the findings of Bañales et al. (2020) and Gilbert and Graham (2010) where most grades 4 to 6 teachers were positive about in-service preparation. However, it should be noted that teaching writing to low SES students was not the focus in these previous studies. In the context of the current study, this finding of inadequate in-service support is concerning, as teaching struggling writers from low-income families is deemed as a challenge even for those who feel prepared to teach writing (Dockrell et al., 2016).

Table 10
Predicting advanced writing instruction.

	β Step 1	β Step 2	β Step 3
Total years of experiences in teaching	.01	−0.05	−0.06
Total years of experiences in teaching low SES students	.50***	.14*	.15*
Pre-service training in writing	.12	−0.05	−0.04
In-serving training in writing	.03	−0.02	−0.02
Number of students with special needs	−0.03	−0.05	−0.05
Time spent on teaching writing	.18	.07	.06
Frequency of writing instruction	.11	−0.004	.001
Beliefs about low SES students		−0.15*	−0.16**
Beliefs about writing instruction for low SES students		−0.44***	−0.45***
Beliefs about self-efficacy in teaching writing to low SES students		.27***	.25***
Self-efficacy x beliefs about low SES students			.11
Self-efficacy x beliefs about writing instruction for low SES students			−0.07
R ²	.65	.82	.82

* $p < 0.05$, ** $p < .01$, *** $p < .001$.

6.2. Time spent on writing and writing instruction

The current study found that writing was taught insufficiently by teachers in low SES schools. Most teachers (81 %) spent 1 or 2 h or less on teaching writing each week. In terms of frequency, most teachers (82 %) taught writing once every two weeks or fewer. These findings were consistent with Bañales et al. (2020) and Hsiang and Graham (2016) where grades 4 to 6 teachers were also surveyed. Compared to the Australian study by de Abreu Malpique et al. (2022) where a large variability in teaching time was found, most teachers in the current study fell into the low range of time reported by de Abreu Malpique, though a few teachers in this study taught writing more frequently. Expectedly, most teachers in the current study did not require their students to spend much time on writing in school (70 % less than 30 mins per week) or at home (80 % less than 30 mins per week). These findings are concerning given that many low SES students do not write well and that most of them learn writing mainly at school. This pattern of writing instruction seriously falls short of the recommendation of writing for an hour daily by Graham and Perin (2007), and if this pattern persists, it will likely perpetuate low SES students' underachievement in writing.

6.3. Writing instructional practices

An aim of the current study was to understand writing instructional practices of teachers of low SES students. As predicted, basic writing skills were taught more frequently than advanced writing skills. Most teachers taught basic writing skills such as spelling, grammar knowledge, punctuation, word choice and strategies for paragraph writing once every month. In contrast, most teachers taught advanced writing skills once every two months or only several times a year. Interestingly, a similar focus on basic writing skills can also be found in previous studies involving grades 4 to 6 teachers (Bañales et al., 2020; Gilbert & Graham, 2010; Hsiang & Graham, 2016). However, different from the current study, grades 4 to 6 teachers in these previous studies also taught advanced writing skills rather frequently. As expected, the current findings showed that writing instructional practices of these teachers have skewed towards the teaching of basic writing skills, aligning with McGaw et al. (2020)'s observation that teaching of writing has become formulaic due to the mandate of meeting minimum literacy benchmarks in national testing.

6.4. Teachers' beliefs and predicting writing instructional practices

Teachers in this study did not feel highly efficacious when teaching writing to low SES students, which is different to grades 4 to 6 teachers who generally felt efficacious about teaching writing in some studies (Bañales et al., 2020; Gilbert & Graham, 2010). Teachers in the current study also believed that low SES students are less motivated and less interested in writing when compared to their high SES counterparts. While this specific finding was not surprising, it is concerning that teachers who held such a view also considered that a focus on basic writing skills is appropriate when writing is taught to low SES students. Indeed, as discussed above, the teachers in this study frequently taught basic writing skills, but infrequently taught advanced writing skills.

An important question is what predicts teachers' writing instructional practices. In this study, we focused on teachers' beliefs (about low SES students' cognitive attributes for successful writing, about the suitability of basic writing instruction for these students, and their efficacy for teaching writing to these students) as significant predictors for how frequently basic and advanced writing skills were taught, after controlling for the effects of their teaching experiences, perceptions about pre- and in-service preparation, time and frequency of teaching writing and the number of students with special needs. As predicted, teachers who felt efficacious reported teaching advanced writing skills more frequently. Also, as predicted, teachers who taught advanced writing skills less frequently believed that low SES students lack important attributes for successful writing and that basic writing instruction suits their needs.

Complex interactions were found in predicting the teaching of basic writing skills. Specifically, teachers' efficacy beliefs moderated the effects of teachers' deficit beliefs on low SES students' cognitive attributes for successful writing and their beliefs about the suitability of basic writing instruction for these students. Teachers who believed that low SES students were cognitively or motivationally inadequate reportedly taught basic writing skills more frequently when they felt efficacious in teaching writing to these

students. When they did not feel efficacious, they reportedly taught these basic skills less frequently despite their beliefs about these students' lacking of cognitive attributes for successful writing and the importance of basic writing instruction for them. A similar moderating effect of teachers' efficacy beliefs on the relation between beliefs about low SES students' cognitive attributes for successful writing and beliefs about the suitability of basic writing instruction for these students was also found. It should be noted that these findings do not suggest any causal relationship. Nevertheless, consistent with past studies involving grades 4 to 6 teachers (e.g., Bañales et al., 2020; Brindle et al., 2016; Hsiang & Graham, 2016), these findings indicate the significant role of teachers' efficacy beliefs in predicting writing instructional practices, highlighting specifically the moderation effect that has not been examined previously. These findings showed that teachers who are less efficacious in teaching writing to low SES students need urgent support because there is a tendency for them to teach basic writing skills less frequently, let alone teaching advanced writing skills.

While this study provides empirical insights into the challenges of writing instruction in low SES schools, it is essential to acknowledge the potential influence of additional contextual factors that may contribute to the observed variations. Beyond the focus on teachers of low SES students, it is reasonable to consider whether broader systemic issues, such as budgetary constraints, resource limitations, and the linguistic and cultural diversity of low SES student populations, play a role in shaping writing instructional practices. Exploring these aspects could offer a more nuanced understanding of the challenges faced by teachers in low SES schools, and whether these contextual influences may have contributed to teachers' beliefs and practices related to the teaching of writing to low SES students.

6.5. Limitation and future research

Some caution is warranted when interpreting the findings, as the current study did not use a random sample and the response rate was not high. In addition, this study was limited to self-reported responses. Observing teachers' practices and interviewing students in their class will complement the survey findings. Future research should also examine the type of writing activities designed for low SES students and whether teachers adapt their teaching to meet the needs of these students. Finally, some teachers (16.6 %) in this study taught writing to low SES students for 3 to 4 h each week (Table 3), which is different to the majority (81 %) who spent 1 or 2 h or less teaching writing each week. The corresponding Cohen's w value (0.66) indicate large effect size, suggesting that the difference is important. Future research should examine this small group of teachers who may hold different beliefs and practices about writing instruction for low SES students. While this study emphasises the role of teachers' beliefs and preparation, a broader examination of important contextual factors such as government policies and school funding, as well as an examination of students' voices, can enhance our understanding and potentially contribute to more effective strategies for supporting writing instruction in low SES schools.

6.6. Implications for improving writing instruction

This study on writing instruction for low SES students reveals significant implications demanding attention. A glaring concern is the significant proportion of teachers who reported inadequate preparation to teach writing to low SES students during both pre-service and in-service training. This underscores a systemic issue, urging a re-evaluation of teacher training programs to ensure teachers are adequately equipped for the specific challenges associated with teaching writing to low SES students (cf., Wyatt-Smith et al., 2018). The limited time allocated to writing instruction, with a substantial majority devoting less than two hours per week, raises concerns about inhibiting low SES students' development of essential writing skills crucial for academic success and future employment. Furthermore, the pronounced emphasis on basic writing skills over advanced skills poses a risk of hindering low SES students from developing critical thinking and expressive capabilities necessary for learning that becomes more challenging in high school.

Crucially, this study identifies teachers' beliefs and efficacy as pivotal factors influencing instructional practices. The current findings show that teachers' beliefs and their writing instructional practices are highly related (Graham, 2018). This suggests, however, that it would be difficult to change teachers' writing instructional practices for low SES students, as not only are they possibly linked externally with a national test regime (McGaw et al., 2020), but also, they are internally associated with teachers' deficit beliefs about low SES students, their pedagogical beliefs about the importance of basic writing skills for these students, and most significantly, their efficacy beliefs about teaching writing to low SES students. Enhancing teachers' efficacy beliefs for teaching writing to low SES students seems to be an important way for improving writing instructional practices, given the importance of this predictor.

CRedit authorship contribution statement

Clarence Ng: Conceptualization, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Supervision, Writing – original draft, Writing – review & editing. **Steve Graham:** Conceptualization, Funding acquisition, Methodology, Writing – review & editing. **Peter Renshaw:** Conceptualization, Funding acquisition, Investigation, Writing – review & editing. **Alan Cheung:** Conceptualization, Funding acquisition, Investigation, Writing – review & editing. **Barley Mak:** Conceptualization, Funding acquisition, Methodology, Writing – review & editing.

Declaration of Competing Interest

There is no conflict of interest in the research we reported in this article.

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Availability of data and material

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Code availability (software application or custom code)

Not applicable.

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