



Teachers' goals for teaching writing to economically disadvantaged students: relations with beliefs and writing instruction

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Abstract

This study examines how writing is taught to students from low socioeconomic status (LSES) backgrounds, considering the issue of writing underperformance of these students. A total of 241 Australian teachers from Grades 4 to 6 completed a survey questionnaire. Using an achievement goal perspective, structural equation analyses revealed the link between teachers' beliefs about students' cognitive attributes and the suitability of basic writing instruction, with their teaching goals and the frequency of teaching writing skills. Cluster analyses identified three distinct groups of teachers with differing goal profiles, beliefs, and writing instructional practices. The findings highlight the importance of mastery goals in teaching writing to LSES students.

Keywords Goals for teaching · Achievement goals · Writing instruction · Teacher belief · Economically disadvantaged students

Introduction

Effective writing skills are fundamental for success in academic, professional, and personal spheres (Graham, 2019). Despite this, there is a growing concern regarding the diminishing proficiency in writing among students in developed countries such as Australia, the United Kingdom and the United States (Gilbert & Graham, 2010; Dockrell et al., 2016; Parr & Jesson, 2016). Extensive research conducted across

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different countries (e.g., Hsiang & Graham, 2016; Bañales et al., 2020; de Abreu Malpique et al., 2022; Dockrell et al., 2016; Håland et al., 2019) consistently highlights various issues in writing instruction related to this decline, such as insufficient time devoted to teaching writing, a lack of dedicated time for writing activities, infrequent use of evidence-based instructional strategies, and deficiencies in writing curriculum design (Graham, 2019). In this context, it becomes imperative to focus research attention on understanding how writing is taught, particularly among students of low socioeconomic status (LSES) from low-income families. The persistent writing underperformance of LSES students in comparison to their wealthier counterparts necessitates a closer examination of the factors influencing writing instruction, ensuring equitable access to quality writing education for all students, regardless of their socioeconomic background (Applebee & Langer, 2011; McGaw et al., 2020). In this study, we focus on Grades 4 to 6 teachers' achievement goals for teaching (GOTs) to understand writing instruction provided by teachers of LSES students in Australia. Teachers' GOTs are standards that teachers strive to achieve (Butler, 2007) or "cognitive representations" of teachers' perceived purposes for teaching (Pintrich, 2000, p.96). These goals are important because they represent yardsticks defining success in teaching (Butler, 2007) and evaluating competence (Mascaret et al., 2017). Such goals create qualitatively different systems of meaning (Dweck, 1986), affecting teachers' attitudes, behaviours and instructional practices. A wealth of studies has provided empirical support for these relationships (e.g., Butler, 2007, 2012; Butler & Shibaz, 2008, 2014; Cho & Shim, 2013; Daumiller et al., 2022; Mascaret et al., 2017; Retelsdorf et al., 2010; Schiefele & Schaffner, 2015). While past studies have verified that this approach is valid for researching teacher motivation and instructional practices at primary, secondary, and tertiary levels (Butler, 2007; Daumiller et al., 2019), there has been no attempt to utilise this theoretical framework in understanding the teaching of writing to LSES students in Australia and elsewhere. The current study addresses this gap.

Writing teachers' GOTs play a crucial role in shaping the teaching of writing to LSES students. These goals are likely to influence teachers' interpretations and understanding of the achievement situations in which LSES students learn to write. As highlighted by Butler (2007), the classroom serves as an achievement context for both students and teachers. This is particularly relevant in the current study, where the focus on teaching writing to LSES students in Australia is predominantly driven by escalating concerns about their underachievement in writing and related literacy domains (McGaw et al., 2020). Within this performance-oriented environment, some teachers may harbour concerns about their students' writing abilities relative to their peers. This concern may lead them to concentrate on enhancing their own teaching abilities in writing, reflecting an approach centred on improving abilities (ability-approach goals). Conversely, others may set their focus on ensuring that their students meet minimum benchmarks in writing assessments, reflecting a goal of avoiding inadequacy in teaching writing (ability-avoidance goals). Additionally, some teachers may prioritise minimising workloads and striving for minimal effort from both themselves and their students (work-avoidance goals). In contrast, there are undoubtedly teachers who consciously prioritise the learning and development of their students, as well as

their own professional growth, with the ultimate aim of enhancing the teaching of writing (mastery goals). Importantly, teachers may also strive to achieve a blend of these goals when working with students from LSES backgrounds. Identifying and understanding the various GOTs adopted by teachers in this context can provide valuable insights into how writing is taught to LSES students, providing an empirical base for improving writing instruction to promote LSES students' writing and writing performance.

This study is significant, as it addresses an important gap in research by focusing on writing teachers' goals for teaching writing (GOTWs), an under-researched area in writing instruction studies, despite the central role of writing in education. Additionally, this study explores whether teachers' GOTWs align with their beliefs about students and appropriate curriculum actions, particularly for LSES students (see Fig. 1). These aspects are pivotal antecedent factors influencing writing instructional practices that have not been examined sufficiently in the context of teaching writing to LSES students (Graham, 2018). Furthermore, unlike previous studies that mainly used variable-centred analyses (e.g., regression analysis), our approach combines both variable-centred (structural equation modelling) and person-centred analyses (cluster analysis). This dual approach enhances the understanding of the relationships between GOTWs and writing instructional practices, allowing for an examination of the relationship between variables and exploration of different goal profiles among teachers (Wormington & Linnenbrink-Garcia, 2017).

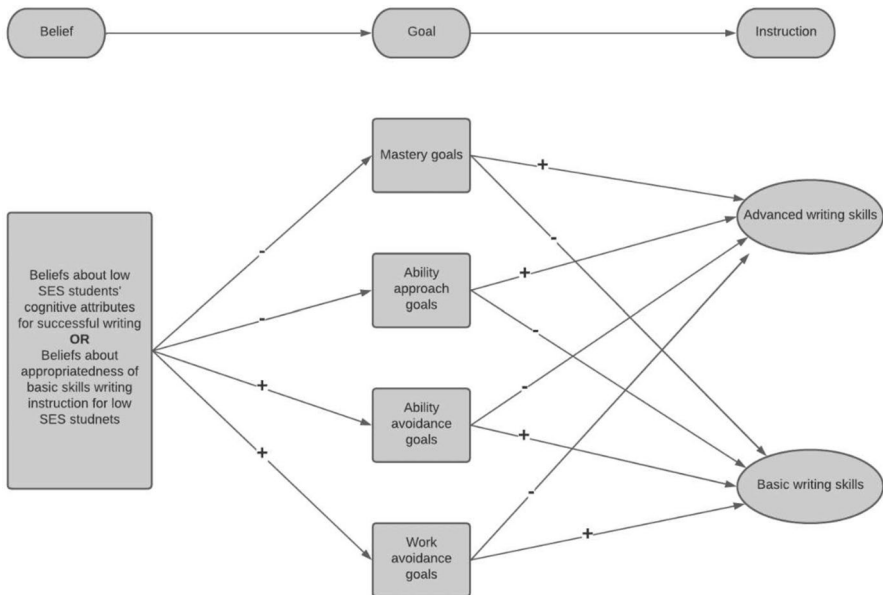


Fig. 1 Theoretical model

Research on teachers' achievement goals

Research on GOTs has been driven mostly by achievement goal theory, a major theoretical perspective on student motivation that highlights how students' goals create qualitatively different systems of meaning, evoking different patterns of perceptions, interpretations, and responses (Dweck, 1986). Following an achievement goal perspective, Butler (2007) defines teachers' GOTs as what teachers strive to achieve in teaching. She verified a four-goal structure for teaching using a sample of practising teachers in Israel, comprising teachers' strivings to (1) learn and develop their professional skills and understanding (mastery goals); (2) demonstrate superior teaching ability (ability-approach goals); (3) avoid demonstrating inferior teaching ability (ability-avoidance goals); and (4) avoid spending effort in teaching (work-avoidance goals). Subsequent studies (e.g., Retelsdorf et al., 2010) have provided empirical evidence supporting the four-goal structure. Expanding upon this empirical groundwork, advancements in the research on GOTs have ventured along two distinct avenues: enriching our conceptual understanding and introducing novel GOTs. Nitsche and colleagues (2011) examined an extended conceptualisation of mastery goals covering different forms of teaching competences related to pedagogy and content knowledge. Their extended conceptualisation also incorporates diverse target audiences, including principals and fellow teachers, in addition to teachers' own selves, when formulating GOTs. While enriching our understanding of GOTs, their study verified a four-goal structure similar to Butler's conceptualisation (2007) based on samples of in-service and pre-service German teachers. More recently, Mascaret and colleagues (2017) explored a 3×2 model of GOTs, building upon a similar model examined among students by Elliott and his colleagues (Elliott et al., 2011). Their study revealed the nuanced nature of teachers' GOTs, fine-tuning these goals based on either self-oriented or task-oriented criteria. These two studies highlight the complexity of understanding and categorising GOTs, yet they did not explore additional achievement goals that teachers may possess. It was Butler (2012) who expanded the four-goal structure by exploring teachers' relational goals, showing their predictive value for social support and mastery instructional practices.

Despite these advancements, a consensus remains elusive regarding the definitive number of GOTs to include in research. Our study therefore adopted Butler's established four-goal structure (2007) to examine teachers' writing instruction for LSES students, as Butler's framework (2007) has stood the test of empirical validation and widespread recognition. The four-goal structure offers a comprehensive yet manageable categorisation of GOTs. In relation to the relationships between teaching goals and instruction, past studies have shown that GOTs are significantly related to self-efficacy, help-seeking, job satisfaction, and burnout (Butler, 2007, 2012; Cho & Shim, 2013; Papaioannou & Christodoulidis, 2007; Retelsdorf et al., 2010; Runhaar et al., 2010). There is also a wealth of studies showing the relationship between GOTs and instructional practices (Butler, 2012; Daumiller et al., 2019; Mascaret et al., 2017; Nitsche et al., 2011; Retelsdorf et al., 2010; Retelsdorf & Günther, 2011; Schiefele & Schaffner, 2015; Wang

et al., 2018). In these studies, instructional practices are examined mostly using a dichotomous conceptualisation of mastery- and performance-oriented practices, aligning with the corresponding GOTs. Other dichotomous conceptualisations have also been used such as surface versus comprehensive learning (Retelsdorf & Günther, 2011) and teacher-focused versus student-focused strategies (Yin et al., 2017). Consistent findings derived from different studies (e.g., Butler, 2012; Daumiller et al., 2019) demonstrated that mastery-oriented practices with an instructional focus on promoting effort and learning are associated with teachers' mastery goals for teaching. However, the correlation between performance-oriented practices and teachers' ability goals is rather mixed. For example, Retelsdorf and colleagues (2010) found that German teachers' ability-approach goals correlated with performance-oriented practices. Conversely, in the same study, Israeli teachers' ability-approach goals did not show significant links to these practices. Instead, their ability-avoidance and work-avoidance goals were notably associated with performance-oriented practices. However, Butler (2012) discovered that Israeli teachers' performance-oriented practices were linked not only to ability-approach but also to ability-avoidance and work-avoidance goals. More studies are required to examine the relationship between performance-oriented instructional practices and different types of ability goals for teaching.

Notably, our current understanding of goal-instruction connection is confined to general instructional practices (Daumiller et al., 2023). Few studies, however, have examined GOTs in a specific domain of teaching. Consequently, the functioning of GOTs and their relationship with instructional practices within distinct subject or teaching areas remains unclear. Importantly, attempts to pigeonhole domain-specific instructional practices into broad categories like mastery- or performance-oriented instruction may present a misleading characterisation of teachers' instructional approaches. This generic classification system, while proven useful, may oversimplify the intricate nature of teaching practices in specific domains. Particularly, within the context of teaching writing, it is inadequate to categorise teachers who emphasise foundational skills, such as spelling and vocabulary, as exclusively employing either performance or mastery-oriented practices. The appropriateness of categorising these practices hinges on contextual factors, where a focus on foundational skills may be mastery-oriented when addressing a group of students lacking these skills, yet it can be performance-oriented when the primary goal is to enhance examination results for a specific student cohort. Recognising the complexity of these relationships is critical for a better understanding. Our study aims to unravel how writing teachers' GOTWs interplay with the teaching of diverse writing skills and strategies tailored to LSES students, without pre-classifying them as either mastery or performance oriented.

In addition, considering the critical role of GOTWs, it is important to examine the factors that shape these goals and why certain teaching goals take precedence in the teaching of writing to LSES students (cf. Vansteenkiste et al., 2014). Extensive prior research, exemplified by studies, such as Voet and De Wever (2019), highlights the impact of teachers' beliefs on their instructional practices. In the context of writing instruction, a focal point of research is teachers' beliefs in their self-efficacy for teaching (Hsiang & Graham, 2016). Notably, teachers who hold a strong sense of

efficacy in writing instruction are inclined to invest more time in the subject, employ evidence-based practices, and tailor their teaching methods to address the needs of struggling writers (Brindle et al., 2016). Crucially, our study builds on this foundation by examining whether teachers' beliefs of LSES students' cognitive attributes for successful writing influence their GOTWs. These attributes encompass students' confidence, motivation, and self-regulation in writing. Previous studies have shown that students who exhibit confidence and motivation in writing tend to achieve better writing outcomes (Troia et al., 2013), while those who effectively regulate their writing processes demonstrate improved focus, avoidance of distractions, and enhanced proficiency (Graham, 2018). Therefore, it is essential to investigate whether teachers believe that LSES students possess these cognitive attributes for writing. Such beliefs are likely to shape teachers' expectations and efforts when teaching writing to these students (cf., Wang et al., 2018). Furthermore, our study examined teachers' pedagogical beliefs concerning the appropriateness of basic writing instruction designed for LSES students. We included this particular pedagogical belief because the teaching of writing in LSES classrooms in Australian schools has tended to become more formulaic, emphasizing basic skills (McGaw et al., 2020). This belief construct inadvertently influences teachers' instructional priorities and practices. Therefore, it is crucial to explore the intricate relationships between this pedagogical belief construct, their teaching goals, and instructional practices in writing for LSES students.

Another major limitation in the extant literature is that most studies have examined GOTs as separate dimensions, failing to explore the dynamic interplay among different goals. As noted earlier, prior studies tended to use variable centred analyses to examine the relationship between GOTs and other variables. This analytical treatment fails to adequately acknowledge that teachers often combine various GOTs, forming distinct goal profiles (Mansfield & Beltman, 2014), such as simultaneously aiming to promote students' achievement and facilitate their learning. However, thus far, only several published studies have examined teachers' goal profiles (Daumiller et al., 2023; Kunst et al., 2018; Thommen et al., 2021; Watt et al., 2021), which is in stark contrast to the large number of investigations on students' goal profiles (Wormington & Linnenbrink-Garcia, 2017). Our understanding is therefore limited regarding how teachers combine goals together to form unique goal profiles, which in turn affect their teaching. The present study addresses this gap by exploring how GOTWs can be combined to form distinct goal profiles and how these profiles are associated with different patterns of writing instructional practices when teaching writing to LSES students.

The current study – research questions and hypotheses

This study examines the interplay between teachers' beliefs, GOTWs, and writing instruction for LSES students. It addresses the following research questions:

RQ1: What are the relationships between teachers' beliefs, GOTWs, and writing instruction?

RQ2: What are the goal profiles of teachers when it comes to teaching writing to LSES students, and are these profiles associated with specific writing instructional practices?.

Theoretical model and hypothesised mediated relationships—addressing RQ1

Figure 1 shows the hypothesised theoretical model for addressing research question 1 using variable-centred analysis (i.e., structural equation modelling). At the top of Fig. 1, the logic model is shown, informing the development of hypothesized mediated models depicting relationships between beliefs, goals, and instructional practices in writing. Teachers' beliefs are given an overarching position in linking GOTWs and writing instructional practices. This is because teachers' beliefs form a 'working model of the world' (Bandura, 2001, p.3) shaping teachers' priorities, teaching orientations and practices in teaching writing. Our theoretical model (Graham, 2018, 2023) also highlights the importance of teachers' beliefs on writing instruction. Past studies on teachers' beliefs, specifically teachers' efficacy beliefs in writing, have provided empirical evidence supporting this conceptualisation (e.g., Hsiang & Graham, 2016; Voet & De Wever, 2019). In this mediated model, it is argued that teachers' beliefs draw teachers' attention to specific GOTWs, which in turn, link with different patterns of writing instructional practices. Figures 1 provides a visual representation of the hypothetical relationships. The hypotheses are described below.

H1 Teachers' beliefs would link positively with ability-avoidance and work-avoidance goals for teaching writing to LSES students. This is because teachers who believe that LSES students lack essential motivational and cognitive attributes to learn advanced writing skills, or those who believe that an instruction on basic writing skills is appropriate for these students would be more likely to focus on avoiding work and avoiding showing their inability to teach writing to these students.

H2 Teachers' beliefs would link negatively with mastery goals for teaching writing to LSES students. Teachers who hold these deficit beliefs would be less likely to adopt a mastery focus on teaching writing to these students, as they may perceive limited need to improve their teaching skills in writing.

H3 Teachers' beliefs would link negatively with ability-approach goals for teaching writing to LSES students. Teachers who hold these deficit beliefs would be less likely to adopt these relative ability goals, as they may not consider these goals achievable due to a concern about LSES students' performance in writing and their abilities to improve.

H4 Mastery goals for teaching writing would link positively with a higher frequency of teaching advanced writing skills and a lower frequency of teaching basic writing skills to LSES students. This is because focusing on mastery goals would lead teachers to promote effort and challenge LSES students to learn advanced writing skills.

H5 Ability-approach goals for teaching writing would link positively with a higher frequency of teaching advanced writing skills and a lower frequency of teaching basic writing skills. Teachers who focus on relative ability in teaching writing to LSES students would want to show that they are able to teach advanced writing skills to LSES students.

H6 Ability-avoidance goals for teaching writing would link positively with a higher frequency teaching basic writing skills and negatively with the teaching of advanced writing skills to LSES students. Teachers who focus on avoiding showing their inability to teach writing to LSES students would be likely to feel more secure in focusing on teaching basic writing skills to ensure a higher chance of success.

H7 Work-avoidance goals for teaching writing would link positively with a higher frequency of teaching basic writing skills and negatively with the teaching of advanced writing skills to LSES students. Teachers who focus on work-avoidance goals would be unwilling to spend time and effort on teaching advanced writing skills to LSES students.

Multiple-goal profiles and hypotheses—addressing RQ 2

In relation to research question 2, it is hypothesised that teachers of LSES students may adopt simultaneously a combination of goals in teaching writing. Given the concern about LSES students' writing performance and the fact that formulaic writing has become more salient in many Australian classrooms (McGaw et al., 2020), it is likely that distinct goal profiles can be expected to centre around ability-approach or ability-avoidance goals (cf., Thommen et al., 2021). We predicted three distinct multiple-goal profiles. Past studies on teachers' goal profiles were consulted (Daumiller et al., 2023; Kunst et al., 2018; Thommen et al., 2021; Watt et al., 2021) when formulating the predictions below.

First, ability-approach goals for teaching writing can be combined with mastery goals to form a dual focus for teachers who want to improve their teaching and improving their performance in teaching writing to LSES students. This predicted profile is consistent with high mastery/high performance goal profile found previously (Kunst et al., 2018; Watts et al., 2021). These dual-focus teachers would hold positive beliefs about LSES students' cognitive attributes for successful writing and the need for these students to learn advanced writing skills. They would teach more frequently advanced writing skills but less frequently basic writing skills. In addition, they would be more committed (in terms of time and frequency spent on writing instruction) than those in other groups.

Second, ability-approach goals for teaching writing may be combined with ability-avoidance goals for teachers who are hyper-sensitive to performance concerns about LSES students' writing underperformance. Like performance-oriented teachers (high performance approach and high performance avoidance goals) identified in the study by Kunst and colleagues (2018), this group of teachers would teach basic writing skills more often, commit less time on teaching writing, and hold negative

beliefs about LSES students' cognitive attributes and the appropriateness of teaching them advanced writing skills. Third, ability-avoidance and work-avoidance goals for teaching writing may be combined together to form a goal profile where teachers' concerns are to avoid work and avoid showing low ability. Considering the concern about the writing performance of LSES students, it is likely that some teachers may be concerned about their ability to improve the performance of these students. This group of avoidance-driven teachers would be likely to believe that LSES students do not have developed cognitive attributes to enable successful writing and that teaching basic skills suits the needs of these students. Therefore, similar to high avoidance teachers identified in the study by Kunst and colleagues (2018; high in performance avoidance goals but low in mastery goals), these avoidance-driven teachers would hold negative beliefs about LSES students' cognitive attributes and the appropriateness of teaching them advanced writing skills, and therefore, tend to teach basic writing skills more often, and show less commitment to teaching writing.

We do not anticipate a profile that combines mastery goals and ability-avoidance or work-avoidance goals due to theoretical incompatibility. It is noteworthy that we aimed to locate naturally occurring teacher goal profiles based on teachers' responses. Therefore, it is likely that we might locate unique goal profiles that do not match exactly our predictions or those found in previous studies (e.g., Watt et al., 2021).

Methods

Participants and sample size

To determine the sample size for structural equation modelling, we considered the recommendations provided by various scholars (Bentler & Chou, 1987; Kline, 2023; e.g., the $N > 200$ rule). We then used Soper's online a-priori sample size calculator for structural equation models to determine a sample size that is efficient and sufficient for the current study. The current study involved a sample of 262 teachers drawn from LSES schools, which is higher than the recommended sample of 218 provided by Soper's online calculator. However, there are no guidelines for determining the sample size of cluster analyses.

Our survey targeted teachers who teach grades 4 through 6 in primary state-run schools situated in LSES suburbs in urban and regional Queensland. The reason for focusing on teachers in the upper primary levels is that writing has become more important and demanding in the curriculum. Following the Australian English Curriculum, students at these grades are expected to learn advanced writing skills after mastering the foundation of writing at the lower grades. They learn to plan, evaluate, monitor, regulate, and revise, getting into the details of the writing process. They also explore different writing genres and use various resources, including multi-modal resources when composing. There is also a stronger focus on critical thinking and analysis, with writing being seen as a key tool for learning and communication. Importantly, according to national testing results, students at these grades, especially those coming from LSES families, have shown a notable decline in their

writing performance. All these considerations highlight the importance of researching teachers' GOTWs and their writing instructional practices when teaching writing to LSES students at the upper primary levels.

To reach these teachers, we selected 39 primary schools located in suburbs classified in the lowest quarter (25%) based on the Socio-Economic Indexes for Areas (SEIFA), which gauges the relative socioeconomic disadvantage of a suburb based on factors like residents' education and occupation. We sought assistance from the principals of these schools to distribute a survey package to their teachers. The survey package comprised an invitation letter, a survey questionnaire, and a stamped return envelope. By filling out the enclosed survey and returning it, the teachers consented to participate. To boost survey completion rates, anonymity and confidentiality were ensured, and no personal or school information was collected, which is a constraint of the present study, as school level analysis was not possible. In total, we sent out 780 survey packages, and 262 teachers responded, yielding a response rate of 33.58%, which is comparable to similar studies within the field of writing instruction (e.g., Gilbert & Graham, 2010, Graham et al., 2021; Brindle et al., 2016).

Data cleaning and final data set

Twenty-one teachers left many questionnaire items unanswered, and their questionnaires were removed from the data set. No significant differences were found between these removed participants and those who completed the full questionnaire in terms of gender ($\chi^2(1, 262)=2.26, p=0.13$), age ($\chi^2(36, 262)=47.26, p=0.10$), and years of teaching experience with LSES students ($\chi^2(15, 262)=19.59, p=0.19$). Additionally, 85 missing data points were present, which were replaced using group means. The final sample consisted of 241 participants who were comparable to the state cohort of teachers in Queensland. Table 1 (see supplementary materials) presents the personal characteristics of the teachers in the study, including age (27% aged 31–40; 27.8% 41–50; and 25.7% 51–60), gender (81.8% female; 18.2% male), qualification (94.6% with Bachelor degree), and years of teaching low SES students (45.2% with 1–5 years). Moreover, most teachers (over 80%) noted that more than 70% of their current students demonstrated below-average writing skills compared to average students of the same grade level. Most teachers ($n=187$; 77.59%) confirmed that their students (100%) were drawn from low-income families while remaining teachers ($n=54$; 22.41%) reported that over 70% of their students came from low-income families.

Questionnaire

Teachers' achievement goals for teaching writing. The construction of teachers' goals for instruction followed Butler (2007). The items ask teachers to evaluate if 'they feel successful...' in relation to statements regarding different strivings for teaching writing. Four items were included for assessing each type of teaching goals. A sample item for mastery goals is '...my students made me want to learn more about the teaching of writing'; for ability-approach goals is '...I was praised

for my ability to teach writing'; for ability-avoidance goals is '...my class was not the furthest behind when compared to other classes'; and for work-avoidance goals is '...I could use material from previous years and did not have to prepare new lessons'. Teachers rated these items using a five-point Likert scale (1=strongly disagree; 5=strongly agree). A confirmatory factor analysis located a 4-factor model as specified in Butler (2007), showing good fit to the data ($\chi^2=143.59$, $df=59$, $p<0.001$; CFI=0.96; TLI=0.94; RMSEA=0.07 (0.06–0.09). All the item factor loadings (0.54–0.91) were significant, $p<0.001$. Cronbach Alphas for mastery goals, ability-approach goals, ability-avoidance goals, and work-avoidance goals were 0.87, 0.83, 0.77 and 0.72, respectively.

Teachers' beliefs about LSES students' cognitive attributes for successful writing. Eight items were used to assess teachers' beliefs about LSES 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 LSES 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=0.90) verified the sampling adequacy for analysis. This analysis produced one factor that had an eigenvalue of 4.39, accounting for 54.94% of the total variance. The Cronbach Alpha value was 0.87. A high score indicates that a teacher holds deficit beliefs about LSES students who are considered as lacking cognitive attributes for successful writing.

Teachers' beliefs about the suitability of basic writing instruction for LSES students. Six items assessed teachers' beliefs about whether writing instruction for LSES students should focus on basic writing skills. A sample item is: 'Teachers of LSES 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 3.85, accounting for 64.17% of the total variance. The Cronbach Alpha value was 0.88. A high score indicates that the teacher believes writing instruction should focus on basic writing skills.

Writing instructional variables. Writing instructional practices refer to the strategies employed by teachers to facilitate students in acquiring the skills and knowledge necessary to become proficient writers (Graham, 2018). These writing practices covered a wide spectrum of skills aligned with the Australian national curriculum for English language learning, including 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=0.95) verified the sampling adequacy for analysis. Two distinct

factors were located. The first factor had an eigenvalue of 8.97 and accounted for 49.88% of the total variance. The second factor had an eigenvalue of 1.29 and accounted for 7.17% 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 indicates 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 0.84. A high score indicates that teachers often teach basic writing skills to their students. A confirmatory factor analysis located a 2-factor model, verifying the factor analytic results ($\chi^2 = 262.09$, $df = 134$, $p < 0.001$; CFI = 0.95; TLI = 0.94; RMSEA = 0.06 (0.05–0.07)).

Two additional items assessed *teachers’ commitment to 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 h; 3 = 1 to 2 h; 4 = 3 to 4 h; 5 = 5 to 6 h; 6 = more than 6 h). 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).

Data analyses

Structural equation modelling analyses

Structural equation modelling was conducted to examine the hypothetical mediated relationships between teachers’ beliefs, goals and teaching practices, as specified in the theoretical model. SEM analyses were conducted using AMOS with Maximum likelihood estimation as the chosen method for modeling because it is flexible and can accommodate both normal and non-normal distributions (Benson & Fleishman, 1994). To assess model fit, multiple indices were used, including, Chi-square statistic (χ^2), comparative fit index (CFI), the Tucker-Lewis Index (TLI), the root mean square error of approximation (RMSEA), and standardized root mean square (SRMR). The following recommended cut-offs were used as indicating of a good model fit, CFI > 0.95, TLI > 0.95, RMSEA < 0.05, and SRMR < 0.05; and of an acceptable model fit, CFI > 0.90, TLI > 0.90, RMSEA < 0.08, and SRMR < 0.08 (Kline, 2023; Marsh et al., 2011).

In conducting the SEM analyses, we included teachers’ age, self-assessment of pre-service training on teaching writing, self-assessment of in-service training, and teachers’ experiences with LSES students as covariates. These included factors may affect teachers’ writing instructional practices. For example, teachers who feel that they are inadequately prepared for teaching writing would be less likely to adopt ability-approach goals or teach advanced writing skills to LSES students.

We examined the belief constructs separately using the hypothesised model because these constructs were highly correlated ($r=0.82$). This approach facilitates a better understanding of how each belief construct is uniquely related to the dependent variables. The results were reported as hypothesised model 1 and 2 in the Results section. For comparison, we also examined several alternative models, including 1. A direct-mediational model where teachers' beliefs are linked directly with writing instructional practices, in addition to the mediational link through GOTWs; 2. A direct model including only teaching goals and their direct links with writing instruction practices; 3. Another direct model including only the belief constructs and their direct links with writing instructional practices.

Cluster analyses

Following Hair and colleagues (2014), a two-stage sequential clustering procedure was used to categorise teachers into different goal profiles. This procedure facilitates the location of a stable cluster solution (Ng, 2014). In the initial step, hierarchical cluster analysis via Ward's method was performed to maximize within-cluster similarity and between-cluster dissimilarity. A double split cross-validation (Breckenridge, 2000) was utilised to compare clustering results among the whole sample and two random-half sub-samples. Agglomeration coefficients and dendrograms were consulted to track cluster similarity (Bergman et al., 2003). A sharp increase in agglomeration coefficient indicates a combination of two rather different clusters. The agglomeration coefficients of the three samples consistently recorded a sharp increase from clustering step 3 to 2 (63.86%—the whole sample; 45% and 59%—the two sub-samples) and from clustering step 2 to 1 (82.5%—the whole sample; 124% and 86%—the sub-samples). These results suggest that three- or two-cluster solutions were viable and stable.

The interpretability of these solutions was examined, and the resulting clusters were compared to previous studies on teachers' multiple goals (e.g. Thommen et al., 2021). We rejected the 2-cluster solution, as it combined two large clusters and could not differentiate finer goal profiles. A three-cluster solution was selected because this solution was repeatedly found and can be considered stable. This solution also aligned with our hypotheses, providing a richer description of teachers' goal profiles than the two-cluster solution. To further verify the three-cluster solution, cluster solutions four to six were considered. The additional cluster solutions were rejected due to their lack of statistical or theoretical validity.

In the second step, non-hierarchical clustering refined membership using centroids from the hierarchical method as initial points. This affirmed the stability of the three-cluster solution, as final centroids exhibited similar values. To further validate the three-cluster solution, a MANOVA analysis confirmed that the three clusters were different from each other in terms of the four goals, Wilks $\lambda=0.19$, $F[8,512]=84.01$, $p<0.001$, $\eta^2=0.59$. The large effect sizes (η^2 ranges between 0.57 and 0.82) indicate that the four GOTWs could differentiate these three clusters.

Regarding the clustering membership, there was a high level of agreement between the hierarchical and non-hierarchical clusters, with only 6.22% (15 cases) being re-classified during the non-hierarchical clustering procedure. To further

validate the clustering membership, a discriminant function analysis using the clustering variables as predictors was conducted. The resulting significant functions were significant (Function 1: Wilks $\lambda=0.07$, $F=638.07$, $df.=8$; $p<0.001$; Function 2: Wilks $\lambda=0.59$, $F=124.02$, $df.=3$; $p<0.001$). These functions correctly classified 98.34% of writing teachers into the three clusters (97.2%, 98.8% and 98.9% for cluster 1, 2 and 3, respectively, were correctly classified). In other words, only four cases were incorrectly classified.

We opted for cluster analysis over model-based techniques like latent profile analysis because the former, as described above, offers added advantages in validating cluster stability, refining, and verifying cluster membership, which the latter cannot accomplish.

Results

Descriptive statistics and correlations

Descriptive statistics including correlations, means, standard deviations, skewness and kurtosis for all the included variables are provided in Table 1. Values of skewness and kurtosis were within acceptable ranges (Kline, 2023), indicating data normality.

Results addressing RQ1

The first research question of this study examines the relationship between teachers' beliefs, GOTWs and writing instruction. SEM analyses were used to examine two hypothesised models and several alternative models. These results are described below.

Hypothesised model 1-driven by beliefs about LSES students' cognitive attributes of successful writing

In relation to the first model, driven by teachers' beliefs about LSES students' cognitive attributes for successful writing, the SEM results showed a good fit to the data ($\chi^2=759.92$, $df=442$, $p<0.001$; CFI=0.94; TLI=0.93; RMSEA=0.05; SRMR=0.05). Figure 2 shows the associations between this belief variable, GOTWs and the frequency of basic skills and advanced skills instruction.

As predicted, this belief variable predicted negatively mastery goals for teaching writing to LSES students ($\beta=-0.79$, 95% CI: -0.87 – -0.69, $p<0.001$), but positively predicted ability-avoidance goals ($\beta=0.73$, 95% CI: 0.65–0.82, $p<0.001$), and work-avoidance goals ($\beta=0.70$, 95% CI: 0.56–0.84 $p<0.001$). These results supported H1 and H2. Contrary to our prediction in H3, this belief variable was positively related to ability-approach goals ($\beta=0.69$, 95% CI: 0.61–0.83, $p<0.001$).

In relation to writing instructional practices, mastery goals predicted positively the frequency of teaching advanced writing skills ($\beta=0.67$, 95% CI: 0.59–0.89,

Table 1 Descriptive statistics and correlations

	1	2	3	4	5	6	7	8	9	Mean	SD	Skewness	Kurtosis
1. G_Mas	–									3.40	1.05	.42	–.71
2. G_AApp	–.54	–								3.74	.87	.30	–.59
3. G_AAvd	–.77	.61	–							3.32	.92	–.02	–.57
4. G_WorkAvd	–.69	.49	.75	–						3.19	.78	–.42	–.13
5. B_LSES	–.78	.65	.69	.67	–					3.86	.93	–.60	.34
6. B_BSI	–.84	.60	.77	.73	.81	–				3.71	1.04	–.18	–.90
7. WL_Adv	.86	–.53	–.77	–.76	–.80	–.88	–			3.39	.69	–.94	–.22
8. WL_Basic	–.77	.37	.62	.59	.74	.75	–.74	–		3.30	1.03	.32	–.89
9. Commitment	.72	–.47	–.66	–.62	–.65	–.73	.71	–.61	–	2.78	.76	.34	–.79

All correlation coefficients are significant, $p < .01$ (2 tailed). G_Mas = Mastery goals; G_AApp = Ability-approach goals; G_AAvd = Ability-avoidance goals; G_WorkAvd = Work-avoidance goals; B_LSES = Beliefs about low SES students' cognitive attributes for successful writing; B_BSI = Beliefs about suitability of basic writing skills instruction for low SES students; W_Adv = Advanced skills writing instruction; W_Basic = Basic skills writing instruction; Commitment to teaching writing (frequency and time spent).

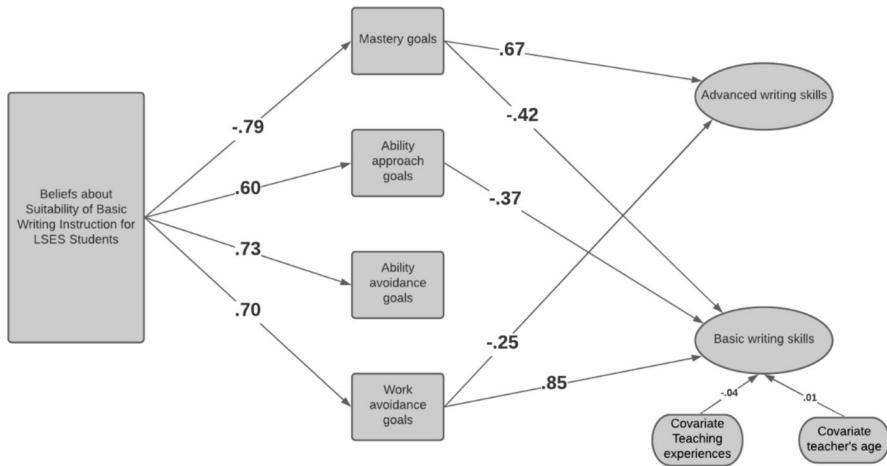


Fig. 2 Final model 1—driven by teachers' beliefs about LSES students' lack of cognitive attributes for successful writing. Error terms and nonsignificant paths were removed for a clear display of relations and effects

$p < 0.001$), supporting H4. Inconsistent with our prediction in H5, ability-approach goals did not link significantly with the teaching of advanced writing skills. Work-avoidance goals, as predicted in H7, were negatively associated with the frequency of teaching advanced writing skills to LSES students ($\beta = -0.25$, 95% CI: -0.75 – -0.19 , $p < 0.05$).

Mastery goals, as hypothesised in H4, predicted negatively the frequency of teaching basic writing skills ($\beta = -0.42$, 95% CI: -0.97 – -0.21 , $p < 0.05$), and as predicted in H5, ability-approach goals were negatively related to the teaching of basic writing skills ($\beta = -0.37$, 95% CI: -0.79 – -0.19 , $p < 0.001$). In contrast, work-avoidance goals, as hypothesised, predicted the teaching of basic writing skills ($\beta = 0.85$, 95% CI: 0.09 – 1.82 , $p < 0.05$). Ability-avoidance goals did not significantly predict the teaching of either type of writing skills. H6 was not supported.

It is noteworthy to point out that the covariates, teachers' teaching experiences involving LSES students negatively predicted the teaching of basic skills ($\beta = -0.04$, 95% CI: -0.06 – -0.007 , $p < 0.001$). In relation to the age factor, older teacher appeared to teach basic writing skills more often than younger teachers ($\beta = 0.01$, 95% CI: 0.004 – 0.02 , $p < 0.001$). The number of students with special needs or teachers' self-assessment of their training in writing were not significant predictors of their writing instruction.

Hypothesised model 2-driven by beliefs about the suitability of basic skills writing instruction

In relation to Model 2, driven by teachers' beliefs about the suitability of teaching basic writing skills to LSES students, the SEM results showed a good fit to the data ($\chi^2 = 715.12$, df. = 359, $p < 0.001$; CFI = 0.93; TLI = 0.92; RMSEA = 0.06;

SRMR=0.05). Figure 3 shows the associations between this belief variable, GOTWs and the frequency of basic skills and advanced skills instruction.

Consistent with H1 and H2, this belief variable predicted negatively mastery goals for teaching writing to LSES students ($\beta = -0.76$, 95% CI: -0.87 – -0.67 , $p < 0.001$), but positively ability-avoidance goals ($\beta = 0.71$, 95% CI: 0.62 – 0.82 , $p < 0.001$), and work-avoidance goals ($\beta = 0.70$, 95% CI: 0.56 – 0.81 , $p < 0.001$). Contrary to our prediction in H3, ability-approach goals ($\beta = 0.60$, 95% CI: 0.50 – 0.77 , $p < 0.001$) was positively related to this belief.

In relation to writing instructional practices, mastery goals, as predicted in H4, were positively related to the frequency of teaching advanced writing skills ($\beta = 0.41$, 95% CI: -0.63 – 0.91 , $p < 0.001$) while work-avoidance goals, as predicted in H7, were negatively associated with the teaching of advanced writing skills ($\beta = -0.55$, 95% CI: -0.30 – -0.78 , $p < 0.05$).

Also consistent with our prediction in H4, mastery goals predicted negatively the frequency of teaching basic writing skills ($\beta = -0.69$, 95% CI: -1.92 – 0.20 , $p < 0.005$). Similarly, ability-approach goals, as predicted in H5, were negatively related to the teaching of basic writing skills ($\beta = -0.31$, 95% CI: -0.49 – -0.09 , $p < 0.05$). In contrast, work-avoidance goals, as hypothesised in H7, predicted the teaching of basic writing skills ($\beta = 0.55$, 95% CI: -0.97 – 1.15 , $p < 0.05$). Ability-avoidance goals did not significantly predict the teaching of either types of writing skills.

The covariates, teachers' teaching experiences involving LSES students, teachers' age, the number of students with special needs or teachers' assessment of their pre-service and in-service training for teaching writing were not significant predictors.

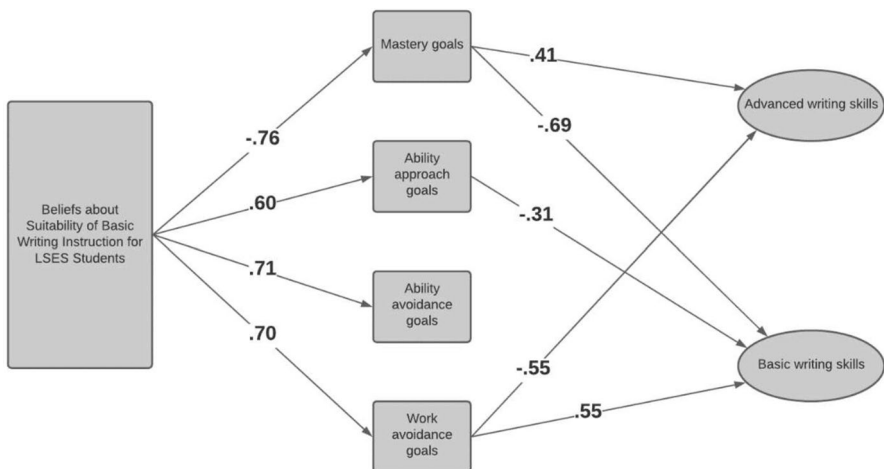


Fig. 3 Final model 2—driven by teachers' beliefs about the suitability of basic writing instruction for LSES students. Error terms and nonsignificant paths were removed for a clear display of relations and effects

Alternative models

We tested several alternative models, as listed below:

1. Two separate direct models linking each belief variable with the writing instruction practices were non-significant.
2. A direct model linking teachers' teaching goals with writing instruction practices was non-significant.
3. Two direct mediated models, adding direct links from the belief variable to the writing instruction practices to our hypothesised models were non-significant. In relation to hypothesised model 1, these direct paths were nonsignificant ($\beta = 0.65$, $p = 0.14$ for basic skills instruction; $\beta = -0.15$, $p = 0.39$ for advanced writing skills), while the overall model fit did not appear to have improved when compared to the final models ($\chi^2 = 754.23$, $df. = 440$, $p < 0.001$; CFI = 0.94; RMSEA = 0.06; SRMR = 0.05). Similarly, these direct links were nonsignificant in hypothesised model 2 and the overall model fit did not improve.

Results addressing RQ2

The second research question of this study seeks to identify distinct categories of writing teachers who hold a unique profile of GOTWs. Two-stage cluster analyses, as described previously, located three clusters of goal profiles for teaching writing to LSES students.

Description of clusters

Table 2 shows the differences between these clusters on their goal profiles.

Cluster 1 ($n = 71$) is labelled as mastery-driven teachers, as these teachers held strong mastery goals alongside average ability-approach goals when teaching writing to LSES students.

Table 2 Clustering results

	Mastery-driven teachers (Cluster 1; $n = 71$)		Moderate-goal teachers (Cluster 2; $n = 83$)		Performance-driven teachers (Cluster 3; $n = 87$)		Univariate test	Eta Squared (η^2)
	Mean	SD	Mean	SD	Mean	SD		
Mastery goals	4.79 ^a	.48	3.19 ^b	.39	2.47 ^c	.47	$F(2, 238) = 549.39^{**}$.82
Ability-approach goals	3.27 ^a	.77	3.23 ^a	.37	4.61 ^c	.55	$F(2, 238) = 154.59^{**}$.57
Ability-avoidance goals	2.32 ^a	.54	3.19 ^b	.38	4.27 ^c	.49	$F(2, 238) = 335.97^{**}$.74
Work-avoidance goals	2.34 ^a	.61	3.23 ^b	.42	3.85 ^c	.45	$F(2, 238) = 185.58^{**}$.61

Means with different subscripts differ significantly, $p < .001$.

Cluster 2 ($n=83$) is labelled as moderate-goal teachers, as these teachers had average scores in all the four goals for teaching writing to LSES students. However, it appears that avoidance goals were stronger than mastery or ability-approach goals in their profiles.

Cluster 3 ($n=87$) is labelled performance-driven teachers, as these teachers held strong ability-approach, ability-avoidance and work-avoidance goals for teaching writing to LSES students.

As shown in Table 3, these clusters exhibited no variance concerning gender composition, the number of students with special needs in their class, and teachers' estimation of the percentage of students who write worse than average students in the same grade. However, disparities emerged across the clusters in terms of age, experiences in teaching LSES students, and self-evaluations of both pre-service and in-service training for teaching writing.

Mastery-driven teachers were older than their counterparts in the moderate-goal and performance-driven clusters. Within the mastery-driven cluster, a majority perceived their pre-service training in teaching writing as adequate or extensive, while such evaluation was less common among those in the moderate-goal and performance-driven clusters. Regarding self-assessment of in-service training, a greater proportion of mastery-driven teachers deemed their training adequate compared to their peers in the other clusters.

Differences between clusters

A MANCOVA analysis was conducted to examine whether these three clusters were different in relation to the belief constructs (beliefs about LSES students' cognitive attributes for successful writing, and about the suitability of a basic skills writing curriculum for LSES students), basic writing instruction, advanced writing instruction, and commitment to teaching writing to LSES students. Age and teaching experiences of LSES students, and self-assessment of pre-service training and in-service training on teaching writing were entered as covariates. The results were significant, Pillai's trace = 0.81, $F[10, 464] = 31.40$, $p < 0.001$, $\eta^2 = 0.40$.

Table 4 displays the results of the univariate tests. Mastery-driven teachers demonstrated a higher frequency of instructing advanced writing skills compared to other clusters. Conversely, performance-driven instructors tended to focus more on basic writing skills than their mastery-driven counterparts. Moderate-goal teachers also leaned towards teaching basic writing skills more often and advanced skills less frequently than their mastery-driven peers. Notably, there was no significant difference between moderate-goal and performance-driven instructors in the frequency of teaching advanced versus basic writing skills.

When it came to beliefs about LSES students' lack of cognitive attributes for successful writing, mastery-driven teachers exhibited the lowest scores, followed by moderate-goal and then performance-driven teachers. This indicates that mastery-driven teachers did not share the belief that LSES students lack the required cognitive attributes for successful writing. As for the belief regarding the appropriateness of basic writing instruction for LSES students, performance-driven teachers were

Table 3 Cluster characteristics

	Mastery-driven teachers (Cluster 1; n = 71)	Moderate-goal teachers (Cluster 2; n = 83)	Performance-driven teachers (Cluster 3; n = 87)	Chi square test	Phi
Gender	10 Males; 61 females	18 males; 65 females	19 males; 68 females	$\chi^2 = 1.82$, df. = 2, $p = .39$.08, $p = .39$
Age	Over 40 = 66 Under 40 = 5 M = 50.72; SD = 6.58	Over 40 = 44 Under 40 = 39 M = 43.25; SD = 10.50	Over 40 = 26 Under 40 = 21 M = 37.27; SD = 8.6	$\chi^2 = 63.85$, df. = 2, $p < .001$.52, $p < .001$
Years teaching LSES students	Over 10 years = 52 Under 10 years = 19	Over 10 years = 5 Under 10 years = 78	Over 10 years = 1 Under 10 years = 86	$\chi^2 = 133.73$, df. = 2, $p < .001$.75, $p < .001$
Perception of pre-service training	Adequate or extensive = 56 Inadequate or minimal = 15	Adequate or extensive = 24 Inadequate or minimal = 59	Adequate or extensive = 10 Inadequate or minimal = 77	$\chi^2 = 79.69$, df. = 2, $p < .001$.58, $p < .001$
Perception of in-service training	Adequate or extensive = 25 Inadequate or minimal = 46	Adequate or extensive = 7 Inadequate or minimal = 76	Adequate or extensive = 2 Inadequate or minimal = 87	$\chi^2 = 38.31$, df. = 2, $p < .001$.40, $p < .001$

Table 4 Differences between clusters

	Mastery-driven teachers Schematics (Cluster 1)		Moderate-goal teachers (Cluster 2)		Performance-driven teachers (Cluster 3)		Univariate test	Eta Squared (η^2)
	Mean	SD	Mean	SD	Mean	SD		
Beliefs about cognitive attributes	2.84 ^a	.75	3.92 ^b	.46	4.64 ^c	.53	F (2, 235)=42.76*	.27
Suitability of basic skills instruction	2.44 ^a	.51	3.81 ^a	.52	4.66 ^b	.56	F (2, 235)=72.41*	.38
Basic writing instruction	2.49 ^a	.57	3.76 ^b	.31	3.77 ^b	.19	F (2, 235)=78.01*	.40
Advanced writing instruction	4.60 ^a	.60	3.14 ^b	.41	2.40 ^b	.54	F (2, 235)=86.16*	.42
Commitment to teaching writing	3.52 ^a	.60	2.70 ^b	.58	2.17 ^c	.51	F (2, 238)=13.99*	.11

Values superscripted differently were significantly different from each other; all tests were significant, * $p < .001$. Covariates: age, total number of years teaching low SES students, self-assessment of pre-service training on teaching writing.

more inclined to hold the necessity of this belief, a viewpoint not shared by mastery-driven or moderate-goal teachers.

Regarding their commitment to teaching writing to LSES students, mastery-driven teachers surpassed the other groups in both frequency of instruction and time invested. Conversely, performance-driven instructors, followed by moderate-goal teachers, demonstrated the lowest frequency of teaching and time allocation to writing instruction.

Discussion

In the current study, we investigated the relationships between writing teachers' beliefs, goals and instructional practices in teaching writing to LSES students in Australia. The SEM findings provide empirical support for the theoretical model, specifically endorsing the mediational role of GOTWs in linking teachers' beliefs and writing instructional practices. In addition, by identifying distinct profiles of teachers' GOTWs (mastery-driven, moderate-goal, performance-driven), this study offers a more granular perspective on how goals interact and shape instructional behaviours in teaching writing to LSES students. In the discussion below, major contributions of the current study to the growing research on teachers' teaching goals are discussed.

Motivational dynamics in teaching writing to LSES students

The findings derived from SEM analyses highlight a belief driven meaning system linking with teachers' GOTWs and writing instructional practices (cf., Dweck, 1986). This structural view is important for understanding teachers' writing

instructional practices when working with LSES students. Within the realm of teaching writing to these students, teachers' beliefs about LSES students' cognitive attributes for successful writing and about the appropriateness of a basic skills writing curriculum were important factors influencing teachers' adoption and pursuit of GOTWs. Interestingly, our findings (non-significant alternative models) reveal that both belief constructs do not directly link with their instructional practices in writing; rather, the influence of these belief constructs are mediated by GOTWs, as verified in the hypothesised models. This highlights the complex motivational dynamics between beliefs, goals and instruction in teaching writing to LSES students. Aligning with the hypothetical models, the belief variables (teachers' beliefs about LSES students' cognitive attributes for successful writing and teachers' beliefs about the appropriateness of basic skills writing curriculum for LSES students) exhibit a negative association with mastery goals for teaching writing, which in turn correlates positively with the implementation of advanced writing instruction. Conversely, these belief variables exhibit a positive association with ability-avoidance and work-avoidance goals, which are then positively linked with basic writing instruction. This verified belief driven meaning system provides a fuller account of teachers' motivational functioning (Vansteenkiste et al., 2014), adding to our knowledge about teachers' goals in the context of teaching writing to LSES students. It highlights the importance of tracing the source of teachers' GOTWs, drawing attention to teachers' beliefs (Graham, 2018), and their intricate relationship with what teachers strive to achieve and how they teach writing to LSES students.

Nevertheless, further effort is required to examine the role of ability-approach goals for teaching writing to LSES students. The extant literature is rather mixed regarding the motivational nature of ability-approach goals. While these goals, as hypothesised, linked negatively with basic writing skills, they also linked positively with these two constraining belief variables in this study, which contradicts our prediction. A possible explanation is that a focus on ability-approach goals in teaching writing to LSES students may be heightened by a deficit belief about these students' lack of cognitive attributes for successful writing and the appropriateness of a basic writing curriculum. This is because these deficit beliefs may lead teachers to feel the need to improve their teaching abilities in order to show that they can deal with the associated challenge, and hence, these goals exhibit a negative relationship with the teaching of basic writing skills, indicating that teachers strive to improving their abilities do not want to confine themselves to the teaching of basic writing skills for LSES students. In this sense, ability-approach goals can be positive. Further research is required to ascertain the nature of ability-approach goals for teaching writing to LSES students.

Goal profiles

The current study adds to the extant literature by examining how GOTWs can be combined to form distinct profiles among writing teachers. Only a few published studies have examined teachers' goal profiles (e.g. Watt et al., 2021). The current study found three goal profiles, mastery-driven, moderate-goal and

performance-driven teachers, consistent with our prediction. The mastery-driven teachers held strong mastery goals along with moderate ability-approach goals, resembling success-oriented teachers in Kunst et al. (2018) or high approach teachers in Watt et al. (2021) where mastery goals were dominant. The performance-driven teachers were similar to Watts' low task/high ego and low task/moderate ego profiles where ability-approach goals dominated the profile. The difference is that performance-driven teachers in the current study also held strong ability and work-avoidance goals, which might intensify negative motivation. The studies by Thommen et al. (2021) and Kunst et al. (2018) found a similar group of performance-oriented teachers who focused on both ability-approach and avoidance goals. Moderate-goal teachers were those who held average goals across all goal categories. This is similar to a large group of teachers, labelled as 'diffused teachers', in Kunst et al. (2018) whose scores were close to the means of mastery, performance approach and performance avoidance goals. However, a similar type of teachers was not recorded in Watt et al. (2021) or Thommen et al. (2021).

Like Thommen and colleagues (2021), goals related to performance were central to these different profiles in the current study. However, unlike Thommen and colleagues (2021), it appears that the presence of mastery goals and their relative strength separate these three groups of teachers in the current study. Having mastery goals as the dominant form of motivation, mastery-driven teachers taught more advanced skills, considered LSES students to possess cognitive attributes for successful writing, and rejected the appropriateness of basic skills instruction for LSES students, despite the presence of ability-approach goals in their profile. These teachers taught writing more frequently and spent more time on it. Conversely, performance-driven teachers, who held strong ability-approach goals along with the two avoidance goals, frequently taught basic skills, considered LSES students to lack attributes for successful writing, and deemed a focus on basic skills training appropriate for LSES students. They taught writing less frequently and spent less time on writing instruction. This, of course, may be due to the presence of avoidance goals in their profile. However, the absence of mastery goals is an important consideration when comparing writing instruction-related differences. Supporting this argument, moderate-goal teachers demonstrated a more adaptive instructional profile when compared to the performance-driven teachers, which can also be attributed to the presence of mastery goals in their profile. Overall, the current study showed that including mastery goals in teachers' profiles would be beneficial for the teaching of writing to LSES students.

Implications for theory development

This study has affirmed the relationship between GOTWs and writing instruction using both SEM and cluster analyses. It extends the applicability of the GOT framework to the context of teaching writing to LSES students. By demonstrating that teachers' beliefs significantly influence their instructional practices through their goals, the study confirms the mediational role of GOTWs. This highlights the importance of considering belief systems in the development of GOTWs and

teaching practices, suggesting that transforming teachers' instructional practices for teaching writing must address underlying beliefs and goals.

Implications for teaching writing to LSES students

In relation to promoting writing among LSES students, it seems that following a performance focused logic may be constraining. Teachers focused on performance tend to prioritise basic writing instruction, potentially neglecting LSES students' need for training in advanced writing skills. In this study, mastery-focused teachers seemed to adopt an equitable approach to learning, addressing LSES students' needs for learning both advanced and basic writing skills. These findings highlight the centrality of teachers' goals for understanding the diversity of teaching approaches teachers may adopt for teaching writing to LSES students. The presence of a mastery-driven group, alongside other groups, highlights this diversity and prompts questions about why some teachers remain unaffected by a test-driven educational climate spotlighting LSES students' writing under-performance. Furthermore, the covariate factors, teachers' age and teaching experience level of these teachers, predicted the frequency of teaching basic skills, suggesting that younger and less experienced teachers may be more susceptible to external pressures, such as government policies, influencing their professional practices. Future studies should consider this aspect when examining teachers' goals and practices towards writing instruction for LSES students.

Limitation and future research

There are several key limitations to consider when interpreting the findings of this study. The sample was not random, as participants were drawn from LSES schools, so the results should not be generalized to teachers in other SES settings. Additionally, the 33% response rate in this study is low, but aligns with similar studies in writing instruction (e.g., Bañales et al., 2020) and is common in education research (e.g., Nulty, 2008). Medway and Fulton (2012) found mailed survey rates can range widely from 16 to 75%, while Dillman et al. (2014) suggest acceptable rates are context dependent. Holtom and colleagues (2022) emphasise response quality over quantity, and Fosnacht and colleagues (2017) show that even low rates (5–10%) can yield reliable results. Considering these points, the 33% rate can be acceptable, though non-response bias remains a limitation for the current study. Another limitation is the reliance on teachers' self-reported data from a cross-sectional survey, which cannot be independently verified. Supplementing the survey data with observations of teachers' practices and interviews with students could offer additional perspectives. Longitudinal designs can address the limitation of the current cross-sectional design. Although the current study employed Butler's four-goal structure (2007), it is important to acknowledge that teachers may adopt alternative teaching goals. While our questionnaire initially included items assessing relational goals, these were removed due to their low reliability. Nonetheless, it is probable that relational goals may play a role in enhancing writing instruction for LSES students,

considering the results from Butler's additional investigation (2012). While ability-avoidance and work-avoidance goals may appear detrimental, their development in the context of teaching writing to LSES students remains unclear. In addition, further investigation is needed to understand the nature of ability-approach goals in this context. This study highlights the importance of teachers' beliefs in shaping their goals and instructional practices. However, a broader examination of contextual factors, such as government policies emphasizing meeting minimum benchmarks and promoting basic writing skills, could offer additional insights into teachers' GOTWs and writing instruction for LSES students.

Conclusion

Employing both variable- and person-centre analyses, the current study examined teachers' goals for writing instruction and instructional practices for grade 4 to 6 LSES students. Situating this investigation within the context of teaching LSES students is crucial for understanding how writing is taught and why specific instructional patterns emerge. The study reveals a direct link between teachers' beliefs, goals, and practices when teaching writing to LSES students. The findings prompt a critical reassessment of writing instruction for LSES students. The prevalent concern over these students' underperformance in writing may inadvertently lead to teaching goals centred on performance or avoidance, consequently diverting attention away from teaching advanced writing skills, inadvertently exacerbating equity issues in writing instruction for LSES students.

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Declarations

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