

Writing instruction with grade-level/college-bound secondary deaf students

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Writing Instruction with Grade-Level/ College-Bound Secondary Deaf Students

Abstract

In the current study, we used a sequential explanatory design to examine secondary writing instruction for deaf students in various school settings. An examination of secondary writing instruction was carried out in two cycles using a survey and subsequent focus group discussions. The first cycle ($n = 222$) presented an overview of secondary writing instruction for deaf students with diverse skill levels. The second cycle ($n = 18$) focused on writing instruction specific to grade-level or college-bound deaf students. We compared results from both cycles to investigate the similarities and differences in instructional practices and research needs between the two groups. We found that teachers are generally more prepared to instruct deaf students who are at grade level due to widely available curricula aligned with grade-level benchmarks. This contrasts with the challenges teachers face with creating or adapting materials for those who have experienced language deprivation. According to teachers, grade-level students receive 1.5 hours more weekly in writing instruction compared to the full sample. This study also indicates the importance of training teachers to teach skills in crafting arguments through writing, given its applicability to deaf students' future academic and personal goals.

Writing Instruction with Grade-Level/ College-Bound Secondary Deaf Students

Writing instruction is provided to students in K-12 settings to build skills that bring greater connection to their communities and the world. A previous study conducted by our research team showed teachers of the deaf prioritized individualized writing instruction to meet the diverse needs of deaf students at the secondary levels (Wolbers et al., 2023). For the purpose of this research, the term *deaf students* is inclusive of deaf and hard-of-hearing students. While our previous study intended to provide a broad view of writing instruction for secondary deaf students, many teachers’ comments focused on secondary students who are writing at emergent and elementary levels due to language deprivation. This offered limited understanding into how teachers support deaf students who are performing at grade-level in writing skills or who are preparing for college.

To fill this gap, we conducted a follow-up study with teachers who have taught or are currently teaching grade-level or college-bound secondary deaf students. We define this group of students as *grade-level* which means they are engaging with grade-level curricula. Students do not need to demonstrate grade-level equivalency on standardized writing assessments to be considered grade-level; however, they must be engaged in grade-level work expected of college-bound students.

We asked teachers of grade-level students to respond to the same survey that was used in the initial study, and once again, we followed the survey with focus group discussions. This paper offers an expansion of the findings from the initial study with additional information offered about grade-level deaf students. We begin this paper with a review of the literature pertinent to the domain of writing and then present the research questions that guided our investigation. Next, we provide detailed descriptions of the methods employed in our study and

present the results of our research, along with our interpretations. Finally, we propose recommendations for the advancement of research on writing instruction in deaf education.

The Importance of Writing

In the modern era, high school students frequently engage in writing through social media and text-based communication (Valkenburg & Peter, 2011). Almost all students believe they will continue to write beyond high school, and this practice will be important to their future success (Addison & McGee, 2010). Indeed, writing permeates virtually every aspect of contemporary life in the United States, especially in the professional sphere (Graham & Herbert, 2010). More than 70% of employees in over 120 major U.S. corporations, particularly those in service industries such as finance, insurance, and real estate, engage in writing as part of their daily duties. Accuracy, clarity of ideas, spelling, punctuation, and grammar in writing are viewed as important, leading major corporations to invest substantially in improving their employees' writing skills (Graham & Herbert, 2010). A survey conducted with deaf employees and their employers reveals a similar emphasis on writing in the workplace, regardless of the type of job or level of education (Biser et al., 2007). Challenges with clarity, organization, and spelling accuracy were commonly found in the writing of deaf employees, who often sought their employers' assistance for editing (Biser et al., 2007).

Writing is also an integral part of the post-secondary education experience as university and college faculty regularly assign writing tasks to students for them to demonstrate learning and understanding. Quality in college papers has been associated with text length and varied linguistic features (MacArthur et al., 2019) with faculty members prioritizing organizing, analyzing, and providing evidence as key skills in crafting well-written papers (Addison & McGee, 2010). Notably, argumentation emerges as the most prominent genre in academic papers

written by undergraduate students across diverse disciplines (Beck & Jeffery, 2007). Development of argumentative writing skills is expected prior to one arriving at college. Writers must develop their persuasive arguments, and also master the art of organizing and clearly expressing their thoughts and ideas in print, which can be a complex, time-consuming process (Graham & Herbert, 2010). Given these considerations, the importance of focusing on writing instruction in K-12 schools becomes clear.

Writing Instruction

Historically, writing has been considered a neglected skill in the U.S. education system, with greater emphasis placed on reading and mathematics (Mo et al., 2014). Graham’s (2019) review of 28 studies on writing instruction published within the past 15 years revealed concerning trends in contemporary teaching practices. Teachers are not applying evidence-based practices such as: providing at least one hour of daily writing instruction, giving students opportunities to write for different purposes with authentic audiences, modeling strategies for navigating the writing process, including planning and revising, and teaching students to construct different types of sentences. Moreover, secondary teachers are not adequately teaching argumentative writing skills (Applebee & Langer, 2011) despite its importance for post-secondary education and inclusion in the Common Core Standards (Lin et al., 2020). Observational studies of multiple schools indicate that most written tasks assigned to students were typically less than a paragraph in length and only 40% of teachers led students through a full writing process that also included reflection and revision (Applebee & Langer, 2011). In a standard 50-minute language arts period, an average of only three minutes were dedicated to writing instruction. These teaching practices are misaligned with the research-based recommendations for effective writing instruction (Graham, 2019). Students need frequent

opportunities to engage in the full writing process with teacher guidance and support.

Considering these findings, there are calls for research, evidence-based curricula, and state standards to give greater attention to teachers' instructional practices (Troia et al., 2015).

Writing Instruction with Deaf and Hard-of-Hearing Students

Deaf education has a long history of designing writing programs by applying hearing-centered pedagogy (e.g., Anderson et al., 1999; Fitzgerald, 1918) that largely emphasize grammar instruction. Many deaf students undergo years of grammatical drills to construct sentences focusing on the role and function of nouns and verbs, which typically involve teacher corrections (Hillerich, 1985; Wolbers et al., 2018). However, deaf students across various ages and educational settings, including deaf schools and public schools, have not demonstrated effective writing skills (Antia et al., 2009; Hrastinski & Wilbur, 2016; Mayer & Trezek, 2018). Students' underperformance may be attributed to the potential incompatibility of traditional writing programs with contexts and language experiences of deaf learners (Strassman & Schirmer, 2012). When the focus in general education shifted from decontextualized grammar instruction towards engaging students in the writing process, teachers of deaf students began emphasizing prewriting, writing, and revision skills (Kluwin & Kelly, 1991). Despite these instructional changes, the reality of limited access to spoken and/or signed languages persisted for many deaf students, leading to negative effects on the development of the brain such as cognition, executive functions, and reasoning skills (Hall, 2017). This results in ongoing struggles in multiple domains related to expressive language and writing (Mayer, 2010). Part of the issue lies in teachers of deaf students lacking specialized professional preparation in methods that support students who experience language deprivation and/or those who benefit from American Sign Language (ASL)/English bilingual instruction (Humphries, 2013). In an effort to

address this gap, educators are implementing and researchers are studying Strategic and Interactive Writing Instruction (SIWI), an evidence-based writing framework tailored for deaf learners with consideration for their diverse prior language experiences (c.f., Wolbers et al., 2022). SIWI is driven by strategic and responsive language instruction contextualized in authentic writing, while engaging in collaborative writing processes guided by teachers. More than 15 years of research show steady success in developing elementary and middle school deaf writers (Dostal & Wolbers, 2014; Dostal et al., 2015; Dostal & Wolbers, 2016; Dostal et al., 2021; Wolbers et al., 2012; Wolbers et al., 2015; Wolbers et al., 2018; Wolbers et al., 2020; Wolbers et al., 2022).

Secondary Writing Instruction With Deaf Students

Research into writing instruction for deaf students at secondary levels is surprisingly sparse, with practically no specific studies focusing on deaf students who are performing at grade-level. The few existing studies concentrate on isolated components of secondary writing instruction. For example, studies have shown that visual scaffolds can improve the use of adjectives in writing (Easterbrooks & Stoner, 2006), that rubrics with follow-up conversations can empower students to write independently (Appanah & Hoffman, 2014), and that writing processes can enrich writing and grammar skills (Kluwin & Kelly, 1991). The lack of comprehensive research on writing instruction for this age group of deaf students is alarming. Without a solid research base, deaf education teacher preparation programs may struggle to equip future teachers with effective instructional methods. When deaf students begin school lacking a strong foundation in spoken, signed, and/or written language and additionally encounter teachers who are unprepared to teach them, their potential for academic success is

compromised (Garberoglio et al., 2012). Evidence of this systemic concern may be found in Holcomb et al.'s 2023 study documenting the existence of emergent writers in upper elementary.

In our previous study (Wolbers et al., 2023) exploring the state of writing instruction for secondary deaf students whose skills ranged from emerging to proficient, our findings revealed that deaf students' individual writing needs had the greatest impact on writing instruction. Over fifty percent of teachers of deaf students reported feeling either unprepared or only somewhat prepared to teach writing to secondary deaf students. These teachers found it easier to teach basic skills like punctuation, spelling, typing, and grammar than more complex skills such as constructing strong arguments or making revisions. Most writing instruction focused on the narrative genre because teachers believed that deaf students lacked the necessary language and writing skills to handle other genres. Teachers reported that their students possessed *average* skills only in idea generation and *fair* skills in most areas of writing, such as translating ideas into written text and organizing and structuring ideas. Revising text, paraphrasing sources, and synthesizing information were ranked the lowest with the rating of *poor*.

Interestingly, in contrast to research on the hearing population which indicates inadequate writing instruction time, our study found that teachers spent approximately three hours a week on writing instruction. Moreover, almost all teachers expressed a need for more research into secondary writing instruction for deaf learners, particularly in relation to ASL/English bilingual approaches. Teachers often had to work with students on both ends of the language proficiency spectrum--those with basic language skills and those who are at grade-level. They expressed their main concerns were for students struggling to develop writing skills due to chronic experiences of language deprivation. In focus group discussions, teachers repeatedly stressed the need for their students to develop functional writing skills, a concept they often contrasted with

grade-level instruction. However, the study had limitations, particularly in failing to adequately represent what writing instruction looks like for grade-level deaf students. This is important because little is known about whether teachers of the deaf are equipped to teach this group of deaf students. To address this gap in the literature, our research question is: What is the state of writing instruction for grade-level deaf students in secondary levels?

Current Study

In this study, we build on the findings of our previous work by identifying a subset of teachers from the original sample who teach grade-level deaf students in secondary education settings. We provided these teachers with the same survey as in the original study which allowed us to compare their responses to the data of the larger sample of teachers. After collecting survey data, we invited teachers to participate in focus groups to discuss and elaborate on the survey findings. Through the focus groups, we were able to gather more comprehensive information about educators working with grade-level deaf students. We consider the previous study as the first of two cycles, with the study reported here as the second cycle in our ongoing examination of secondary writing instruction with deaf students. In this paper, we present the results of the survey and focus groups that were conducted with teachers who work with grade-level deaf students at secondary levels.

Methods

Design

As a research team, our focus has been on language and literacy in deaf education, with a particular interest in writing instruction. Our team is comprised of four white members, two of whom are hearing, one hard of hearing, and one deaf. The purpose of this study was to learn about secondary writing instruction with deaf students who are given grade-level curricula, and

to compare findings regarding this population of students with our previous findings, which examined writing instruction occurring with deaf students demonstrating diverse writing skills. This study has been approved by the Institutional Review Board.

Mixed methods research using sequential explanatory design was applied (Ivankova et al., 2006). This approach was used to gather quantitative data through a survey and then describe the results through focus group responses. This sequence in research design provided greater insight into the results of the survey. Both research cycles (initial and current study) employed identical methods of survey and focus groups. The only difference represented in the current study is the specific focus on grade-level students. See Figure 1 for our research cycles and methods.

Survey Instrumentation

The survey came from Gilbert and Graham (2010)'s survey of writing instruction in upper elementary general education settings. Minor adaptations were made to fit the context of secondary education for deaf students (e.g., incorporating features such as signed language and bilingualism). Seven members of a research team involved in studying the impact of SIWI on deaf students' writing piloted the survey and provided feedback on the formatting and question items. The survey contained 6 topics related to writing instruction. These topics addressed the following areas: factors influencing time and focus on writing instruction [6 questions], student writing skills [14 questions], teacher preparation and instructional skills [15 questions], opinion on the importance of writing skills [1 question], amount of time spent teaching writing [3 questions], and attention to various genres [2 questions]. The majority of the questions were structured in the form of Likert-style scales. For example, one question asked, "Do these factors influence the time and focus of your writing instruction with grade-level students?" and provided

a list of categories such as “high stakes writing assessment,” “post-secondary education admission”, and “workforce entry”. Teachers selected a response for each category from a 5-point scale - “No,” “Rarely,” “Sometimes,” “Often,” and “Always”. Other questions required teachers to report a percentage (e.g., the percentage of time spent teaching each genre) and specify time amounts (e.g., the number of minutes allocated to writing instruction). We also asked demographic questions such as gender, race, educational setting, grade, and the language of instruction.

Survey Participants

During the first cycle, we spent five months developing an extensive list of email addresses of administrators and teachers across all grades in special schools and local programs serving deaf students. We disseminated the survey to 2,137 teachers and also posted invitations on professional listservs and social media platforms. Out of 2,137 emails sent, 609 emails did not reach the intended recipients due to inactive email addresses or schools’ email security measures. With the remaining 1,528 emails that were successfully delivered, the response rate was 28% with 415 teachers initially responding to the survey. However, only 222 of these respondents met the study’s inclusion criteria of teaching secondary students and continued in the study by completing the survey. At the end of the survey, we queried participants about their interest in participating in focus groups to discuss the results. A total of 97 teachers expressed their interest and entered their email address into the survey.

During the first phase of our second cycle, we contacted the 97 teachers who expressed interest in participating in focus groups. Our invitation to participate was specific to those who are currently teaching or who have taught grade-level students. Eighteen teachers who confirmed working with this subgroup were provided the link to retake the survey. They were asked

specifically to consider the grade-level students they have taught when responding to the survey questions. Afterwards, they were invited to participate in focus group sessions on Zoom. One teacher did not share their demographic information. Out of 17 teachers, 15 were white, one was black, and one was mixed race. Eleven teachers were hearing, five were deaf, and one was hard of hearing. Fourteen teachers were women, one was male, and two were non-binary. Nine teachers worked in middle school levels, and eight worked in high school levels. Eleven teachers worked in signing bilingual environments, and six worked in spoken English environments. Nine schools of the deaf and five public schools from 14 different states were represented in this sample.

Focus Groups

Our focus group questions were semi-structured, drawing upon survey results from the first and current study to elicit interpretations from the teachers. For example, we asked: “After reviewing the survey data on student skills for the full sample and grade-level subset, could you share more about your thoughts and experiences?”. On occasion, we prompted participants to consider more thoroughly why their survey responses differed from the previous larger survey results: “Why do you think those persons teaching grade-level students spend more time weekly on grammar instruction and independent writing?” The first three authors rotated roles in asking questions, facilitating discussions, and taking notes. The comments made by the teachers were then transcribed and summarized. We subsequently sent a technical report containing summaries of the data to focus group participants and requested their suggested revisions or confirmations on the accuracy of the data being reported.

The 18 teachers were divided into three focus groups based on their instructional context and level. Of the 18 teachers, 11 were able to attend the focus group sessions. Group

composition was as follows: (a) three middle school teachers providing writing instruction in both ASL and English, (b) six high school teachers providing writing instruction in both ASL and English, and (c) two middle and high school teachers providing instruction in English only. The focus groups sessions were held on separate days on Zoom lasting an hour each and were video recorded. The demographic data of participants are representative of the overall survey respondents. Eleven teachers (Black n=1, white n=10; women n=9, men n=2; deaf n=3, hearing n=8) from nine different states participated in the focus groups. These teachers represented different settings (deaf school n=8, self-contained classroom n=1, itinerant n=1), levels (middle school n=5, high school n=6), and language of instruction (spoken English n=2, ASL and English n=9). In two of the focus groups, everyone used ASL for communication. In the third focus group, both teachers and one researcher communicated through spoken English while two researchers used ASL. To ensure communication access among participants in this group, an ASL/English interpreter was present.

Data Analysis

We calculated descriptive statistics, including means and standard deviations, of the survey data, and then we followed the quantitative analysis with summaries of teachers’ interpretations of the survey results. Teachers’ interpretations were summarized after transcribing and synthesizing the comments made during focus groups. After each focus group concluded, the first three authors reviewed the Zoom recordings and transcribed all teacher comments. Comments were then given keywords that summarized the focus and the content of the comments. Researchers then synthesized across the teachers’ interpretations and created summary discussions of each survey topic. Pertinent quotes that substantiated the findings were chosen for inclusion. Survey results and teacher interpretations were consolidated into a

technical report that was shared with all participants. Once the teachers confirmed the accuracy of the data, we moved forward with the preparation of the final manuscript for publication.

Results

This comprehensive examination of secondary writing instruction for deaf students, carried out in two cycles, utilized a nationwide survey and subsequent focus group discussions. The first cycle presented a broad overview of secondary writing instruction of deaf students with diverse skill levels and needs, from emerging to proficient writers (see Wolbers et al., 2023). The present study, or the second cycle, focused on writing instruction specific to grade-level deaf students. Given that both cycles utilized identical methods, it allows us to draw meaningful comparisons between writing instruction for deaf students with diverse writing skills and those at grade level or aiming for college. The survey results from both cycles were shared with the focus group participants to elicit thoughts and experiences that would illuminate the quantitative data and to provide insight into potential reasons for differences between the sets of data. In this section, we present the survey results from the second cycle and compare these data to the first cycle results. This presentation of data is then accompanied by summaries of focus group discussions from the grade-level subset. Hereafter, the term *full sample* will refer to the first study focusing on teachers of diverse deaf learners, while the term *grade-level subset* denotes the current study involving teachers of students meeting or exceeding grade-level expectations. These comparisons allow us to explore the nuanced differences in writing instruction, learning experiences, and observed outcomes in two different groups of students. This section reports the findings of the current study, and also discusses the similarities and differences in instructional practices, challenges, and research needs that were found in comparison to the full sample.

Factors Influencing Time and Focus

Survey

The survey explored the factors influencing teachers’ focus and time spent on writing instruction, with responses ranging from *never* (1) to *always* (5). Students’ individual writing needs were reported to have the most influence on the time and focus of writing instruction (M=4.78; SD=0.42). After students’ individual writing needs, grade-level standards (M=4.00; SD=1.05), program curricula (M=3.72; SD=1.04), workforce entry (M=3.67; SD=1.05), and post-secondary education admissions (M=3.56; SD=1.01) were reported as *often* influencing the time and focus of writing instruction. High stakes writing assessment *sometimes* influenced the time and focus of writing instruction (M=3.17; SD=0.96).

The grade-level subset had similar rankings as in the full sample, with students’ individual writing needs taking the highest priority and *always* influencing time and focus of instruction. The major difference between the grade-level subset and the full sample is that grade-level standards and program curricula had greater influence on writing instruction for the former group. Additionally, workforce entry and post-secondary education admissions were reported as *often* influencing time and focus with the grade-level subset, whereas these were reported as *sometimes* influencing time and focus in the full sample. See Table 1.

Focus Group

Students’ Individual Needs. Teachers broadly agreed that students’ individual academic needs were the instructional priority, as mandated by their Individualized Education Programs (IEPs). This comment made by a high school teacher working in a bilingual school for the deaf (written as *deaf school* in this article) reflected the sentiment shared by several participants, “For students who can handle college, they have IEP goals that support their development for college.” When asked to further elaborate how individualized instruction relates to college

preparation, a middle school teacher working in a bilingual deaf school explained, “I need to document in the IEP... whether it is attainable for them to go to college... this definitely impacts my writing instruction.” As classes designed for deaf students are typically small, several teachers felt it was possible to focus on all the students’ individual needs regardless of how diverse their needs were. The consensus was that IEPs automatically individualize each child’s learning in the classroom, and that they play an important role in whether and how students are prepared for college.

Grade-Level Standards. Most teachers believed that adhering to grade-level standards and curricula would prepare students for college, as these embed the required skills in a sequential learning process across grades. Teachers often made explicit connections between what students were learning, the grade-level standards, and the skills required to succeed in college. A middle school teacher from a bilingual deaf school stated, “With grade-level standards embedded in the curriculum, it is my belief that they will have appropriate skills to enter college.” However, there were concerns about standards being interpreted differently by teachers based on their own expectations. Teachers may or may not apply the standards rigorously, which impacts how prepared their students will be for college. A high school teacher from a public school cautioned, “The standards are so broad; you are free to do what you make of them.” Overall, most teachers agreed that grade-level standards can adequately prepare students for college, given high expectations for student performance and outcomes.

Grouping for Standards-Based Instruction. The number of deaf students in a program was noted to impact instructional format and focus. In schools with a sufficient number of deaf students, commonly termed “critical mass,” teachers were able to form groups based on language and writing needs more effectively than in schools with fewer deaf students. A teacher from a

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3 large deaf bilingual school shared that after her students take standardized writing assessments,
4 they are either placed in: (a) a class that adheres to grade-level standards or (b) a class that uses a
5 modified curriculum. She said, “I follow grade-level standards for grade-level classes while I do
6 not for other classes.”
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12 **College Preparation.** Teachers shared various resources provided by their schools to
13 support students’ aspirations for college. As one teacher illustrated, she often aided her students
14 in completing vocational rehabilitation applications. In certain deaf schools, Advanced
15 Placement classes were available, offering students the opportunity to earn college credits
16 concurrently. A high school teacher from a bilingual deaf school explained, “What they learn in
17 my classroom aligns with the standards expected on the ACT. We look at ACT essays as
18 examples and discuss how we can produce similar text.” However, if college preparation was not
19 documented in the IEP, the teachers’ instructional focus shifted away from test preparation and
20 essays. One high school teacher expressed her belief that the focus on college preparation could
21 be too narrow and that a broader priority should be placed on the ability to write effectively for
22 authentic purposes. She explained:
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37 I don't think specifically about supporting students with a college entry essay when they
38 are seniors. It's more about what kind of academic writing do I expect? Will they be
39 writing academically, or will they be writing more for functional purposes? What's the
40 purpose of their writing?
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47 Middle school teachers agreed that college preparation becomes more relevant and important in
48 high school. A teacher from a bilingual deaf school said, “In middle school, I am thinking about
49 college a little bit but not really as much as high school teachers.” The consensus was that
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college preparation was not a concern for middle school teachers at their level, which was similar to the findings with the full sample.

Teacher Preparation and Skills

Survey

Teachers were asked to gauge their preparedness to teach writing to grade-level deaf students on a scale from *not prepared at all* (1) to *very prepared* (5). Teachers reported feeling *mostly prepared* ($M=4.00$; $SD=0.67$) to provide writing instruction to this group of students. Teachers in the grade-level subset expressed greater confidence in their preparedness in comparison to the full sample of teachers who conveyed being *somewhat* prepared to teach writing.

The next question asked teachers of students on grade level to rate their current skills for teaching 14 writing skills on a scale from *poor* (1) to *excellent* (5). Teachers considered themselves to be *very good* at teaching students the majority of skills, including punctuating appropriately ($M=4.11$; $SD=0.94$), spelling correctly ($M=4.00$; $SD=0.82$), generating ideas ($M=4.00$; $SD=0.82$), organizing and structuring ideas ($M=3.94$; $SD=0.70$), understanding and considering multiple viewpoints ($M=3.94$; $SD=0.70$), translating ideas into written text ($M=3.83$; $SD=0.69$), constructing strong arguments ($M=3.83$; $SD=0.90$), typing fluently ($M=3.83$; $SD=1.07$), using accurate grammar ($M=3.78$; $SD=1.03$), and revising their writing ($M=3.72$; $SD=1.10$). They rated themselves as *average* at synthesizing information from multiple sources ($M=3.44$; $SD=1.01$), using tone and style appropriate for the intended audience ($M=3.44$; $SD=1.01$), paraphrasing source material ($M=3.39$; $SD=1.06$), and citing or referencing sources ($M=3.39$; $SD=1.25$). Teachers in the full sample rated themselves as *very good* at teaching 13 of the 14 skills, all except teaching students to synthesize information from multiple sources, which

they rated themselves as *average*. Comparing both groups, the grade-level subset appeared to be slightly less confident in their ability to teach students how to adjust tone and style, paraphrase source material, and cite sources. See Table 2.

Focus Group

Teachers discussed their preparedness in two ways: (1) whether they had received adequate training to develop necessary knowledge and skills, and (2) whether they had sufficient daily preparation time for instruction. Some teachers suggested that their experiences in English and/or linguistics classes during college had increased their confidence and familiarity with writing pedagogy. One high school teacher from a bilingual deaf school commented:

In undergraduate, I specialized in linguistics, and this prepared me well for teaching literacy, more than the teaching preparation program did. My master’s degree in deaf education focused more on theories, and they weren’t applied to teaching. So, I feel my undergraduate program prepared me more for teaching writing.

Other teachers also reported their teacher preparation programs did not emphasize writing instruction, with one high school teacher from a bilingual deaf school disclosing she never received any training to teach writing. She explained, “Thinking back to my master's program, there wasn't a lot of focus on writing, unfortunately. When I first went into teaching, I really had no experience in the area of teaching writing.” Some of these teachers paid out of their pockets to receive training specific to writing instruction, while others benefited from professional development provided by their schools. A few teachers felt that although years of professional development and teaching experience made them experienced and effective teachers, they still lacked sufficient time to prepare for the next day’s instruction. A middle school teacher from a bilingual deaf school stated, “With many years teaching, I have experience and flow, but then

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3 students are changing all the time and you constantly need to collect more resources. I don't have
4 the time to be prepared and effective.” There were general agreements across focus groups that
5 finding adequate time to prepare for instruction was a challenge.
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10 Most teachers described feeling prepared to instruct grade-level students based on the
11 premise that they follow grade-level standards that are already embedded within available
12 curricula. They agreed that there are plenty of materials, resources, and lessons they could
13 readily access and use with their students. As grade-level students tend to learn and develop
14 writing skills at a quicker pace, teachers felt a heightened sense of competence. A middle school
15 teacher from a bilingual deaf school explained:
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23 With grade-level students, it is easier to see their improvements. It feels like a cycle:
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25 They apply what you teach, and you see immediate progress. This cycle is encouraging
26 for me as a teacher. With students who are below level, you teach and teach and teach,
27 and you don't see much progress. You think maybe you did something wrong and that
28 maybe you are not ready. This impacts my feelings of preparedness.
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35 The strategies teachers shared about teaching writing skills to grade-level students seemed to
36 align with some evidence-based practices, such as establishing authentic readers and providing
37 mentor texts. One middle school teacher from a bilingual deaf school commented, “Having an
38 audience really changes how I teach... It allows students to actively think about their audience
39 and receive a response from them. They are not just writing for the sake of writing.” Teachers
40 concurred broadly that mentor texts also foster interest and motivation. One middle school
41 teacher from a bilingual deaf school highlighted the role of mentor texts in facilitating reading
42 and writing connectivity. She explained, “I'm big on mentor texts. When reading, you can see the
43 structure of the writing, and it will improve students' own writing structure.” While discussing
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mentor texts, several teachers expressed enthusiasm about the creativity and multimodality of their lessons on argumentations. However, one high school teacher from a bilingual deaf school disagreed and shared her frustrations about feeling ill-prepared to teach grade-level students. She remarked:

This year I am teaching grade-level students for the first time, and I do not feel prepared at all. I am uncertain whether I should be giving them more work or if the load is too much. I did not receive any training on writing instruction.

Aside from this teacher, there was widespread consensus across focus groups that teachers felt more prepared to teach grade-level students than those who are not at grade-level.

Teachers reflected on feeling less prepared to instruct deaf students who are not at grade-level, largely due to a scarcity of curriculum, materials, and training tailored to these students' needs. One high school teacher using spoken English in public school expressed her initial shock: "I remember, especially my first year coming in and looking at these students' writing and saying, you know, where do I even begin with this?" Another high school teacher working in a bilingual deaf school voiced a similar sentiment, adding, "We do not have appropriate curriculum and materials that match their needs. I make a lot of modifications from curricula designed for hearing students." A middle school teacher working in a bilingual deaf school agreed, "If I used Google for ideas and support, there would be plenty of resources for grade-level students. But when you are teaching 14-, 15-, or 16-year-old students who are writing many levels below their age, the resources are simply not there." Two high school teachers working in public schools, who are hearing, shared that they had grade-level instruction while growing up. They found it challenging to rely on their personal experiences when working with deaf students whose language skills were delayed by many years. One of them commented:

With deaf students who are delayed, sometimes it takes a lot of thought and perspective to say, ‘how do I adjust my hearing brain to be able to teach this in a way that works with the deaf brain?’, because my hearing brain is so reliant on how things sound and what sounds right.

The lack of training and preparation specifically geared towards the context of deaf education makes it difficult for teachers to support their deaf students’ learning needs. These accounts help clarify why the grade-level subset feels more prepared to teach writing compared to those who teach deaf students not performing at grade level.

Student Writing Skills

Survey

The survey examined deaf students’ writing skills by asking teachers to report mean level skills across their grade-level students on a scale from *poor* (1) to *excellent* (5). We share the results of how each skill was scored by the teachers. Teachers reported that their students had *very good* skills (4) in generating ideas, which was the highest of all 14 skills listed (M=3.61; SD=1.06). Their students had *average* skills in typing fluently (M=3.44; SD=1.07), punctuating appropriately (M=3.28; SD=0.87), spelling correctly (M=3.11; SD=1.10), understanding and considering multiple viewpoints (M=2.94; SD=1.18), translating ideas into written text (M=2.83; SD=1.17), organizing and structuring ideas (M=2.67; SD=1.05), constructing strong arguments (M=2.67; SD=1.11), and using accurate grammar (M=2.61; SD=0.89). Their students had *fair* skills in using tone and style appropriate for the intended audience (M=2.39; SD=1.06), synthesizing information from multiple sources (M=2.33; SD=0.67), citing reference sources (M=2.28; SD=0.99), paraphrasing source materials (M=2.22; SD=0.85), and revising writing (M=2.18; SD=0.78).

Both the full sample and grade-level subset exhibited a similar ranking of writing skills, from strongest to weakest, with idea generation being the strongest and revising and paraphrasing the weakest. However, teachers of the full sample largely rated their students' skill levels as *fair* across most writing skills, while the teachers of the grade-level subset rated their students' writing capabilities higher, with one *very good* writing skill, eight *average* writing skills, and five *fair* writing skills. See Table 3.

Focus Group

Teachers noted that the results from the full sample and grade-level subset indicated similar rankings of strengths and weaknesses in skills, with the grade-level subset reporting higher student skills overall. They generally agreed that idea generation was their students' strength. A high school teacher from a bilingual deaf school explained, "My students have a strong start to their writing, but they lack finesse to finish. They do not really have the stamina to receive feedback and continue to improve their paper until completion." All teachers reported that their students typically stop after the first draft and avoid revising their papers based on received feedback. The same teacher elaborated:

They would become defensive and say they cannot change their writing. They want me to edit their paper for them, but that is not what I am doing. I am providing revisions that students can make to improve their papers. I don't care about grammar yet, and I am mostly interested in helping them improve their ideas.

This brought us to the question of whether having *average* skills in the majority of writing areas is sufficient for college admission. Teachers in the grade-level group were optimistic, expressing their belief that students would develop the necessary skills for college success simply by adhering to the standard-embedded curriculum used in their classes. This

confidence was further reinforced by their curriculum's alignment with the students' writing development and their pace of new skill acquisition. However, a high school teacher working in a bilingual deaf school shared her concerns that assignments for middle school students at her school are mostly free writing or narrative writing, which in her opinion falls short in developing essential skills for high school-level writing, especially in the argumentation genre. Interestingly, teachers from both the full sample and grade-level subset shared a common vision for their students' writing skills: they hoped to enable their students to write for purposes directly relevant to their lives and aspirations, stressing functional writing for communication and academic writing when applicable to their life goals.

Most Important Skills

Survey

In the survey, teachers were asked to select the three skills they considered most important for their students out of the 14 writing skills mentioned in the previous question. Nineteen percent of teachers' votes were for constructing a strong argument as an essential skill. Seventeen percent were related to organizing and structuring ideas, and synthesizing information from multiple sources were important skills. Teachers of the full sample considered translating ideas into written text (21%), organizing and structuring ideas (19%), using accurate grammar (10%), and generating ideas (10%) as the most important skills. While both groups ranked organizing and structuring ideas as one of the most important skills, they differed on the other top ranked skills. Using accurate grammar (7%), generating ideas (0%), and typing fluently (0%) did not rank among the top three skills for deaf students who are at grade level. See Table 4.

Focus Group

Teachers agreed that a specific set of skills, particularly in argumentation, were more important for those who were aiming for college. When asked to discuss how they teach argumentation skills, teachers offered various strategies. Teachers provided lessons on perspective-taking, elements of persuasion, and substantiating claims with evidence, which they taught using mentor texts and other strategies. One high school teacher from a bilingual deaf school reported teaching argumentation through respond-to-literature activities. After students read a text, they formed a claim and substantiated it with evidence from the text. She believed this approach prepares students for tests and college writing. Two high school teachers from bilingual deaf schools emphasized the importance of making real-world applications when teaching argumentations. For instance, one teacher shared:

My students are writing a letter to send to the administrators to argue that they should be able to buy coffee. This real-life example motivates them to write. I help them build a foundation in understanding what makes a good argument -- using ethos, pathos, and logos, as they are key components in getting other people to agree with you.

Another teacher found providing stem sentences such as “I say” and “they say” useful for students to consider different perspectives on a topic, especially on the topic of deafness, given its relevance to their lives. This exercise in considering other people’s viewpoints introduces students to the concept of counterarguments.

Two high school teachers from public schools reported that their deaf students often lacked basic world knowledge and critical thinking, which impacts their ability to organize or synthesize information. One teacher commented:

What I discovered is critical thinking is something that my students do not have a lot of practice with. One of the ways I ended up approaching this is we just talk and talk, just even the basics of who, what, when, where, why, and how.

Another teacher added:

A lot of our students do not have a lot of the background knowledge and experience that a typical hearing student would. It's difficult to come up with ideas if they don't have experiences, and if they don't know different viewpoints on certain widespread topics that are very apparent to many people.

This teacher adopted a one-on-one approach with her deaf students and provided explicit instruction on each step involved in building argumentations.

Attention to Genres

Survey

In the survey, teachers were asked to report on the percentage of time they spend teaching each genre in a school year. On average, narrative writing was taught 22% of the time, informative writing 25% of the time, argumentation writing 33% of the time, poetry 10% of the time, and other types of writing 9% of the time. Following up on the previous question, teachers were surveyed on their opinion regarding the most important genre for their students. None of the teachers identified narrative, poetry, or other kinds of writing as paramount. Rather, 56% of the teachers considered argumentative writing as the most important genre while 44% of the teachers believed informative writing held the most significance.

These results from the grade-level subset presented a contrast to the full sample, where narrative writing was taught most frequently (31% of instructional time), followed by informative writing (28% of the time) and persuasive writing (22% of the time). In the full

sample, the majority of teachers (54%) regarded informative writing as the most important genre, while only 18% of teachers considered argumentative writing of high importance. This means teachers in the full sample did not align their instructional focus (narrative) with the genre they prioritized most (informative). Conversely, teachers working with grade-level deaf students perceived argumentation as the most important genre and devoted most of their instructional time teaching this genre accordingly.

Focus Group

Most teachers agreed that narrative writing was not emphasized in their instruction, and that argumentative writing was the most important genre for secondary students at grade level. As argumentative writing often incorporates narrative and informative elements, teachers regarded this genre as comprehensive. One middle school teacher from a bilingual deaf school stated, “Argumentative writing is important because they will need to persuade people for the rest of their lives.” A high school teacher from a bilingual deaf school agreed, “Argumentation is in everything, even in the emails we write!” Reflecting on their own college experiences, several teachers noted that argumentative writing was the genre they engaged with most frequently. Therefore, they knew mastering this genre was critical for their grade-level students.

One high school teacher from a bilingual deaf school observed that while his students could comfortably compose full pieces of narrative and informative writing without much support, they found argumentative writing more difficult. This meant students relied on instruction and practice to succeed in this genre. He reflected, “This genre has more value in my instruction because I really do need to teach it.” Another high school teacher from a bilingual deaf school explained that her students receive instruction on information reports from teachers in other content areas, which allows her to concentrate on developing their argumentative writing

skills. She explained, “Social studies and science teachers need to meet the IEP goals of having their students read informational text and write information reports while I can focus on argumentative writing.” A middle school teacher from a bilingual deaf school mentioned that her teaching has always hinged on high stakes tests and that there was a large focus on persuasive writing in the past, but that has shifted towards narrative writing more recently. As for poetry, teachers expressed varied views of the value of this genre. Some teachers had deep appreciation for poetry and believed that the freedom in writing greatly benefited their students, while others found it challenging to teach.

Time Spent in Teaching Writing

Survey

Teachers were surveyed about the amount of time they spend teaching different components of writing. On average, they reported spending 71 minutes per week on direct writing instruction, which involved teaching writing genres, processes, or text knowledge. They spent an average of 90 minutes per week on teaching grammar such as vocabulary, word order, and sentence structures. They engaged students in writing tasks that did not include instruction for an average of 97 minutes per week. Altogether, writing instruction and practice are provided to grade-level deaf students for approximately four and half hours per week.

Similar to the grade-level subset, teachers in the full group engaged in direct writing instruction for an average of 69 minutes per week. However, they spent considerably less time in the other two areas: grammar instruction (60 minutes per week) and having students write (68 minutes per week). On average, the full sample engaged in writing instruction and practice for approximately three hours a week, which is an hour and half less than the grade-level subset.

Focus Group

All teachers agreed that their grade-level deaf students spend more time writing than other students due to their greater capacity to write independently. One middle school teacher working in a bilingual deaf school said, “Time spent on writing reflects students' independence in writing.” A high school teacher from a bilingual deaf school further elaborated:

Stamina is one thing and having a larger vocabulary is another. They are able to write down all of their ideas with the vocabulary they have. Language-delayed students max out with their vocabulary, making it challenging to write down everything they want to say. Grade-level students can spend more time writing due to their stamina and large vocabulary.

Teachers observed that their grade-level students could spend about thirty minutes writing nonstop or complete a full-page paper in a single sitting. These observations provide context for why grade-level students write approximately thirty minutes more per week compared to other students, according to teacher reports.

Discussion

Existing studies on secondary writing instruction with deaf students are limited, and data from the current studies reveal differences between writing instruction in deaf education and general education contexts. In our previous study involving deaf students with diverse writing skills, we found that, unlike general education teachers, deaf education teachers often did not focus on post-secondary education admission or high stakes tests (Wolbers et al., 2023). This difference was explained by deaf education teachers as deaf students not having adequate language and writing skills to construct complex texts due to experiences of language deprivation. Instead, deaf education teachers individualized their writing instruction to cater to each student’s unique needs. Yet, teachers felt adapting general curricula was not effective in

meeting diverse deaf students' needs. Teachers across deaf schools and public schools in the previous study identified needed research and specialized resources designed for deaf students' unique contexts, such as ASL/English bilingual approaches. Surprisingly, the current study found that deaf education teachers working with grade-level students also regarded students' individual writing needs as the most important factor influencing their instructional time and focus, even more so than considerations related to post-secondary education admission or high stakes tests. This finding stands in contrast to general education teachers' time and focus in instructional practices, perhaps due to priorities shifting toward other skills based on students' IEP and post-secondary goals. However, as IEPs are mandated by the law and individualized to each student's learning aspirations, teachers can still help them accomplish their goals of passing high stakes tests, attending college, or securing employment (Foster & Cue, 2008).

Argumentative Writing and Text Revision

The Common Core State Standards stress the need to develop secondary students' skills in the genre of argumentation (Lin et al., 2020). Through writing argumentations, students participate in intellectual discourses with varied audiences for diverse purposes. Argumentation is also a crucial skill for success in higher education, given its demand for critical thinking, perspective-taking, and application of analytical skills (Beck & Jeffery, 2007). However, general education teachers typically focus on preparing their students for high stakes tests, especially during high school, when college admissions become increasingly important (Avalos et al., 2020; Lesley et al., 2021). In these high stakes tests, the writing prompts tend to be diverse, allowing narratives, argumentations, and explanations to be integrated in written responses (Beck & Jeffery, 2007).

There was a strong focus on argumentation in the group of teachers working with grade-level deaf students. These teachers felt argumentative writing was essential to college and life, and spent a large percentage of their instructional time in this genre. This prioritization aligns with expectations of Common Core Standards (Lin et al., 2020). However, high school teachers expressed lingering apprehensions about whether teachers were adequately teaching argumentative writing to deaf students in middle school to prepare them for high school standards. High school teachers in this study also noticed that incoming students lacked proper training to meaningfully revise their writing to enhance its quality, a complex skill necessary for argumentative writing, among other genres. A potential explanation for this, based on comments from middle school teachers in focus groups, is the reluctance to begin college preparation at such an early stage and the desire to make writing experiences positive for their students. Consequently, teachers from both the full sample and grade-level subset observed that their students had limited knowledge of argumentative genre features and were reluctant to revise their work, preferring instead to complete the writing process after idea generation and initial drafts. The skills and stamina required for student engagement in the full writing process begin and continue to develop through a teacher’s approach to writing instruction (Graham et al., 2023).

Deaf education teachers are not alone in their hesitancy to commit substantial instructional time to complex tasks such as revising and editing. Only approximately 40% of general education teachers lead their middle and high school students through the full writing process, but 90% reported engaging in idea generation (Applebee & Langer, 2011). Indeed, idea generation may not be as challenging as transferring ideas to print, as the latter involves more complex cognitive strategies that take many years to develop (Graham et al., in press).

Furthermore, bilingual students may generate ideas in their dominant language (e.g., ASL) and record them in written English, but struggle to draw on necessary linguistic resources to edit and revise their initial drafts, requiring explicit instruction and support from the teacher. If the teacher has limited training in supporting students through the translation and refinement processes, they may be less likely to engage in these aspects of the writing process.

Very little is known in the literature about grade-level deaf students and their writing performance, or argumentative writing specifically. A recent survey indicated that approximately 75% of teachers worked with deaf students who had language delays and diverse reading levels, but provided no information about grade-level students (Dostal et al., 2021). Our current study reveals that teachers of grade-level deaf students acknowledge the value of teaching argumentative writing and dedicating time teaching skills that support mastery of this genre. However, the application of evidence-based practices is inconsistent among teachers. While some teachers describe effective pedagogical approaches, others express a lack of pedagogical knowledge. Indeed, it may be challenging for deaf education teachers to engage in effective teaching when there is a limited research base and training in this area. It was not until recently that evidence-based practices for upper elementary deaf students were identified (Wolbers et al, 2022). Simply following state standards and delivering a general grade-level curriculum to high school deaf students does not guarantee effective teaching and learning of writing skills. Unique considerations need to be made for the deaf context with respect to language access, language background, and inclusion of accessible language.

Preparedness

Teachers expressed mixed opinions about the adequacy of their preparation. Most teachers attributed their preparedness to personal experiences attending college English literature

or linguistics courses, or professional development sought while in their teaching position. However, a few teachers felt ill-prepared due to not receiving information about writing instruction in deaf education courses. It is not surprising to learn of this absence of training, given the lack of comprehensive research on writing instruction for secondary deaf students (Strassman & Schirmer, 2013). Some hearing teachers in mainstream schools found it challenging to teach deaf students since their own writing development experiences were different, having acquired spoken English as their native language without much effort. Reinforcing this finding, another study of predominantly hearing itinerant teachers echoed their feelings of under-preparedness (Luckner & Ayantoye, 2013). These varied experiences reveal that, overall, teachers do not receive adequate training specific to writing instruction for deaf students during their college years. This highlights the importance of emerging research on writing instruction for secondary deaf students, teacher preparation programs, and continuous professional development to empower all teachers to become knowledgeable and confident in their instructional roles.

Time Spent on Writing Instruction

Reflecting on the frequency of writing instruction, teachers in the grade-level group reported an average of over four hours per week, which more closely aligns with the standards of writing research that state at least one hour of writing instruction and practice daily is beneficial for writing development (Graham et al., 2012). Grade-level students spend more time writing weekly due to their ability to engage in independent writing. It is this independence that allows teachers to lengthen instructional time allocated to writing. In contrast, students who grapple with the effects of language deprivation require extensive instruction and supported practice at every stage of the writing process (Holcomb et al., 2023; Wolbers et al., 2023). Their teachers

find it difficult to increase writing time, and instead spend more time on building background knowledge through signed or spoken language.

General education teachers largely fail to provide at least one hour of daily writing time (Graham, 2019). In fact, Applebee and Langer (2011) discovered that out of 50 minutes of daily language arts instruction, teachers dedicated an average of only three minutes to writing instruction. We do not know if the stark differences between general education and deaf education teachers is due to influences of their teacher preparation programs, as we did not collect information on the educational backgrounds of teachers or their degrees. However, the differences do indicate the deep commitment teachers have towards developing deaf students' writing skills, regardless of whether they are college-bound or not. Given that writing is a crucial communication channel for deaf students in an English-dominant society, especially for those who do not use spoken language, this dedication is not surprising (Henner & Robinson, 2023).

Limitations

This study hinges on teachers voluntarily providing data about their beliefs and perceptions, their instructional methods, and their students' abilities. With this approach to data collection, bias is possible if teachers are swaying their responses to align more favorably with societal expectations. However, it was beyond the scope of this research to corroborate the survey findings with nationwide observations of teaching techniques. While the focus groups yielded information that provided in-depth descriptions of the survey results, future research would benefit from direct observations of teacher practices, and cross referencing these data with student writing outcomes.

Similar to our previous study, the survey that we used did not undergo rigorous validity and reliability procedures. The questions, derived from previously published surveys on general

education teachers (Gilbert & Graham, 2010; Kiuahara et al., 2009), were adapted to fit the context of deaf education. As a result, interpretation of the same questions could possibly vary among teachers. For example, some teachers could have rated their students’ writing skills based on comparisons to other deaf students’ skills while others could have considered grade-level benchmarks. Another limitation is the high number of responses from teachers working in schools for the deaf, which does not accurately represent the majority of deaf students’ educational environments. Despite disseminating the survey to a larger number of mainstream school districts over deaf schools, a comparatively smaller number of teachers teaching in self-contained classrooms or serving as itinerant teachers responded to the survey and expressed interest in participating in focus groups. Not to mention, grade-level deaf students typically receive writing instruction in mainstream classrooms without the aid of specialized deaf education teachers. Reaching out to these general education teachers is challenging, and an alternative approach is necessary to obtain data about this population.

Future Directions

Our future directions extend to a wide range of areas in secondary writing instruction, all sharing a common focus: the exploration of effective instructional methods that facilitate skills for functional communication and professional or academic success. We are particularly interested in approaches that invest in the full writing process and enrich deaf students’ argumentative writing skills, practices that serve not only in educational pursuits but in many aspects of life. Given the diversity of the deaf student population, the development of approaches must be flexible enough to accommodate the knowledge and skills that each student possesses. For example, deaf students who have a strong foundation in spoken or signed language may require different approaches compared to those experiencing language deprivation. Finally, we

1
2
3 want to respond to teachers' requests for more research on ASL/English bilingual pedagogy in
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5 writing instruction.
6

7 8 **Conclusion** 9

10 This study provides an overview of secondary writing instruction for deaf students,
11
12 drawing upon data derived from a nationwide survey followed by focus group discussions. By
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14 focusing on instruction with deaf students who are grade-level, we identified common
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16 pedagogical practices, challenges that teachers face, and areas in need of further research. A key
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18 finding from this research reveals a need for argumentative writing instruction for grade-level
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20 and college-bound students due to its relevance to their lives and college aspirations. Teachers
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22 spend a considerable amount of time teaching writing to this group of students. They were
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24 optimistic about the alignment of their curricula with their students' developmental paces. Deaf
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26 education teachers seem to be better equipped to teach grade-level deaf students as opposed to
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28 those who are dealing with the effects of language deprivation. The scarcity of research in
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30 secondary writing instruction for deaf students underscores the need for more empirical studies.
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32 Such investigations should aim to identify effective instructional methods that nurture the full
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34 potential of every deaf learner.
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Figure 1

Research Design [attached as a high resolution figure]

Table 1

Average ratings of factors influencing the time and focus of writing instruction

	All (<i>n</i> =222)		On-Grade Level (<i>n</i> =18)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Students’ individual writing needs	4.72	0.57	4.78	0.42
The grade level standards	3.88	0.90	4	1.05
The program curriculum	3.60	1.02	3.72	1.04
Workforce entry	3.47	1.21	3.67	1.05
Post-secondary ed admission	2.94	1.20	3.56	1.01
High stakes writing assessment	2.82	1.12	3.17	0.96

Table 2*Average ratings of teachers' current teaching skills*

	All (<i>n</i> =220)		On-Grade Level (<i>n</i> =18)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Punctuate appropriately	4.12	0.92	4.11	0.94
Spell correctly	4.01	1.00	4.00	0.82
Use accurate grammar	3.99	0.98	3.78	1.03
Type fluently	3.94	1.09	3.83	1.07
Organize and structure ideas	3.88	0.87	3.94	0.70
Generate ideas	3.75	0.81	4.00	0.82
Construct a strong argument	3.72	0.91	3.83	0.90
Cite or reference sources	3.63	1.04	3.39	1.25
Revise writing	3.62	0.84	3.72	1.10
Translate ideas into written text	3.62	0.84	3.83	0.69
Understand multiple viewpoints	3.59	0.94	3.94	0.70
Paraphrase source material	3.54	1.02	3.39	1.06
Use tone and style for the audience	3.52	1.03	3.44	1.01
Synthesize info from multiple sources	3.47	1.05	3.44	1.01

Table 3

Average ratings of students’ skills

	All (<i>n</i> =221)		On-Grade Level (<i>n</i> =18)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Generate ideas	2.76	1.01	3.61	1.06
Type fluently	2.46	1.06	3.44	1.07
Punctuate appropriately	2.27	0.94	3.28	0.87
Spell correctly	2.26	0.86	3.11	1.10
Understand multiple viewpoints	2	0.92	2.94	1.18
Translate ideas into written text	1.96	0.84	2.83	1.17
Organize and structure ideas	1.91	0.85	2.67	1.05
Construct a strong argument	1.90	0.79	2.67	1.11
Use tone and style for the audience	1.84	0.84	2.39	1.06
Cite or reference sources	1.77	0.81	2.28	0.99
Synthesize info from multiple sources	1.76	0.83	2.33	0.67
Use accurate grammar	1.71	0.74	2.61	0.89
Paraphrase source material	1.67	0.76	2.22	0.85
Revise writing	1.66	0.79	2.18	0.78

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Table 4
Skills considered most important for secondary DHH writers

	All (n=221)	On-Grade Level (n=18)
Translate ideas into written text	21%	11%
Organize and structure ideas	19%	17%
Generate ideas	10%	0%
Use accurate grammar	10%	7%
Understand and consider multiple viewpoints on a topic	8%	13%
Synthesize information from multiple sources	7%	17%
Revise writing	6%	6%
Construct a strong argument	5%	19%
Paraphrase source material	4%	4%
Use tone and style appropriate for the intended audience	4%	6%
Cite or reference sources	3%	2%
Spell correctly	2%	0%
Punctuate appropriately	1%	0%
Type fluently	0%	0%

Note. Percentages are calculated using the total number of votes as the denominator. Each teacher selected three skills they considered most important for their students.

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Figure 1
Research Design

First Cycle: Teaching of Diverse Deaf Students (Authors)	
First Phase (Quantitative)	Nationwide Survey (N=222)
Second Phase (Descriptive)	Three Focus Groups (N=10)
Second Cycle: Teaching of Grade-Level Deaf Students (The Current Study)	
First Phase (Quantitative)	Nationwide Survey (N=18)
Second Phase (Descriptive)	Three Focus Groups (N=11)