Examining Student Writing Proficiencies Across Genres: Results of an Intervention Study

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This study examines the patterns of growth across both taught and untaught genres of writing for deaf and hard of hearing students in grades 4-6. 23 students were exposed to Strategic and Interactive Writing Instruction (SIWI) for five weeks, during which time they received guided, interactive instruction focused on how writers address particular purposes and audiences with their writing. By examining student writing samples before and after both regular writing instruction and SIWI using genre-specific rubrics, we investigated whether students transfer and generalize writing strategies and processes learned in one genre to writing in a genre for which they did not receive instruction, in this case: information report writing. We found that after five weeks focused on recount genre instruction, students spontaneously transfer competencies related to genre-specific features that were not explicitly taught, and that students with greater language proficiency did so more effectively. We discuss these findings as they relate to theories of composition and language competence, and generate implications for writing instruction that can lead to growth in writing.

Keywords: writing intervention, writing instruction, deaf, elementary, literacy, genre instruction

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Introduction

Strategic and Interactive Writing Instruction combines research on Interactive Writing (informed by Englert & Dunsmore, 2002; Englert, Mariage, & Dunsmore, 2006; Mariage, 2001), Strategy Instruction (see Graham & Perin, 2011; Graham, McKeown, Kiuhara, & Harris, 2012), and linguistic/ metalinguistic development of bilingual learners (Ellis et al., 2009) in an approach to writing instruction that addresses the unique language and literacy needs of students who are deaf and hard of hearing (d/hh). D/hh students present a special case of language and literacy acquisition because they are often working between two or more languages in multiple modalities (signed, written, spoken). Despite decades of research highlighting low literacy achievement among d/hh students as a group (O'Neill, Arendt, & Marschark, 2014; Qi & Mitchell, 2012), especially in the area of writing (Berent, Kelly, Schmitz, & Kenney, 2008; Bowe, 1991; Burman, Nunes & Evans, 2007), SIWI has consistently been associated with positive outcomes in both language and literacy as a brief intervention (Dostal & Wolbers, 2014; Wolbers, 2008a, 2008b, 2010) and as a semester- or year-long approach to regular writing instruction (Wolbers, Bowers, Dostal, & Graham, 2013; Wolbers, Dostal, & Bowers, 2012; Wolbers, Dostal, Graham, Cihak, Kilpatrick & Saulsburry, 2015).

This paper extends previous research on SIWI, by examining patterns of growth across genres of writing for students who only received instruction related to one genre, in order to investigate whether students transfer and generalize writing strategies and processes. We find that students do spontaneously transfer competencies developed during genre-specific instruction to a genre that were not explicitly taught, and students with greater language proficiency did so more effectively. We discuss these findings as they relate to theories of composition and

language competence, and generate implications for writing instruction that can lead to growth in writing.

Review of Literature

In this section we highlight existing research on knowledge of genres for writing in particular, and consider the role of linguistic competence in supporting knowledge construction during classroom instruction. We then provide a brief overview of SIWI, which has focused on the development of linguistic competence and metalinguistic awareness as key drivers for the development of both writing and ASL proficiency.

Knowledge of Genre

Bawarshi (2016) describes genres as "rhetorical typifications that help us recognize and act within recurrent situations," noting that "the explicit teaching of genre conventions might help students gain access to various systems of activity" (p. 243). That is, making genre knowledge explicit allows students to both understand and create texts that authors and audiences understand in particular ways.

Past research on the development of knowledge about genres has centered on students' awareness and application of the textual and structural features that distinguish each genre (Kamberelis, 1999). Studies have consistently found that students know and apply more features of narrative genres in their writing than any other genre, including informational texts and poems, or scientific texts (Kamberelis 1998). Kamberelis (1998) and others (e.g., Bradley & Donovan, 2010) argue that students gain much of their genre knowledge from reading - that their repeated exposure to texts that contain particular structures informs their use of such structures in their own writing. Thus, they hypothesize that a steady diet (Kamberelis, 1998) of narrative stories in elementary school explains students' relative strength in this area of writing.

However, as Maloch and Bomer (2013) have described, there is evidence that explicitly teaching students about genres is related to an increase in awareness and use of genre-specific structures in writing even beyond narrative texts. Purcell-Gates, Duke and Martineau (2007) found that students who received 1-2 years of explicit instruction related to genre features demonstrated more growth in reading and writing within that genre when instruction centered around authentic purposes for engaging in a particular genre (e.g., procedural or informational texts). They point out that "just learning about the features of science procedural text in a more decontextualized school-only manner is not helpful. In fact, the correlational results indicate that students in such instructional contexts grow the least" (p. 41-42). As Bawarshi (2016) argues, explicit genre instruction can facilitate participation in the literate practices of different disciplines and communities. This view of genres as not only a formal, technical feature of text, but also as a marker of the social practices for production and consumption of texts in different communities (Kamberelis, 1998), has important implications for the ways in which genre knowledge is taught and assessed.

At the core of genre-specific writing instruction is not a set of rules for each genre, but the assumption that written communication may be structured in ways that are uniquely suited to particular purposes and audiences (Bawashi, 2016). Therefore, sensitivity to purpose and audience across genres is an implicit goal for all writing instruction aimed at communicative competence. If writers have internalized the practice of writing to an audience for a purpose, they may be able to improvise text features and conventions associated with a new genre without explicit instruction in this genre. For example, Wolbers (2008a) found that students who were taught using Strategic and Interactive Writing Instruction focused on information report also performed better at posttest than at pretest when asked to respond to a narrative prompt.

A focus on purpose and audience may facilitate transfer to new genres if instruction highlights "the action that a genre carries out and the social situation it is part of, rather than on its formal features" (Gentil, 2011, p. 7). This orientation to genre as a performance (something that you do) rather than a feature (something that you have) aligns with emerging understandings of the layers of learning required for emerging writers, especially biliterate writers who may be working across familiar discourses to construct and understand texts in a second language (Gentil, 2011).

Language Competence for Learning

Theories of bilingual language and literacy acquisition often point to the possibility of transfer between a first and second language (Bialystok, Luk, & Kwan, 2005; Bialystok, McBride-Chang, & Luk, 2005), "yet few have problematized the ways in which both languages and literacies mediate development for one another" (Dworin, 2003, p.174). Research typically examines the influence of first language proficiency on literacy achievement in the second language. However, Dworin (2003) and others suggest that learning in the second language also mediates learning in the first language (Dworin, 1996; Moll & Dworin, 1996; Moll, Sáez, & Dworin, 2001; Reyes & Costanzo, 2002; Valdés, 1992). Thus there is evidence for the possibility of both sequential and simultaneous development of language and literacy in the case of second language acquisition.

There is also some evidence that increased exposure to language is correlated with stronger outcomes in literacy, even if this increased exposure occurs in an L1 that does not have a written form. For example, Delana, Gentry and Andrews (2007) demonstrated a statistically significant correlation between years of ASL usage and reading achievement among students who are d/hh. They explained that "these students may have experienced sufficient exposure to

acquire cognitive academic language proficiency in ASL, thereby facilitating English-language acquisition" (2007, p. 82). In other words, they suggest that extensive ASL use supported the acquisition of written English, as Cummins would argue based on his theory of language interdependence (Cummins, 1976, 1979, 1981, 2003, 2006). It is also possible that ASL proficiency in general, rather than cognitive academic language proficiency in particular, supported greater reading achievement by increasing students' overall linguistic competence (see Cummins, 2006). Building on Cummins's work, Ausbrooks, Gentry and Martin (2014) provide empirical evidence, which suggests that the interdependence hypothesis is generalizable to ASL and English despite linguistic incongruence.

Other research has examined the possibility that metalinguistic awareness, including explicit knowledge of code-switching and translanguaging practices, supports language and literacy development in both languages (Andrews & Rusher, 2010). This hypothesis is often supported by studies that identify features of the L1 surfacing in the language or literacy practices of the L2 (e.g., Andrews & Rusher, 2010; Bishop & Hicks, 2005; Novers & Andrews, 1999; Wolbers, Bowers, Dostal & Graham, 2014; Wolbers, Graham, Dostal, & Bowers, 2014; Woodall, 2002). For example, the use of rhetorical questions in ASL is a way of conjoining clauses or adding adverbial/adjectival phrases to a construction (e.g., I bought shoes why old shoes don't fit anymore; when I have flu? last Thursday; Wolbers, Graham, Dostal, & Bowers, 2014). Consistent patterns of linguistic knowledge from the L1 surfacing in L2 written expressions suggest that students draw upon linguistic knowledge from both languages when composing written texts. Thus it is possible that a fully developed L1 is not just helpful for facilitating communication for learning in school settings, but also students draw upon L1 until proficient at expressing in L2.

In addition, some researchers have suggested that ASL proficiency is supportive of literacy learning for logistical rather than linguistic reasons. Describing instruction at a school for the deaf in Minnesota, Bailes argued that ASL allowed for access to comprehensible and efficient communication between teacher and students and among students (Bailes, 2001). In this case, Bailes asserted that the use of ASL supported literacy learning simply by making instruction and communication more accessible.

Strategic and Interactive Writing Instruction (SIWI)

Defined by a set of driving principles, SIWI offers teachers of the deaf a flexible way of approaching writing instruction with their students. As a set of guiding principles rather than a step-by-step curriculum, SIWI can be feasibly implemented across grade and skill levels, and for the purpose of teaching various writing and language objectives. SIWI that draws upon evidence-based practice with hearing students, including strategic and interactive methods of writing instruction (see meta-analyses of related research in Graham & Perin, 2011 and Graham, McKeown, Kiuhara, & Harris, 2012), as well as elements that lead to greater linguistic competence and metalinguistic awareness of English and ASL among d/hh students (Wolbers, 2010). A detailed description of SIWI's driving principles can be found in Wolbers, Dostal and Bowers (2011), with updates in Wolbers, et al., (2015).

Within SIWI, teachers and students work collaboratively to plan, write, and publish pieces of writing for specified purposes and audiences. Group conversation may center on what ideas to include, how to effectively organize them, or how to clearly express them. It is during this guided and interactive instruction that students are apprenticed into the cognitive tasks of writing by their peers and teachers. Since there is always an authentic audience, the group considers writing purpose as well as the needs of the reader when making decisions. For

example, a middle school class of students writing to their principal in order to request a class set of iPads, would build an argument using reasons they know appeal to their principal, e.g., access to electronic books or mathematics games during independent time reinforces academic skills. In addition to peers and teachers stepping into guiding roles during the writing process, classes use model texts to support their writing. This use of mentor texts may involve studying the techniques of other authors, decomposing the structure of a model text in order to emulate it, and examining language forms and structures associated with the genre they are attempting.

Methods

In this study, students were explicitly taught how to write in a narrative genre (i.e., recount) using SIWI. Students were not provided any instruction on the nature or conventions of informational writing; however, writing data were collected using prompts for both recount and informational writing. The prompts identified a purpose and audience for the writing that would be associated with either recount or informational genres. The design involved a ten-week repeated measures study whereby SIWI was provided as a writing intervention in five classrooms (one fourth, two fifth, and two sixth grade) for five weeks at 3.5 hours per week. This intervention came after students had received 5 weeks of regular writing instruction for comparable amounts of time. A commercially available English/Language Arts curriculum that involved a focus on grammar practice and writing responses to program prompts guided regular writing instruction.

The following research questions shaped the design of the study: (1) Do d/hh students receiving SIWI demonstrate significant gains in writing across recount and information report genres? (2) Do students with higher and lower language proficiencies make significantly different growth in writing across genres? In order to address research questions 1 and 2, we

looked within and across students' writing samples in order to identify changes in the use of genre features using a modified National Assessment of Educational Progress (NAEP) rubric.

Setting and Participants

The research was conducted at a residential state school for the deaf in one fourth grade classroom, two fifth grade classrooms, and two sixth grade classrooms. The school's published communication policy is enacted by using Simultaneous Communication (Sim-Com), in which teachers are encouraged to sign and talk simultaneously. The teacher in this study would suspend Sim-Com at times in order to clarify or extend an idea either in ASL or spoken English.

There were a total of 23 student participants—seven students in grade four, eight in grade five, and eight in grade six. The following demographics were obtained from all student participants: age, gender, race, hearing loss (dB), type of amplification, parental hearing status, reading level based on results from the Stanford Achievement Test for the hearing impaired (SAT-HI), and primary communication method. Table 1 displays demographics of student participants. Table 2 provides descriptive statistics of student participants by grade level for all numerical data including age, hearing loss and reading level.

Table 1. Demographics of student participants.

Student	Grade	Gender	Race/ Ethnicity	Hearing Loss (dB)	Cochlear Implant	Parental Hearing Status	Reading Level	Language Proficiency	Comm. Method
4.1	4	M	C/W	72	No	D	2	Higher	MCE/SE
4.2	4	M	C/W	87	No	H	1.3	Lower	MCE
4.3	4	M	C/W	113	Yes	H	2.1	Higher	SE
4.4	4	M	C/W	65	Yes	H	1.3	Lower	MLS/ MCE
4.5	4	F	C/W	90	No	H	1.3	Lower	MLS/ ASL
4.6	4	M	C/W	115	No	H	1.2	Lower	MLS/ MCE
4.7	4	F	AA	62	No	D	2.2	Higher	ASL/SE
5.1	5	F	LA	47	Yes	H	1.5	Lower	MCE/SE/ MLS
5.2	5	F	AA	110	No	H	1.4	Lower	MCE/ MLS
5.3	5	F	C/W	93	No	H	3.1	Higher	MCE/SE
5.4	5	M	AA	112	No	H	1.6	Lower	MLS/ MCE
5.5	5	M	AA	63	No	H	1.3	Lower	MLS/ MCE
5.6	5	M	C/W	100	No	H	1.6	Lower	MLS/ ASL
5.7	5	M	C/W	45	No	H	1.7	Higher	MCE
5.8	5	M	C/W	72	No	H	2.2	Higher	MCE/SE
6.1	6	F	C/W	110	No	H	2.6	Higher	MCE/ ASL
6.2	6	M	C/W	100	No	H	1.4	Lower	ASL
6.3	6	M	C/W	108	Yes	H	1.4	Lower	MCE/SE
6.4	6	M	C/W	97	No	H	1.4	Lower	MLS/ SE/MCE
6.5	6	M	LA	98	No	H	1.7	Higher	MCE/ ASL
6.6	6	M	C/W	98	No	H	2.1	Higher	ASL
6.7	6	M	AA	87	No	D	1.9	Higher	ASL
6.8	6	F	C/W	113	No	D	2.1	Higher	ASL

AA=African American; C/W=Caucasian/White; LA=Latino; D=Deaf; H=Hearing;
ASL=American Sign Language; MCE=Manually Coded English; SE=Spoken English; MLS=Minimal Language Skills

Table 2. Descriptive statistics of students' age, hearing loss, and reading level by grade level.

	Grade 4		Grade 5		Grade 6	
	M	*SD*	*M*	*SD*	*M*	*SD*
Age	10.14	0.38	10.88	0.83	12.00	0.53
Unaided Hearing Loss (dB)	86.29	21.60	80.25	27.15	101.38	8.48
Reading Level	1.63	0.45	1.81	0.59	1.83	0.43

Language Proficiency Groups

There was great variability in students' proficiency in and exposure to ASL. According to their regular classroom teacher's ratings, the student participants ranged from having extremely impoverished language proficiency to near age-appropriate language proficiency. This study explored whether writing growth happens consistently across levels of language proficiency. For one portion of the analysis, students were divided into language groups (lower and higher) based on initial language proficiency to determine whether both language proficiency groups exhibited statistically significant writing growth. Students' SAT-HI reading comprehension scores and teacher language proficiency rating forms were considered when grouping students. The teacher rating form asked the classroom teacher to score each student's ability to express their thoughts and feelings based on a scale of 1 (weak/rarely ever) to 5 (strong/almost always). Students who scored a 1 or 2 on the teacher rating form and scored a 1.6 or lower on the reading comprehension section of the SAT-HI were placed in the lower language proficiency group for the purpose of this analysis. Students who scored a 4 or 5 on the teacher rating form and scored a 1.7 or higher on the reading comprehension section of the SAT-HI were placed in the higher language proficiency group. No students scored a 3 on the teacher rating form.

Data Collection

Writing samples representing both recount and information report genres of writing were collected from each student at the beginning, middle, and end of the ten-week study, for a total of six samples per student (n=132). For the recount sample collection, students were provided with an open-ended writing prompt that asked them to share a personal experience. For information report sample collection, the students were presented with 12 one-minute video clips of animals and asked to select three to view. All of the videos were silent and wordless, and therefore did not limit students' writing to a predetermined set of vocabulary. To eliminate the possibility of a decrease in motivation by removing video selections, all choices remained and the students were allowed to self-select any video from each genre at pre-, mid-, and post-assessment. After viewing three videos, the students were asked to report information about the animals. These prompts were administered in class and no time limit was set for completion.

Scoring Procedures

Students' recount writing samples pre-, mid-, and post-study were analyzed for genre-related features using a modified NAEP rubric. The modifications primarily focused on the format of NAEP criteria, which are published as bulleted narrative descriptions of each level of a six-point scale (i.e., 1=little to no skill, 6=effective skill). We modified the formatting to display the bulleted descriptions by level in a rubric format to show the progression of each trait from the highest to lowest rating. Measures were designed to evaluate three broad domains of writing: development of ideas, organization of ideas, and content. Features associated with recount writing included orientation, events and organization, while those associated with information report writing were topic, details, and organization. Twenty percent of the writing samples were

double-coded. An ICC of .949 was determined for recount samples and .989 for information report samples.

Results

Analysis

A Repeated Measures Analysis of Variance (ANOVA) was completed to test the equality of means within student performance with and without SIWI intervention to determine if there was a significant difference between T1 and T2 (pretest to midtest) and between T2 and T3 (midtest to posttest). The dependent variables for the recount writing samples included orientation, events, and organization, and topic, facts, and organization for the information report samples. The between subjects variable included the language proficiency groups (lower and higher). A post hoc analysis was done to determine significance between times. The alpha level used for all statistical tests was .05.

Research Question 1: Do d/hh students receiving SIWI demonstrate significant gains in writing across recount and information report genres?

During the five-weeks of SIWI all students made significantly greater gains on features of recount writing and information report writing compared to the five-weeks of regular instruction.

Recount. Mauchly's Test of Sphericity indicated that sphericity could be assumed (p >.05) for all identified genre-related features for recount writing (orientation, events, organization), and a repeated measures ANOVA determined there was a statistically significant difference between time points for orientation ($F(2, 42) = 36.15$, $p = .000$, $\eta_p^2=0.63$), events ($F(2, 42) = 54.83$, $p = .000$, $\eta_p^2=0.72$) and organization ($F(2, 42) = 45.97$, $p = .000$, $\eta_p^2=0.69$). Effect size is provided using the partial eta-squared (η_p^2) which is described as small when less

than 0.06, medium when greater than or equal to 0.06 and less than 0.14, and large when greater than or equal to 0.14 (Kinnear & Gray, 2008).

Post hoc tests using the Bonferroni correction revealed that regular classroom instruction over the five week period from T1 to T2 did not result in statistically significant changes with recount writing regarding orientation (M_{T1}=0.41 ± 0.56 vs. M_{T2}=0.70 ± 0.72, p=.43), events (M_{T1}=0.70 ± 0.62 vs. M_{T2}=0.89 ± 0.72, p=.62), and organization (M_{T1}=0.57 ± 0.53 vs. M_{T2}=0.67 ± 0.73, p=.36). However, five weeks of SIWI led to statistically significant rises in scores from T2 to T3 for orientation (M_{T3}=1.74 ± 0.81, p=.000), events (M_{T3}=2.17 ± 0.86, p=.000), and organization (M_{T3}=1.91 ± 0.77,p=.000). Therefore, we can conclude that five weeks of SIWI led to statistically significant increases in genre-related features of recount writing that were not present with regular classroom instruction.

Information report. Mauchly's Test of Sphericity indicated that sphericity could be assumed (p >.05) for all identified genre-related features for information report writing (topic, details, organization), and a repeated measures ANOVA determined there was a statistically significant difference between time points for topic (F(2, 40) = 49.07, p = . 000, η_p^2=0.71), details (F(2, 40) = 59.44, p = .000, η_p^2=0.75) and organization (F(2, 40) = 49.63, p = .000, η_p^2=0.71).

Post hoc tests using the Bonferroni correction revealed that regular classroom instruction over the five week period from T1 to T2 did not result in statistically significant changes with information report writing regarding topic (M_{T1}=0.77 ± 0.75 vs. M_{T2}=0.86 ± 0.74, p=1.00), details (M_{T1}=0.77 ± 0.75 vs. M_{T2}=0.93 ± 0.79, p=.15), and organization (M_{T1}=0.77 ± 0.75 vs. M_{T2}=0.89 ± 0.79, p=.47). However, five weeks of SIWI led to statistically significant rises in scores from T2 to T3 for topic (M_{T3}=2.16 ± 1.09, p=.000), details (M_{T3}=2.23 ± 1.19, p=.000), and

organization (M_{T3}=2.23 ± 1.19, p=.000). Therefore, we can conclude that five weeks of SIWI led to statistically significant increases in genre-related features of information report writing that were not present with regular classroom instruction.

Research question 2: Do students with higher and lower language proficiencies make significantly different growth in writing across genres?

Genre-related features specific to recount writing and information report writing were also analyzed for interaction effects between language proficiency grouping and time.

Recount. Mauchly's Test of Sphericity indicated that sphericity could be assumed (p >.05), and a repeated measures ANOVA determined that there was not a statistically significant difference in orientation (F(2, 42)=0.86, p = .429), events (F(2, 42)=0.49, p = .617), or organization (F(2, 42)=1.06, p = .356) by language group over time. Since the gains of students by proficiency groupings were not statistically different, we can conclude that SIWI positively impacted the writing outcomes of students regardless of their starting language proficiencies. Means for these variables across time are displayed in Figures 1, 2, and 3.

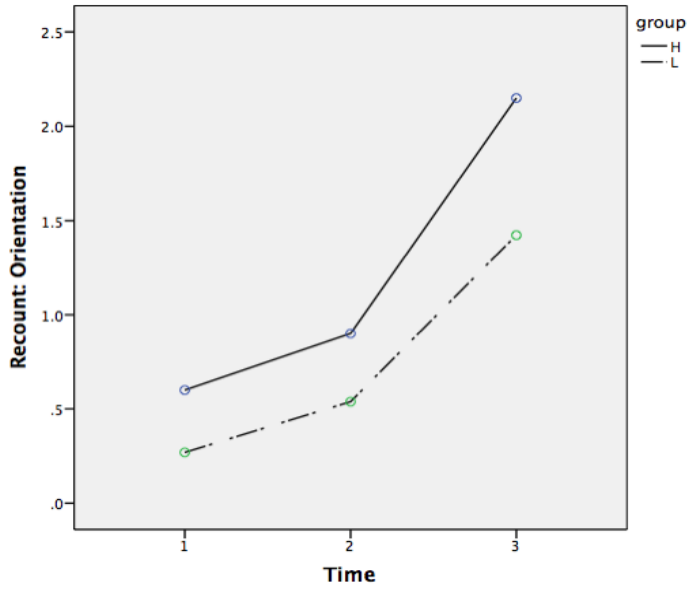


Figure 1. Display of estimated marginal means for orientation of recount writing by language

proficiency group over time.

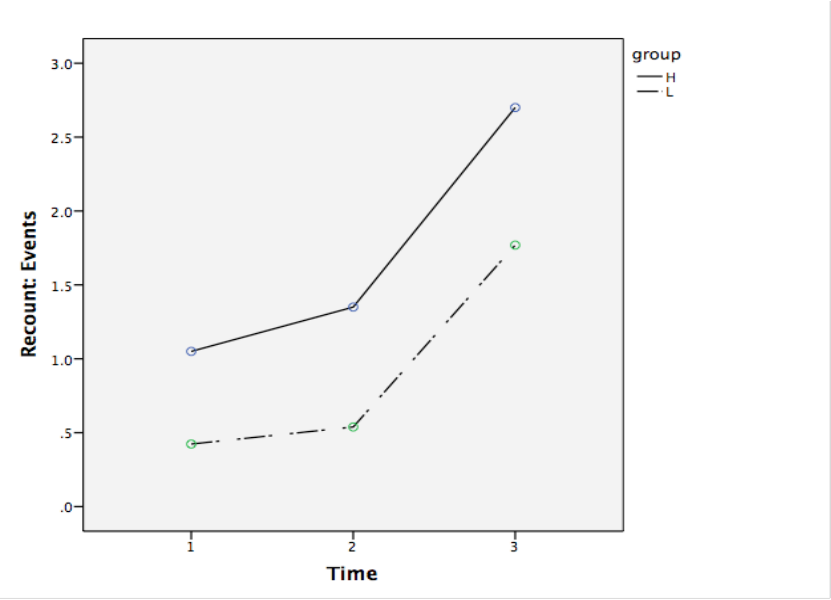


Figure 2. Display of estimated marginal means for events of recount writing by language proficiency group over time.

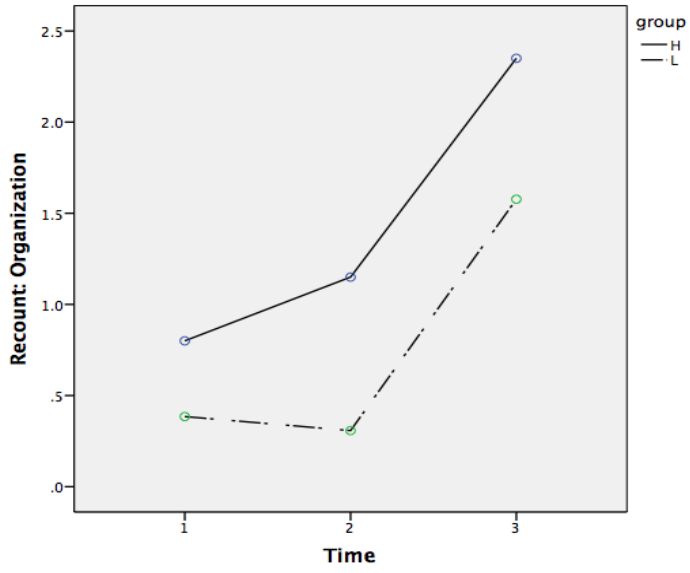


Figure 3. Display of estimated marginal means for organization of recount writing by language proficiency group over time.

Information report. Mauchly's Test of Sphericity indicated that sphericity could be assumed (p >.05), and a repeated measures ANOVA determined that there was a statistically significant difference in topic ($F(2, 40)=3.01$, $p = .06$), details ($F(2, 40)=4.46$, $p = .02$), and organization ($F(2, 40)=4.95$, $p = .01$) by language group over time. The means scores for each of the three genre-related features for the low proficiency group were approximately 0.5 at T1 and T2 and 1.5 at T3, while the high proficiency group had approximate means of 1.5 at T1 and T2 which increased to 3.0 at T3. While the approximate means for both proficiency groups at least doubled from T1 and T2 to T3, the amount of gain is greater for the high proficiency group (See Figures 4, 5 and 6). Students in the lower language proficiency group achieved a similar level of proficiency to the higher language proficiency group's initial level by the end of the 5 weeks.

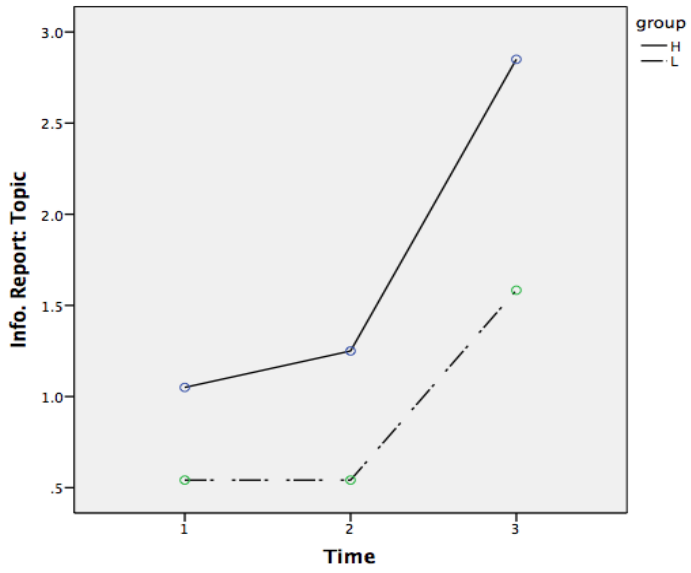


Figure 4. Display of estimated marginal means for topic of information report writing by language proficiency group over time.

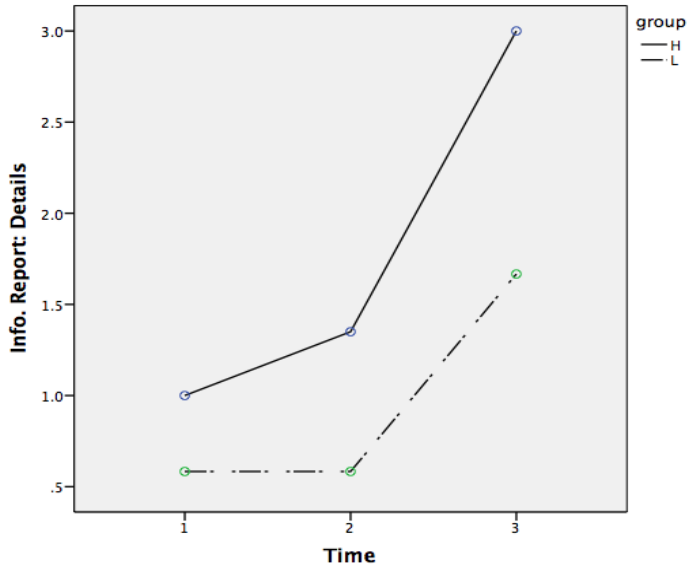


Figure 5. Display of estimated marginal means for details of information report writing by language proficiency group over time.

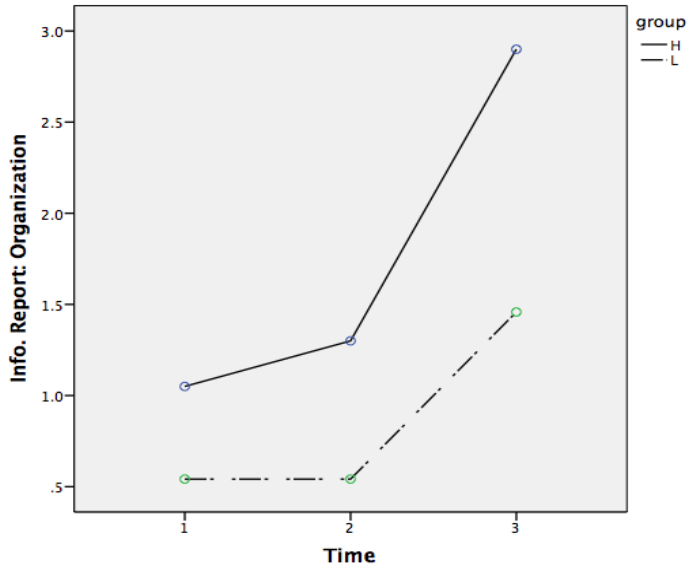


Figure 6. Display of estimated marginal means for organization of information report writing by language proficiency group over time.

Discussion

Previous research has demonstrated that d/hh students are capable of developing both language and literacy skills when engaged in SIWI (Dostal & Wolbers, 2014), and that gains made during SIWI instruction are maintained (Wolbers et al., 2015; Wolbers, Dostal, & Graham, 2014). This study provides evidence that 4-6th grade d/hh students generalize writing skills to untaught genres. Additionally, there is now initial data to suggest that language proficiency supports students in generalizing and applying knowledge about writing to new genres.

After five weeks of SIWI focused on the recount genre, our analysis of student writing samples identified significant gains in both recount and informational genres as measured by the use of genre-specific features. This suggests that students not only applied genre-specific knowledge when writing in the taught genre of recount, they also applied knowledge of how writers address particular purposes and audiences in the untaught genre of informational text. In other words, they demonstrated knowledge of the communicative functions of writing across genres, even in the absence of explicit genre instruction.

Purcell-Gates, Duke and Martineau (2007) explain that explicit genre instruction is not sufficient to impact student reading or writing outcomes. Rather, they note that "oral and written genres require pragmatic knowledge that is socially and culturally specific and determined" (p. 41) in addition to knowledge about the conventions and patterns of each genre. Students' growth on both taught and untaught genres supports the assertion that attention to the pragmatic functions of written language are necessary for literate practices in all genres.

Students with higher language proficiencies were able to extend and generalize knowledge about genre-related features to new genres and make connections between conventions across genres. While students with lower language proficiencies demonstrated

improvement in an untaught genre (information report) their improvements were not as dramatic as those of the higher-language proficiency group. This suggests that underlying language competence supports literacy development (Bialystok, Luk, & Kwan, 2005; Bialystok, McBride-Chang, & Luk, 2005) and may be related to students' ability to learn or apply pragmatic knowledge that supports the inclusion of genre-appropriate features within untaught genres.

Limitations and Future Directions

This study was limited by its application in a single school setting, which included one of many possible approaches to communication for instruction and one of many approaches to regular language arts/literacy instruction. The sample was further limited to a small number of d/hh students in grades 4, 5, and 6.

The success of a short SIWI intervention when compared to no measurable growth during regular instruction raises significant questions for further research. First, it is important to further investigate the mechanisms by which SIWI supports significant gains in writing proficiency given that regular instruction does not lead to similar gains. Studies that compare SIWI to other approaches to writing instruction, or detailed accounts of business as usual conditions will be important for understanding which driving principles are most supportive of growth. Second, it is important to further investigate the interaction of authentic purposes, audiences and genres in the development of writing proficiency. Building on the work of Purcell-Gates, Duke and Martineau (2007), future studies might isolate the principles related to purpose and audience within SIWI across grade levels and content areas.

In addition, the transfer of genre-specific features to informational texts also signals possibilities for the use of SIWI in the context of content area writing development within or outside of content area classes. It is possible that writing instruction in each of the academic

disciplines, when focused on purpose and audience, might support the development of discipline-specific language and literacy knowledge and disciplinary literacy in general (Moje, 2008). Research on the efficacy and transfer of SIWI in the context of writing in content areas courses extend the knowledge base for writing instruction and further test the hypothesis that underlying language proficiency supports discipline-specific literacy development.

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