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Running Records and First Grade English Learners:

An Analysis of Language Related Errors

First grade ELs are concurrently learning literacy and the language of instruction (English). As a result, they may exhibit emergent reading behaviors that differ from monolingual English students' behaviors (Hopewell, 2013; Jiménez, García, & Pearson, 1995). It would be expected that ELs make language related (LR) reading errors as they approximate English language structures, vocabulary, and pragmatics, based on how similar or different their language is from English book language. Running records and their various forms, including use as part of informal reading inventories (IRIs), are common reading assessments for elementary students (Schwartz, 2005). In this exploratory study we analyzed first grade ELs' running records with a language lens and identified ways in which their developing English influences their emergent reading.

The close observation and analysis of reading behaviors enabled by running records have long been used to identify students' strengths and needs in order to guide instruction (Clay, 1967, 1982; Goodman, 1969). Yet, while many studies have explored ELs' acquisition of literacy skills, very few have used running records and a complex processing lens. To date, no studies have used running records to analyze the types of language related errors ELs make when reading; we do not yet know how to use running records to specifically support ELs and therefore are less able to adjust instruction to fit their needs. This study focused exclusively on Spanish-speaking ELs, which comprise 77 percent of ELs in U.S. schools (National Center for Educational Statistics, 2017). Although Spanish has different linguistic family branches, there are similarities with English including structure, alphabet system, overlap of sound-symbol patterns, and a large number of cognates. Like Lucero (2014), we refer to the students in the study as ELs rather than

the increasingly common term Emergent Bilinguals (García & Kleifgen, 2010) due to what is known about language loss in the U.S. when students participate in English-only instructional programs (Hornberger, 2007; Portes & Hao, 1998; "State of Languages," 2016). We begin by describing running records and exploring the role of oral language and second language acquisition in emergent reading.

Running Records and ELs' Literacy Development

Clay (1967) and Goodman (1969) independently developed ways to analyze students' oral reading by coding errors (Clay) or miscues (Goodman) as being acceptable or unacceptable for semantic or syntactic usage, and similar or dissimilar graphophonemically. The resulting running record is a method of systematic observation of a student's oral reading behaviors that enables the teacher to observe children's literacy processing as they are working on text and monitor how students' complex working systems evolve over time. For instance, McGee and colleagues (2015) used running records to determine that the complexity of students' literacy processing grows as their reading proficiency increases. When administering these formative assessments, teachers record reading behaviors and make inferences based on the child's processing of text (Afflerbach, 2016); consistent administration and recording procedures reduce personal bias (Clay, 1982). The coding and analysis of these formative assessments should result in targeted instruction based on students' strengths (Kaye & Van Dyke, 2012); identification of language related errors would enable the teacher to better meet an EL's evolving needs. The theoretical and research perspective of the running record has been discussed in only a few articles and is well summarized by McGee and colleagues (2015).

A complex theory of reading argues that cognitive and perceptual working systems in the brain develop and strengthen over time as students read continuous texts (Clay, 2001). Using

their language as a foundation, students learn to incorporate increasingly complex semantic and graphophonemic information, and to monitor and self-correct their comprehension as they proceed (Clay, 1991, 2001; Doyle, 2013). Monitoring how a student works on "complete messages" allows for observation of the development of the student's cognitive and perceptual working systems (Doyle, 2013, p. 637). Based on a complex theory of reading, this study focused on how children use multiple sources of information to process continuous text. The interconnectedness of cognitive and perceptual working systems in the brain had not previously been considered with ELs, thus using a theory of complex reading provides an important integrated processing system lens, as emergent readers symbiotically develop both item knowledge and meaning-making systems.

Emergent EL Readers and the Role of Oral Language in Negotiating Meaning

Language is the source of information relied upon most heavily by beginning readers (Clay, 1982, 2001), however ELs are asked to learn to read in a language in which their lexical and syntactical knowledge is still developing. Consequently, students' language levels can predict scores on emergent literacy skill assessments (Ostayan, 2016). Literacy interventions have been shown to be most effective for ELs at the lowest language levels, implying that their "reading" difficulties are actually language related (Burns et al., 2016). Emergent readers use their knowledge of language to anticipate what words might come next, filtering possibilities using visual and semantic information (Mesmer, 2009; Rumelhart, 1994). This process explains why ELs' oral language comprehension skills are a predictor of future reading achievement (Lepola, Lynch, Kiuru, Laakkonen, & Niemi, 2016), and even sight word acquisition (Burns & Helman, 2009). ELs' ability to anticipate text may be inhibited by their still developing syntactical, grammatical and vocabulary knowledge (Johnston, 1997). And, if book language is

unfamiliar, it may initially hinder the reading process (Clay, 2013, 2001). Difficulties with oral language also interfere with writing achievement since writing, like reading, is language-based (Shanahan, 2008).

ELs have two (or more) languages to build upon – their home language(s) and English. Translanguaging theory posits that the two languages form a single linguistic repertoire that serves as a resource for learners (García & Wei, 2014). MacSwan (2017) adds the concept of a "richly diverse mental grammar" (p. 167) within the single linguistic repertoire. The grammars and syntax of the first language influence emergent reading acquisition, however, the wide diversity of the EL population adds to the complexity of identifying consistencies in *how* the first language influences ELs' English reading. Among Spanish speakers, variables such as number of language(s) spoken, ages of acquisition, dialects and registers within each language, social class, education level, parents' education level, age of second language acquisition, exposure to each language, and the context in which each language is learned, are all relevant to English language and literacy development (Canagarajah, 2013).

Understanding strategic behaviors in both language and literacy development helps when considering ELs' emergent literacy processing. For instance, we noted the similarities between the acts of negotiating meaning in text and negotiating meaning orally/aurally. In reading, the parallel for Long's (1996) "interactional adjustments" would be self-monitoring and self-correcting behaviors, which are supported by students' increasing fluency with English book language and improving facility with graphophonics. Children learn new language structures as they negotiate meaning both in conversation and with texts (Clay, 2004). Comprehending is the primary goal of reading; an overemphasis on accuracy can result in reduced understanding (Brown, 2013; Pikulski & Chard, 2005). Within the field of Second Language Acquisition there

is a parallel argument that the accuracy of a monolingual speaker is not necessarily an appropriate goal for an EL. Instead, some researchers suggest that educators maintain high standards for EL students while focusing on the content rather than the form of language produced (Alvarez, 2013; Aukerman, 2007; Valdés, Capitelli, & Alvarez, 2011). In reading, this would translate to minimizing the importance of LR errors that do not affect comprehension.

LR Errors And Second Language Acquisition (SLA)

SLA research can explain some common LR errors among ELs based on what is known about how English tends to be acquired as a second language. Seminal work in SLA showed that patterns exist in English acquisition across ELs from different linguistic backgrounds, such as a tendency to acquire regular verb tenses in consistent ways: They control the "-ing" inflectional ending before the "-ed" and "-s" (Brown, 1973; Hakuta, 1976; Larsen-Freeman, 1975). As students begin acquiring rules such as the regular –ed endings, they may overgeneralize, saying, for example, "runned" and "goed" instead of "ran" and "went" (Rumelhart & McClelland, 1985), as irregular past tense verbs tend to be difficult for ELs (Hakuta, 1976; Rumelhart & McClelland, 1985). Irregular past tense verbs that are similar to the root verb (such as "ran" and "to run") are acquired more slowly than irregular verbs that vary significantly from the root verb (e.g., "was" and "to be") (Ionin & Wexler, 2002). Prepositions are also challenging for ELs (Bitchener, Young & Cameron, 2005) as they perform many functions in English, and the choice of preposition is often seemingly arbitrary (e.g., why do we get *on* a bus but *in* a car?) and may vary by region (do you get *in* line or *on* line?). Using gestures and recasting students' spoken misuse can help ELs acquire standard preposition usage (Nakatsukasa, 2016).

Knowledge of an EL's first language can help predict LR errors in reading, as the first language often influences how a second language is acquired (Larsen-Freeman, 2010; Turkan,

Croft, Bicknell, & Barnes, 2012). ELs transfer constructions from their first language on the basis of similarity (Bybee, 2008). For example, ELs who speak languages that add an "-s" to mark a plural, such as Spanish, tend to acquire the plural "-s" in English sooner than those whose native language denotes plurals in other ways, such as Japanese, Korean and Mandarin (Luk & Shirai, 2009). Similarly, ELs whose first language has an inflectional ending for third person singular verbs are more likely to successfully acquire the English –s verb ending (Blom, Paradis, & Sorenson Duncan, 2012). Patterns of language acquisition are generalized in SLA research; individuals' English acquisition will vary. However, it is critical that teachers attend to students' LR errors because poor morphological awareness can contribute to reading comprehension difficulties (Tong, Deacon, Kirby, Cain, & Parrila, 2011).

In summary, emergent reading is heavily influenced by a child's language, and running records enable the analysis of emergent readers' processing of text in the moment, as they are reading. Despite the importance of language in learning to read, running records have not been researched with an EL focus. Consequently, little is known about how ELs' language backgrounds might influence their processing of text, particularly in the emergent stage. We applied literacy and SLA research to an analysis of ELs' running records to determine if there are patterns in how first grade Spanish-speaking ELs learn to read in English, and how teachers identify, or fail to identify, students' use of their emerging bilingual linguistic repertoire.

Methods

We collected weekly running records, lesson plans and post-lesson notes from nine reading intervention teachers in California and Texas in order to answer the questions: (1) What types of LR errors do EL students make when reading? (2) How do monolingual English

teachers code LR errors in ELs' running records? Our goals were to determine if there were consistent patterns of LR errors, and to identify how teachers coded LR errors.

Participants

The teachers were selected using purposeful sampling based on experience teaching (not in their first three years of the profession), having been trained as reading specialists in a particular intervention focused on the primary grades, and their current status as reading specialists in schools with at least 30 percent English learners to ensure experience working with this subgroup. The nine participants who met these criteria were all female monolingual English speakers who had been teaching for at least eight years, had eight to 32 years of experience working with ELs in the primary grades (an average of 12 years), and had at least three years of experience as a reading specialist (see Table One). They worked in the two states with the largest percentages of ELs in the country, Texas and California (National Center for Education Statistics, 2017), and volunteered to submit their data after learning about the study. The teachers had completed graduate level literacy intervention coursework that included in-depth instruction about administering and analyzing running records and using data to more effectively teach students. They also participated in ongoing professional development that consisted of a minimum of 18 hours annually, and included clinical observations of authentic teaching and learning focused on emergent reading, English learners, and the use of formative assessments, such as running records, to make instructional decisions. The same training procedures and professional development materials were used across all sites. The intervention itself was comprised of critical components of early literacy intervention, including daily, ongoing assessment, reading continuous texts, manipulation of letters, and writing (Lane, Pullen, Hudson, & Konold, 2009). To maintain confidentiality we refer to the teachers as T1, T2 … T9.

The students in the study were first grade ELs who spoke Spanish as a home language and were in English-only instructional programs. They were struggling to learn to read in English and therefore were being served one-on-one by reading interventionists. As such, the texts analyzed fall within the late kindergarten and first grade range (levels 3-16). The students were classified at the *late emerging* or *early expanding* stages of English language proficiency according to the California English Language Development (ELD) Standards (2012). Teachers from Texas designated a level to their EL students based on the California language level descriptors, the results of the Texas ELD assessment, and their knowledge of the student's language abilities. Table One summarizes the teachers and students in this study.

Insert Table 1 here

While California is overrepresented in the data, our analyses showed no differences in findings between states, corroborating SLA research that shows consistency in certain language acquisition patterns within the complexity of language development. Additionally, as all students were within two consecutive ELD proficiency bands, the analysis is focused on students at the earlier levels of English development. Table Two provides a brief summary of the proficiency descriptors for the relevant California ELD Standards (2012).

Insert Table 2 here

Data and Analysis

Data consisted of sets of weekly lesson records and running records for nine students, as running records are data that can be analyzed to show evidence of students' processing in reading (McGee, Kim, Nelson, & Fried, 2015). We accepted only one set of data per teacher to ensure that no one teacher's practices overly influenced the results. We coded 123 running records containing a total of 649 errors. Of those, we identified 349 LR errors based on etic

codes we had identified from the literature (e.g., Author 2, Author 1, Nemecek, & Wray, 2011; Basnight-Brown et al., 2007; Bitchener et al., 2005; Gibbons, 1993; Ionin & Wexler, 2002; Luk & Shirai, 2009; Weber, 2008). Only errors were coded; self-corrects, repeats and other reading behaviors are outside the scope of this study. Specifically, we focused on the linguistic knowledge required for reading tasks. Cohen's kappa was calculated for inter-rater reliability and resulted in 96.8% agreement, corroborating Fawson and colleagues' (2006) study on running record reliability, which found the error variance associated with inter-rater variability to be only one percent of total variability with a sample of teachers who received only two to six hours of training on the assessment.

Our analysis included primarily inductive codes from literacy and SLA research that evidences patterns in how English and emergent reading are acquired (e.g., Kaye, 2006; McGee et al., 2015). As a result, we determined that inflectional endings, contractions and prepositions would be initial codes. Next, we looked at literature on emergent reading and ELs and identified general codes for vocabulary, sentence structure, and text properties (including concepts about print). We then completed an initial round of data analysis during which we determined that some errors could have multiple codes. For example, sometimes a student would make an error on a preposition, monitor, and appeal, which resulted in the error being coded as a preposition and a told. There were 36 errors that received multiple codes. At this point we excluded a tenth set of data from the study for inconsistencies in data collection and we made decisions about what not to include in our analysis, such as repetitions and self-corrections.

The second round of coding enabled us to attach the revised codes and further refine codes. For example, we divided the general code of inflectional endings into affixes that attach to nouns and those that attach to verbs, and then coded individual affixes (e.g., -ing, -ed, -s). In a

third round of analysis we confirmed all codes and developed a spreadsheet that listed each running record and identified the number and type of each error, as well as how the teacher coded the error. We then developed "data reduction" (Miles & Huberman, 1994, p. 10) tables to count and summarize the data. The data was then reread a fourth time for confirmation and to look for telling examples of each of the different types of LR errors, and the spreadsheet was used to perform the statistical analyses. The findings are outlined in the next section.

Findings

Ninety-five percent of the 123 running records analyzed contained at least one LR error, and 54 percent of the 649 total errors were LR. At the individual student level, 44 to 69 percent of errors were LR, with a mean of 54 percent. The five most common types of LR errors comprised 93 percent of all LR errors: Teacher tolds, inflectional endings, irregular verbs, contractions and prepositions. Instances in which the teacher told the child the word because the student was unable to read a word and did not continue account for 31 percent of all LR errors. Inflectional endings (e.g., reading "look" for "looked") and irregular verb tenses (e.g., ran, shook) each resulted in another 19 percent of LR errors. Contractions comprised 13 percent of LR errors (e.g., can't, I'm), and prepositions (words that express spatial, temporal or other relationships) closely follow, constituting another 12 percent. The relatively small standard deviations, which we calculated as percentages due to the different numbers of errors each EL made, show relative consistency across the nine students. Table Three summarizes the findings.

Insert Table 3 here

Tolds

Vocabulary and unfamiliar sentence structure were both sources of tolds. The majority of tolds (62 percent) were due to unknown vocabulary such as biscuits (T8), net (T3), sniffed (T3),

whiskers (T6), log (T3), detective (T2), hunt (T1), tan (T1), thermos (T2), begging (T1), sea (T1), drawer (T1), parrots (T4), naughty (T4; T9), piece (T4), island (T4), pilot (T4), groceries (T7), roller skate (T1), hippopotamus (T8), and galaxy (T6). The remaining 38 percent of tolds (12 percent of total LR errors) were likely a result of developing structural patterns in the EL's language, such as the use of question words at the beginning of a sentence ("what" [T3], "where" [T3; T6], and "why" [T9]), the use of the conditional "would" (T3) and the irregular verb tense, "shall" (T8). The large number of tolds is significant because each is a missed opportunity for the EL to problem-solve and self-correct when reading (Arya & Feathers, 2012; Brown, 2013; Clay, 2013; Fried, 2013). Tolds are not coded for semantic and graphophonic acceptability unless the child makes an attempt at the word first; then the teacher codes the child's attempt. As a result, patterns of teacher coding were difficult to identify.

Oral language familiarity and exposure are important to understanding tolds. When a fluent English speaker hears a told he is more likely to have oral familiarity with the term. In contrast, when an EL hears a told he may never have heard the word in English and therefore may be slower to add it to his vernacular. He simply has fewer instances and opportunities for exposure to new English vocabulary, aurally, in books, and in writing. For example, in a level 10 (mid-first grade) book, one student required three tolds: roller (as part of roller skate), drawer, and rode. The student made initial attempts at all the words but was unable to identify a word, known to him, that made sense, sounded right, and looked right in context. Linguistic exposure difference, and the connectedness of related vocabulary terms to text comprehension, are often not taken into account when instructional decisions are made from running record analyses.

Irregular Verb Tense

Irregular verb tenses resulted in an additional 19 percent of LR errors. Students read "come" for "came" (T1; T2; T3; T6; T9), "run" for "ran" (T1; T2; T6; T8), "wake" for "woke" (T3; T8; T9), "make" for "made" (T4; T8), "take" for "took" (T2; T3), "get" for "got" (T3; T8), "is" for "are" (T2), "is" and "are" for "was" (T6), "fall" for "fell" (T2), "hide" for "hid" (T4), "see" for "saw" (T4), "say" for "said" (T8) "fly" for "flew" (T4), "swim" for "swam" (T4), "sing" for "sang" (T8), "do" for "did" (T6), "has" for "had" (T9) and "have" for "had" (T6). Instead of the irregular past tense, the students consistently used the present tense. While overgeneralizing the –ed ending is typical in both first (Clay, 1982) and second language learning (Rumelhart & McClelland, 1985), in this study there were only two instances of that behavior: "falled" for "fell" (T9) and "shooked" for "shook" (T2). The low occurrence of overgeneralization of the –ed ending may be due to visual information being available in reading but not in conversation.

Teachers recognized irregular verbs as structural errors in 41 percent of irregular verb tense errors; in most instances irregular verb errors were considered to be visual errors. For example, teachers attended to the medial vowel when a student read "come" for "came," circling the vowels on the running record and coding the error as if the student neglected visual information. While visual and/or structural information could have helped the child to read the word accurately, most of the time teachers neglected to consider the structural information and concluded that the error resulted from inefficient visual processing of text.

Inflectional Endings

Nineteen percent of LR errors resulted from inflectional endings. Almost two thirds (64 percent) of inflectional ending errors were associated with regular verbs. In many cases, the ELs omitted inflectional endings, most often the –ed ending, which show the tense and person doing the action. For example, ELs read "drop" for "dropped (T2), "like" for "liked" (T2; T5), "look"

for “looked” (T7; T8; T9) “shout” for “shouted” (T4; T6), “trip” for “tripped” (T7), “climb” for “climbed” (T7), “snow” for “snowed” (T8), “want” for “wanted” (T8), “walk” for “walked” (T8), “pick” for “picked” (T8), and “live” for “lived” (T5; T6). Students also dropped the final inflectional ending, although less frequently, when the ending was “-ing” or “-s,” reading, for example, “shake” for “shaking” (T1), “run” for “running” and “runs” (T4; T5), “look” for “looks” (T6), and “give” for “gives” (T5). These errors may be a result of the EL’s familiarity with the verb but inability to conjugate it consistently. Many inflectional ending errors were consistent with the SLA research showing that most ELs acquire the “-ing” before the “ed,” with the third person singular “-s” inflectional ending coming last (Brown, 1973; Hakuta, 1976; Larsen-Freeman, 1975). Accordingly, some students replaced an “-ed” or “-s” ending with an “-ing” ending, such as reading “fishing” for “fished” (T1), “jumping” for “jumped” (T4), and “smelling” for “smells” (T6). Like irregular verb tense errors, inflectional ending errors may reflect a student’s unpreparedness to identify what sounds right in a sentence based on their current English syntactical knowledge. If a child cannot determine that the verb tense is non-standard, monitoring for syntax becomes difficult until the EL’s language develops further.

The remaining 36 percent of inflectional ending errors were comprised of errors in which ELs omitted the plural “-s” on nouns, reading the singular noun instead of the plural. The following are some of the nouns that were read instead of their plural forms: “flower” (T3; T9), “duck” (T7), “wood” (T8), “spot” (T8), “cone” (T8), “potato” (T8), “eye” (T9), “egg” (T6), “beak” (T5) and “crust” (T7). In one instance the EL seemed to be in the process of acquiring the plural –s, over-generalizing it by adding it to “children” (reading “childrens”), but just a few pages later omitting the “–s,” reading “eye” instead of “eyes” (T9). As children begin to

construct their understanding of how language works, inconsistency with and overgeneralization of linguistic rules are typical (Clay, 2004; Krashen, 1981).

As with irregular verb tense errors, about two thirds (67 percent) of inflectional ending errors were coded as visual errors, with teachers neglecting to consider the structural aspect of the error. A few running records had notes such as "not looking to the end of words," (T6) when the only evidence of this behavior was inflectional endings. There was also some inconsistency in how teachers coded inflectional ending errors within a single running record. In one instance the teacher credited the child with using three basic sources of information (meaning, structure, visual) when the child only used visual, but later when the student repeated the same type of error, reading "cake" for "cakes," the teacher correctly credited the child with using meaning and visual information but neglecting structure (T3).

Contractions

Twelve percent of LR errors identified in this study arose from contractions. To learn contractions students must first learn the affirmative term (e.g., can, do). Some students appeared to be in this stage and seemed not to notice the contraction, reading "it" for "it's" (T3; T8), "I" for "I'll" (T7), "I" for "I'm" (T8), and "that" for "that's" (T2; T8). The second step is identification of two words either as a transformation to a negative statement (can not) or a combination of two words without a transformation (he is). Students in this stage made contraction errors that were not likely to affect comprehension, such as "I am" instead of "I'm" (T2), "I will" for "I'll" (T2), "didn't" for "did not" (T1), "won't" for "will not" (T2), or "don't" for "didn't" (T5; T8), showing an understanding of meaning but not of pragmatic language used in speech and some books. Finally, students acquire the contraction (e.g., can't, he's), maintaining meaning, pragmatics, and when reading, consistency with the visual information on

the page. In one case the child seemed to struggle to coordinate the meaning and visual information of a contraction. The child read "don't," for "didn't," maintaining meaning but using incomplete structural and visual information, and then decided on "did," maintaining visual and structure but not meaning (T8). Other students made contraction errors that would have affected comprehension, such as "can't" for "can" (T2; T8), "wouldn't" for "would" (T2), and "did" for "don't" (T9). Occasionally, contractions led to tolds when the child could not continue (e.g., "wasn't" and "isn't," [T5]). There was no measurable difference in contractions that transformed the statement to a negative and those that did not. Finally, some students made errors in possessives with proper names (e.g., reading "Kate" for "Kate's," [T8]). These few errors are linguistically different from contractions and are categorized as "other LR errors" in this analysis.

When coding contraction errors, teachers tended to identify that meaning was lost when the student read the opposite of the written contraction, such as "can" for "can't." They also consistently recognized when the syntax was incorrect, as when students read "it" instead of "it's," as well as when the syntax was correct (e.g., "I will" for "I'll").

Prepositions

Prepositions are important for comprehension because they show relationships, such as time, place and direction. For instance, whether someone sits *in* a car or *on* a car may be relevant to one's safety. ELs commonly mixed prepositions that shared some visual information, such as "on" and "in," "of" and "for," and "to" and "at." An EL's individual language development stage likely influenced comprehension. For example, when reading "to" for "at," or "into" for "onto" (T7), if the EL was not yet able to identify that the sentence was not structurally standard, the LR errors may not have interfered with comprehension. Alternatively, a preposition error may

indicate that the sentence was more complex than a particular EL was able to easily understand at that moment in time.

Sometimes the child monitored, knowing the preposition was incorrect, but was unable to self-correct. For example, a child read "for" instead of "around," noticed the visual difference, made multiple attempts to fix it but was unable to, and was told the word (T1). Similarly, another child read "in" for "through," self-monitored, appealed to the teacher for help and was given a told. Other times, the child did not self-monitor effectively. For example, when the same child was trying to read "over," he said, "ov-air, of," and continued on with the text (T1).

Change Over Time in LR Errors

There were a number of notable changes in LR errors that occurred as students progressed through text levels (see Table Four). To determine change over time, we averaged the number of words per book at different level bands (3, 4-6, 7-9, 10-13 and 14-16). The bands were determined based on the characteristics of those text levels (Peterson, 1991). We then calculated the types of errors that occurred per 100 words, as each running record had a different number of words. Table Four shows that levels three and 14-16 have the fewest number of running records, resulting in a lower degree of confidence in the analyses for those levels. It is notable that both LR errors and non-LR errors decrease significantly after level three. This may be due to the small sample of running records at this level or because students may still be struggling with the basics of reading, as level three is considered a kindergarten level. The numbers of LR and non-LR errors are similar at each level, and both decrease over time as students become more proficient readers. The increase in LR errors in levels 14-16 may be due to a small number of running records or the fact that the language structures of these books are increasingly complex for students at the earlier EL proficiency levels. Despite the decrease in LR

errors, at approximately two per 100 words in levels seven through 16, LR errors may still have a significant impact on students' assessments, particularly when they are being required to read texts at 98 to 100 percent accuracy for a level to be determined independent, as in some common IRIs (e.g., Leslie & Caldwell, 2017). Whether or not LR errors affect comprehension, and how, should be examined carefully before instructional and placement decisions are made.

Insert Table 4 here

As Table Five shows, the number of LR errors of all types tend to decrease over time, with the uptick at the higher levels either due to the small number of running records or the increase in linguistic complexity at those levels. However, the rate of tolds per 100 words at the highest books implies that approximately one told is still being given per book at all levels. This is problematic because teacher tolds are lost problem-solving opportunities.

Insert Table 5 here

As the text levels increase, the language complexity of the texts becomes more advanced, and LR errors of all types decrease. Thus, it appears that the language of the ELs in this study was likely progressing in approximate alignment with their reading abilities. In the next section we discuss the significance and implications of these findings.

Discussion and Conclusion

While running records are often used with early elementary students in highly effective classrooms (Pressley et al., 2001; Ross, 2004), there is no previous research that explains how teachers differentiate and apply this formative assessment tool with English learners. This study identifies and explains the five most common types of LR errors made by Spanish-speaking EL readers, including four linguistic aspects of text (inflectional endings, irregular verb tense, contractions and prepositions) and teachers' propensity to tell students words. There may be

different patterns of errors at higher levels of text and with older students; this study was limited to students reading books leveled through the end of first grade.

Implications for Teachers and Teacher Educators

LR errors' possible impact on comprehension. Although a comprehension assessment was not part of this study, we can infer the impact of some LR errors (Afflerbach, 2016). Contractions seem to be the least uncertain, but like all LR errors, they need to be considered individually with the text and child in mind. When a student reads two words instead of a contraction, such as "I will" for "I'll," it is likely that the text is understood. When s/he reads "can" instead of "can't," on the other hand, the student probably does not understand the text as intended. The other LR errors have a more ambiguous relationship to comprehension. It is unclear how tolds influence understanding, as it would depend on how the teacher responds to the need for a told. If an EL does not know a word and how it should sound, comprehension may be absent even if s/he decodes the word correctly. Similarly, if the teacher simply gives a told without later explaining its meaning, the child may be able to mimic the word but comprehension will not be aided. Plurals, irregular verbs, and inflectional endings may have a nuanced effect on comprehension. In most instances the students would likely have been able to identify the action or noun; whether or not a child knew who was doing the action or when the action was happening (past, present, future, etc.) is unclear. The result of LR errors involving prepositions is also largely dependent on the context and the student: If the student read "to" for "at" or "in" for "on," it may not significantly change the meaning. This study identifies ways in which ELs' comprehension may be inhibited and emphasizes the need to conversationally check on students' understanding. Future studies should explicitly assess comprehension.

Instructional significance. A teacher's ability to identify LR errors and consider the instructional implications could significantly impact the instruction an EL receives as well as the child's resulting literacy achievement (Author 1 & Author 2, 2016). The common inconsistencies in teachers' interpretations of ELs' running records in this study may result from a cursory understanding of SLA and the role of language in learning to read. Teacher education and ongoing professional development could further address reading behaviors of diverse students and the appropriate use of running records as formative assessment, supporting both in-service teachers and any pre-service teachers observing in those classrooms. With the increasingly common use of IRIs for benchmarking and placement as well as for instructional purposes, both teachers and teacher educators have a greater responsibility to better understand these assessments and the corresponding analyses. While IRIs distinguish dialect difference from reading error (e.g., Beaver & Carter, 2011; Leslie & Caldwell, 2017), currently there are no IRI guidelines for analysis of ELs' LR errors. The high accuracy rates (98 percent) required to achieve an independent level further complicate the use of IRIs with ELs. While we certainly want students to comprehend what they read, we caution that ELs may be penalized, and possibly tracked into lower reading groups, for LR errors that do not affect comprehension and that may be normal for their stage of language development. Like Kucer (2016), we argue that different types of oral reading errors may influence comprehension in varying degrees, and errors should be examined more closely than an overall accuracy percentage permits. Increased knowledge about the influence of language on literacy acquisition could also potentially slow the over-identification of EL students requiring special education (Harry & Klinger, 2006).

As Wheeler and colleagues (2012) suggest for speakers of African American Vernacular English, accuracy rates could be calculated twice, once including all errors and a second time

excluding repetitive LR errors of the same type. The result would provide an *accuracy range* in which the EL's reading fell. We also suggest referring to LR errors as *language approximations*, as ELs are actively using their linguistic resources to attempt to read in a language in which their syntax, vocabulary, phonological awareness, morphological knowledge, and grammar are all developing along with their emergent reading skills. The term "language approximations" would differentiate errors that are a consequence of developing language from those that result from emerging reading knowledge (phonics, concepts about print, sight words, and spelling patterns). This may be creating a false separation, as literacy is based on language, but explicitly considering both language and literacy may help teachers more effectively examine *all* students' language and literacy processing, as young native English speakers are also developing their language while learning to read. It may also help teachers to better understand the relationship between language and literacy, and teachers with some knowledge of Spanish may observe similarities between Spanish and English and build upon those similarities to support ELs.

For teacher educators, this study highlights the need to help pre-service teachers more deeply understand SLA as well as the running record as a formative assessment tool that can provide critical information regarding students' language and literacy needs. Since SLA theory and research predicted most of the LR errors observed, this research also underscores the importance of incorporating SLA into literacy courses, possibly through collaboration with SLA colleagues. This is particularly important for those who prepare pre-service teachers for schools with large or increasing numbers of ELs. SLA and literacy researchers tend to read different journals and attend different conferences; increased collaboration in research and teaching might be helpful in better understanding ELs' literacy acquisition.

Limitations, Implications for Future Research, and Conclusions

This study has a number of limitations and suggests many possibilities for future research. First, while our sample was too small to generalize conclusions, the consistency of error patterns among students at similar levels of English proficiency indicates replication would be helpful to the field. Second, without interviewing the teachers we were unable to determine with clarity why they analyzed LR errors in the ways that they did; we relied on the consistency of their training to make assumptions about the analysis. Teacher insight might prove interesting for considering implications for teacher education programs and professional development needs. Third, literacy interventionists should be more prepared to perform an analysis of LR errors than classroom teachers, but have much less instructional time with the ELs. A similar study with classroom teachers would show if differences in analyses exist between these two groups of educators. Finally, in the absence of a comprehension component in this study, we are unable to definitively determine the significance of many LR errors on comprehension. Since comprehending is the ultimate goal of reading, we suggest analyzing ELs' running records alongside a comprehension component in future studies. This study could also be replicated with different types of ELs (e.g., simultaneous, sequential), ELs at different proficiency levels, and ELs from other language backgrounds. A comparison to native English speakers and ELs in dual language settings might further our understanding of how students of varying linguistic backgrounds and in different instructional settings process text. The role of language in ELs' self-corrections could also be explored.

While it has long been known that one language can support the acquisition of another language under the appropriate conditions (Cummins, 1979, 2008; Genesee, Lindholm-Leary, Saunders, & Christian, 2006; Goldenberg, 2008), the application of transfer theory to kindergarten and first grade children is unclear and may be inadequate. In English-only

classrooms, students are not necessarily being taught to develop transfer skills. Consequently, neither translanguaging (García, 2009) nor a multilingual perspective (Gort, 2006) may be applicable theories to apply to ELs in English-only instruction, as they are not taught to use their home language in school. Research that further develops theory to understand how ELs use their linguistic resources in learning to read in English-only settings is needed. SLA tends to research isolated aspects of language development rather than holistic reading behaviors, and, although many literacy researchers have a significant focus on ELs, their studies are often geared toward individual, measurable aspects of language or literacy, such as phonemic awareness or vocabulary. We suggest that a more holistic theory of language and literacy acquisition for emergent ELs in English-only instruction is needed to enable teachers to better support this increasingly large group of students. There is potential for a wide range of future research.

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Table 1

Teacher and Student Participant Data

Teacher ID	No. years teaching	No. of years as a reading specialist	State	Student ID	Student Gender	EL Level
T1	23	12	CA	S1	M	Late emerging
T2	10	6	CA	S2	M	Early expanding
T3	12	9	TX	S3	F	Late emerging
T4	15	10	TX	S4	M	Late emerging
T5	10	4	TX	S5	F	Early expanding
T6	8	3	CA	S6	M	Early expanding
T7	25	18	CA	S7	M	Late emerging
T8	32	20	CA	S8	F	Late emerging
T9	31	20	CA	S9	F	Early expanding

Table 2

Selected Proficiency Level Descriptors for the California ELD Standards

Emerging		Expanding	
Entering	Exiting	Entering	Exiting
Limited receptive and productive English skills	Basic social and academic communication in English	Refashion learned English phrases to communicate	Use English to learn and communicate about a range of topics

Table 3

Number, Percentage and Standard Deviation of Language Related Errors by Error Type

	n	% of total LR errors	St. Dev. for population of students
Tolds – Vocabulary	66	19%	6%
Tolds - Structure	41	12%	10%
Total Tolds	107	31%	11%
Inflectional endings – nouns	24	7%	7%
Inflectional endings – verbs	42	12%	9%
Total inflectional endings	67	19%	13%
Irregular verb tense	66	19%	10%
Contractions	44	12%	8%
Prepositions	43	12%	6%
Other LR errors	23	7%	7%
Total Coded LR errors	349	100%	

Table 4

Number of LR and Non-LR errors per 100 Words

Levels	Number of running records	Number of LR errors per 100 words	Number of non-LR errors per 100 words
3	12	5.95	7.34
4-6	34	2.90	2.50
7-9	30	2.21	1.83
10-13	45	1.78	1.74
14-16	11	2.34	1.06

Table 5

Numbers of Different Types of Language Related Errors per 100 Words

Levels	Tolds	Irregular verb tense	Inflectional endings	Contractions	Prepositions
3	2.38	.60	1.19	0.00*	.99
4-6	.89	.32	.48	.24	.60
7-9	.85	.33	.38	.30	.30
10-13	.57	.52	.34	.18	.13
14-16	.53	.26	.49	.66	.13

*A characteristic of books at level three and below is that contractions are typically not found.