Content Analysis of Spelling Erroneous Answers from Reading Comprehension Assessments

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Abstract

In order to become entirely literate an individual must learn not only to read but to write and spell: to represent spoken language as a series of printed symbols in a conventional order. Most second language reading comprehension studies seek to find out the reading comprehension ability of second language learners without analyzing the erroneous answers the learners' write in their reading comprehension assessments. This study therefore seek to identify, categorize and find the meaning of the spelling erroneous answers obtained from reading comprehension assessment scripts of 73 form three learners from two Peri-urban girls' schools in Kajiado County, Kenya. The Suizby's repertoire theory of spelling development informed the study [1]. The study employs qualitative content analysis method. The study found out that there were letter omission errors, letter insertion errors, letter substitution errors, letter transposition errors, multiple errors, homophonic errors, first language induce errors, homophonic errors, poor diphthong realization errors and poor use of apostrophe. Based on the findings the study recommends that teachers use orthographic and phonological approaches in their teaching to improve learners' spelling proficiency in second language acquisition.
Key words: *orthography, phonological, morphological, spelling errors*

Introduction

Spelling is a complex, language-based skill that involves the production of the correct orthographic representation of a written word. Research has indicated that various linguistic knowledge sources provide the root for spelling competence and word knowledge(Bourassa,2001)[2].These linguistic foundations consist of knowledge and competence in orthography, phonology and morphology, as well as clear and succinct mental grapheme representations (MGR$_s$). The sources play significant roles in the advancement of individual's spelling skills. Learners must be able to apply these linguistic skills as they write in order to be successful spellers. Knowledge on how to spell words accurately is dependent on the same fundamental linguistic representations involved in knowing how to read a word (Ehri & Wilce, 2001)[3].

Basic Linguistic Aspects for Spelling Competence

Orthographic Knowledge

Orthography knowledge concerns the skills necessary to translate spoken language into its written form. It consists of knowledge of phoneme-grapheme correspondences. For example, knowing that sound [k] can be represented by letters *k, c ,cc, ch*, or *qu.* Knowledge of rules combining letters for example the *qp* letter combination does not exist in English language and competence on positional constraints on spelling for example, the diagraph *ck* cannot appear in the word initial position (Bourassa, 2001). Orthography knowledge also includes comprehension of orthographic rules such as of long and short vowel patterns as *r*-controlled vowels (Albesher, 2018)[4].

Phonological Recognition

Phonological recognition concerns a progression of the following skills in their common order of development: sound play, rhyming, alliteration ,initial and final sound identification, blending and segmenting sounds into syllables and phonemes (Bourassa, 2001).*Phonemic recognition* as an aspect of phonology recognition focuses on segmentation of sounds that is, break down of words into its component sounds and selection of letters that represent those sounds   (Read, 1999)[5].

Morphological Knowledge

Morphological knowledge refers to recognition of morphemes, the smallest units in language that carry meaning (e.g., prefixes, suffixes, roots). Morphological understanding assists the speller recognize and point: the presence of additional morphemes *cars, girls;;* the correct and rational spelling of a morpheme regardless of its pronunciation e.g., regular past tense is always spelled with an *ed* as in *talked, jumped, kicked*; how base words may be altered when an additional morpheme is attached e.g., *jog* becomes *jogging* with addition of *-ing*. Morphological knowledge further assists spellers understand relations between base words or roots e.g., *happy, busy* versus *happily and business*. In addition morphological knowledge is crucial in English spelling system because numerous English words are spelled based on meaning rather than sound e.g., *Kenya /Kenyan, furnish/furniture* (Apel, et al 2004)*[6].*

Mental Grapheme Representations (MRG$_s$)

These are images of words, syllables and morphemes in memory (Apel et al., 2004).Spellers develop mental grapheme representations (MRG$_{S)}$ from repeated exposure to written language, particularly when decoding (Ehri & Wilce, 2001)[7]. As written language exposure increases and decoding competence improves, the number and clarity of MRG$_s$ advances in memory and spelling becomes more fluent and automatic (Apel et al., 2004).When orthographic, phonemic and morphological knowledge are insufficient, learners may need to rely on clear MRG$_S$ to spell the words accurately

Theoretical Framework

Repertoire theory of spelling development proposes that learners from emergent literacy to adulthood use multiple strategies for spelling and a range of linguistic knowledge sources (phonological, orthographic, morphological and semantic) as they develop spelling capabilities. In other words, all the phonological, orthographical, morphological and semantic proficiency a learner has at any given time may interact to support in spelling of a word (Apel et al., 2004). However older learners may misspell

more complex words by omitting graphemes for phonemes present in a word. This is as result of learners having to contend with demands of writing more complicated form of words. The writing tasks that turned out to be accessible and learned at an earlier stage become liable to the linguistic contexts and demands of writing. According to the repertoire theory of spelling development older learners must access there linguistic components simultaneously to meet the demands of spelling complex words (Apel et al., 2004). Misspellings occur because the linguistic complexity of the word transcends the learner's ability to utilize one or more linguistic sources. The repertoire theory is used to inform the preset study to establish what linguistic source(s) are fundamental to the spelling errors exhibited in the learners' reading comprehension assessments.
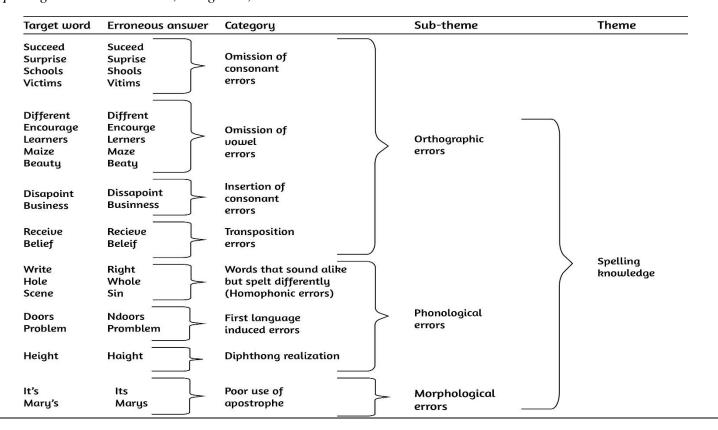
Methodology

Content analysis method generated the data of the present study. This method involves a process designed to condense raw data into categories or themes based on valid inference and interpretations. It is a process that uses inductive reasoning, by which themes and categories emerge from the data through the researcher's careful examination and constant comparison (Mayring, .& Flick,2014)[8]. (Graneheim & Lundman, 2004.p.49)[9] defined content analysis as ' *a research method that provides a systematic and objective means to make valid inferences from verbal, visual or written data in order to describe and quantify specific phenomena'.*

The texts of analysis for the present study were 25 written spelling erroneous answers obtained from the reading comprehension assessment scripts of 73 form three learners from two Peri-urban girls' schools in Kajiado County, Kenya.

The following meanings were deduced from the spelling erroneous answers: letter omission errors, letter insertion errors, letter substitution errors, letter transposition errors,, homophonic errors, poor diphthong realization errors and first language induced errors. The meanings were then drawn into type, categories, sub-theme and themes as shown in Table 1 below.

Table 1

Spelling erroneous answers, categories, sub-themes and themes

Target word	Erroneous answer	Category	Sub-theme	Theme
Succeed Surprise Schools Victims	Suceed Suprise Shools Vitims	Omission of consonant errors		
Different Encourage Learners Maize Beauty	Diffrent Encourge Lerners Maze Beaty	Omission of vowel errors	Orthographic errors	
Disapoint Business	Dissapoint Businness	Insertion of consonant errors		
Receive Belief	Recieve Beleif	Transposition errors		Spelling knowledge
Write Hole Scene	Right Whole Sin	Words that sound alike but spelt differently (Homophonic errors)		
Doors Problem	Ndoors Promblem	First language induced errors	Phonological errors	
Height	Haight	Diphthong realization		
It's Mary's	Its Marys	Poor use of apostrophe	Morphological errors	

Results and Analysis

Omission of vowel errors can be seen in the following examples:*diffrent *encourge*lerners, *maze,*beaty.

The cause of letter omission errors is the distinction and discrepancy found between English pronunciations and orthography (Kelman & Apel, 2016)[10]. The schwa sound (ə) in the word different /ˈdɪf(ə)r(ə)nt/ is not written when it occurred after the voiceless labiodental fricative' /**f**/ sound.

Insertion of consonants

Insertion of consonants can be seen in the following words:*dissapont,*businness .This is a case of double letters instead of single letters. As suggested by Kusuran, (2016)**[11]** this is another spelling problem in the English language where there is an intrusion of sound where there is no spelling to indicate that sound. The words could be pronounced but the spelling is a problem to second language learners of English**.** In addition in English, double consonants can occur in the middle of a word after a short vowel or at the end of a word. However, English language second learners might write the double consonants when there is no doubling. This type of an error illustrates the lack of integration of phonological with orthographical knowledge that results to spelling error.

Transposition errors

Transposition errors can be seen in the following words *receive, *belief. The English language has many combinations of letters. For example, *ei* or *ie.*.This can be difficult for English second language learners because these combinations may be pronounced differently in various words or not be pronounced at all. This is a clear indication of incompetence to recognize English words that have multiple consistency between sound and letters (Al-oudat, 2017)[12].

First language Induced errors

This error can be seen in the example *ndoor*. This is pre-nasalization of a plosive sound. This means the writer of this word first language segment /d/ is preceded by the nasal alveolar /n/ and that is why the English word *door* /dɔː/ was written as /ndɔː/*.,*promblem* This is also pre-nasalization of a nasal plosive/b/. This indicates that the writer's L₁ conforms to pronunciation. What this means is that, words are written the way they are pronounced. This presents a challenge when L₁ speaker learns English, because English is non-phonetic and spelling (orthography) violates pronunciation (Manuel, 2017)[13].

Use of Apostrophe Errors

In English, the apostrophe represents a spelling distinction with entirely morphological basis. This symbol distinguishes words that are pronounced identically: the possessive (e.g., the family's car; the families' car), the plural (e.g., the families' car), and some contractions (e.g., the family's leaving). Apostrophe use in English can therefore, contribute an exceptionally strong test of morphological understanding for English second language learners (Connelly, 2009)**[14].**

Discussion

The probable causes of spelling erroneous answers from the present study were: (i) inability of learners to recognize and map spelling patterns to corresponding sound patterns at the phoneme, syllable and word levels (ii) inadequate repeated exposure to words (iii) deep and complex nature of the English language orthography (iv) learners had poor quality representations of words and failure to draw simultaneously upon their understanding of their form and meaning.

Research has found out that L₂ learners use the orthographic processing strategies of their L₁ when writing in an L₂ (Albesher, 2018)[15]. The present study learners are from peri-urban area where Swahili is a common *lingua franca* language. Swahili language has swallow orthography where every letter in a word is pronounced and letter or letter combinations corresponds to only one

Swahili sound (Ngugi & Wagacha, 2005)[16]. In contrast, the orthography of English is extremely irregular and inconsistent in the relationship between letters and sounds, with many examples of a single letter representing multiple sounds, single sounds being mapped onto multiple different letters and combinations of letters representing single sounds (Muller 2019)[17]. This explains the source of spelling erroneous answers in the present study.

Conclusion and Implications

First, the deep orthography of English presents an extensive challenge to L₂ learners because of its high degree of irregularity. Many English letters can correspond to more than one sound; for instance letter *c* can correspond to sound/k/as in *car* and also the sound */s/* as in *certain.* In addition, many sounds can be represented by one letter in English language. For example, the sound /k/ can be represented by *c,k or q.* In addition English has a number of consonant diagraphs (combination of consonants that are pronounced as a single sound unit) such as, *th, sh,ch* and *ck* , in which two graphemes are used to represent a single sound. These one-to-many and many-to-one relationships between graphemes and sounds in the orthography of English make spelling of words difficult especially for learners whose first language has a shallower orthography (Miller, 2019).

Second, as written language exposure increases and decoding competence improve, the number and clarity of mental graphemic representations (MRG$_s$) advances in memory and spelling becomes more fluent and automatic (Apel et al., 2004).When orthographic, phonemic and morphological knowledge are insufficient, learners may need to rely on clear MRG$_S$ to spell the words accurately. The present study learners lack this kind of exposure.

The findings presented in this paper have implications for the teaching of English language spelling at emergent stages in schools. In case learners at emergent schooling are conscious to phonological, orthographical and morphological spelling patterns, then it would seem easy to mark the difficulties at that stage. Some spelling errors

made by form three learners in the present study may stem from literary negligence that emerge from frequent use of informal communication. However, future intervention would do well to focus on the phonological, orthographical and morphological conventions that govern the spelling of so many English words.

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