An Interrogation of the types of Grammatical Cohesive Devices that are Prominent in the Writing of Hearing-Impaired Learners

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ABSTRACT:
This paper set out to interrogate the types of grammatical cohesive devices that learners with hearing-impaired use in their writing. Studies conducted on the subject reveal that hearing-impaired learners face several challenges in their written English. To try to aid in providing solutions for amicable communication in the written works of these learners with hearing problems, this article investigated the nature of cohesion in the hearing-impaired learners’ English written texts. It investigated ways by which hearing-impaired learners have been able to achieve cohesion in their written texts. To be able to interrogate the cohesion devices, the article located itself within the lens of Halliday and Hasan’s theory of Cohesion to identify, describe and categorise cohesive devices in the texts. In the final analysis, the paper found out that all the cohesive devices posited by Halliday and Hasan were present, but at varying frequency. Reference had the highest frequency of occurrence and ellipsis the least. The findings of this study provide a theory-governed description of cohesive ties used by the hearing-impaired learners in Kenya. The findings also contribute to the increasing body of knowledge in studies related to the writing and communication of deaf learners.

Key terms: cohesion, hearing-impaired, grammatical errors

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Introduction
The introduction to this article lays a foundation within which the discussion is done. This introduction touches on the concept of cohesion drawing from the previous studies on the subject. Different scholars have taken different approaches in the field of text linguistics. Brown and Yule (1983), Edmondson (1981), and Sinclair and Coulthard (1975) view a text as an interaction that exists between a producer, the text and the receiver of the text, and their knowledge of the world around them. Others such as Van Dijk (1977) are interested in the functional structure of text arguing that societal features determine the unity of texts. Halliday and Hasan (1976; 2013), Hasan (1984) and Hoey (1991) focus on the structuring of texts through lexical and grammatical units that operate beyond the sentence boundaries. This group is often referred to as text grammarians. This study falls under text grammar because it focuses on how language operates beyond the sentence for the hearing-impaired learners through analysing how they utilise the cohesive devices in their written English text. Cohesive devices operate beyond the sentence and are realised as lexical or grammatical features in a text (Halliday, & Hasan 1976, 2013). The study, therefore, fits within text grammar. The structural relations between words within a sentence contribute to a sentence-internal cohesion, while semantic relations provide cohesion. And this, according to Halliday and Hasan (2013), is what makes a text function as a unit. In addition to recognising cohesion as a property of texts, text linguists are interested in the role of cohesion in the texts.

Literature Review
A number of studies have looked at cohesion in learners written text with varied results (Connor, 1984; McCulley, 1985; Johnson, 1992; Thiga, 1997; Ambiyo, 1999; Olateju, 2006; Guthrie, 2008; Chege, 2009; Majdeddin (2010); Kafes (2012); Somba, & Somba 2015a; Somba, & Somba, 2015b). Olateju (2006) examined the extent to which English as Second Language (ESL) learners have achieved cohesion in their written texts. He examined cohesive devices used by Nigerian high school students in their continuous writing sessions at school. The study found out that high school learners lacked competence in their use of cohesive devices despite the fact that they had been exposed to the intensive teaching of English for six years in school. Olateju (2006), as quoted in Ghasemi (2013, p.16) concluded that the learners used cohesive devices wrongly or insufficiently due to lack of sufficient exposure to the English language.

Guthrie (2008) did a study on the cohesion in young Latino-English Language learners English Narrative written texts in selected schools in the United States of America. The findings were that fifth-grade learners of the English language frequently used reference, conjunction, and lexical ties. Substitution, ellipsis ties, and exophoric references were least used to maintain cohesion. Another study by Majdeddin (2010) determined if training courses in writing could cause a change in the learners' use of cohesion in their writing in Iran. Sixty eight (68) students (32 male, 36 female) were given two compositions to write with a two-month interval. The subjects received overt instructions on cohesive ties after the first compositions. Several t-tests were done to compare the means in the cohesive ties in the two compositions. Results indicated
that overt instruction is a predictor of success in the use of cohesive ties in writing. The study also found out that there was a great improvement in the use of reference and superordinate words.

Akindele (2011) examined the cohesive devices in selected ESL academic papers in Nigeria. The analysis of the cohesive devices used in these academic papers revealed that for a text to be cohesive, it must be held together by some lexical and grammatical linguistic devices. The study used Halliday and Hasan (1976) cohesion theory as in the current study. Akindele’s study is however different from this study because it was interested in the importance of cohesion in academic papers while this study investigated the nature of cohesion in the written work of hearing-impaired learners in secondary schools.

Tsareva (2010) investigated the use of grammatical cohesion in argumentative essays by Norwegian and Russian learners. The study was based on Halliday and Hasan (1976) model of cohesion. To achieve this purpose, the International Corpus of Learner English (ICLE) was chosen to study how Norwegian and Russian learners of English write argumentative essays. The essays were analysed to investigate how the various grammatical elements function as cohesive links for sentences and independent clauses. The four subcategories of grammatical cohesion were present in the learners writing. Reference and conjunction were the most common types of grammatical cohesion, whereas substitution and ellipsis are not represented widely. The learners used the three exponents of anaphoric reference, namely personal, possessive and demonstrative in their compositions. The findings indicate that determiners work together with lexical cohesion and that lexical cohesion was the most dominant cohesive device used.

There has been an attempt by earlier researchers to compare the cohesiveness of a text and quality. Though these studies are old, they availed adequate information that guided the current study. A study by Johnson (1992), as quoted in Ghasemi (2013), analysed the use of cohesion in sixty essays. Twenty were written in L1 Malay, twenty (20) in L1 English and twenty (20) in Malay ESL. The findings showed that there was no significant difference in the degree of cohesion or cohesive distance between the good and poor essays. The researcher also found out that the good L1 Malay essays contained more cohesive devices for repetition than the poor ones. The study concluded that writing quality correlated with the use of repetition in expository essays. It also found out that more tokens of referential ties and conjunctive ties were located in well-written native English essays. This suggested that there were differences in the use of cohesive devices with regard to specific types of cohesive ties. Good and poor essays, according to Johnson (1992), research might be similar in terms of frequencies of cohesive devices but differ significantly in terms of specific types of cohesive devices they contained. Different findings by Liu and Braine (2005), who analysed 50 argumentative writings of Chinese students, found a correlation between the frequency of cohesive devices used and the quality of writing.

Another researcher, McCulley (1995), investigated the connection between cohesion and writing quality in his analysis of 120 argumentative essays written by high school
students. Each essay was analysed using Halliday and Hasan's (1976) Taxonomy. Statistical analysis revealed that writing quality did not correlate with the total number of cohesive devices used in the essays. However, there was a positive correlation between writing quality and specific cohesive ties, including demonstratives, nominal substitution, ellipsis, repetition, synonymy, hyponymy and collocation.

Connor (1984) carried out a study on the differences in the cohesive density in argumentative essays composed by two English native speaking writers and two advanced ESL writers in the United Kingdom. The participants wrote two expository essays, which were analysed in terms of percentage of occurrences of cohesive devices they contained. The findings of the above study showed that there was no difference in cohesive density in essays written by native English-speaking students and the ESL students.

An earlier similar study but with findings contradicting Connor's (1984) was carried out by Witte and Faigley's (1981) in the University of Texas, in the United States of America. Their study showed that there was a difference in the frequency of grammatical cohesive devices in good versus poor essays. Connor (1984) argued that ESL essays lacked lexical variety and elaboration. They also had a high percentage of repetition and conjunction. The L1 English texts had greater lexical variety and a higher percentage of collocation and less repetition. Connor (1984) and Witte and Faigley (1981) studies differ from the current study in that they only examined cohesive devices in argumentative essays composed by hearing students.

Another study by Neuner (1987) analysed twenty good essays versus twenty poor essays written by college freshmen in Europe. The learners were instructed on writing before composing the essays. Cohesion analysis was done on each essay, and a T-test used to analyse the statistical distinction between good and poor essays in terms of cohesive devices, cohesive distance and chain length. The findings revealed that the frequency or percentage of cohesive ties did not correlate with writing quality. There was also no significant difference in cohesive distance between good and poor essays.

There has also been an attempt to compare English and another language’s use of cohesive devices. Mirzapour and Ahmadi (2011) did a study on lexical cohesion in English and Persian research articles written by university students. The study analysed 60 research articles (80 articles in each language) in terms of sub-types of lexical cohesion. The study revealed that in the English data, there was a tendency towards the use of repetition and collocation. The Persian data showed a general tendency towards the use of repetition and synonymy.

Thiga (1997) studied cohesion and compactness in compositions written by Kenyan urban primary school children. The study revealed the occurrence of the five cohesive devices as earlier posited by Halliday and Hasan (1976). However, reference had the highest frequency of occurrence and substitution the least. It was also observed that the pupils had problems using some of the devices. The data analysis was based on Halliday and Hasan's model, which forms the theoretical framework for this paper.

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Ambiyo (1999) compared cohesion in academic and newspaper texts in Nairobi. The analysis revealed the occurrence of all the five types of cohesion devices mentioned by Halliday and Hasan (1976). The study also found out that substitution and ellipsis categories were less frequent compared to the other cohesive devices. This observation was similar to Thiga (1997). Ambiyo (1999) and Thiga (1997) studies are relevant to the proposed study because they are based on Halliday and Hasan's model of cohesion.

In a more recent study, Somba and Somba (2015a) and Somba and Somba (2015b) identified and categorised the linguistic features that help in achieving cohesion in selected Gikuyu texts. The texts selected were those written in continuous prose and were from the literary and the reportage text categories. Somba and Somba (2015a) found out that affixes, words, phrases, clauses and syntactic gaps have created cohesion in Gikuyu texts. The Gikuyu texts analysed showed evidence of the five categories of cohesion proposed in the Halliday and Hasan’s model of cohesion (Somba, & Somba, 2015b). The categories were reference, lexical organisation, conjunction, ellipsis, and substitution. The data showed proof of a single sub-category of substitution as a cohesive device. This kind of verbal substitution is known as a verbal reference. Nominal and clausal substitutions did not occur at all in the data (Somba, & Somba, 2015b). Although both studies did not analyse texts written by students, they were relevant in guiding the present study in the theoretical framework and methodology.

Methodology
The study adopted a descriptive research design. Data was collected from the written texts of 80 hearing-impaired learners in Form Three. This study was conducted in three schools located in three counties, namely; Ngala Special Secondary school in Nakuru, Muhoror Secondary school in Nyeri and Machakos School for the deaf in Machakos County. Halliday and Hasan model of Cohesion was used in identifying, describing and categorising the grammatical cohesive devices used by the learners. Descriptive statistics were applied in determining the frequency and percentage of the errors. A free composition was given to each of the 80 students in the three selected schools. The researcher also picked two written essays per student from their earlier written composition assignments in order to capture normal English writing situations.

For identification and description of the grammatical cohesive ties, the researcher read the two categories of data; free compositions and students’ assignments written by the hearing-impaired learners. All the sentences that contained grammatical cohesion ties were selected and coded according to the source. Sentences from the free composition category were coded as FCC while the students’ assignments were coded as SAC. For example, a sentence FCC: 1 means sentence one drawn from Free Composition Category while SAC: 2 is an example drawn from the Students’ Assignments Category.

Findings and Data Analysis
The findings of this article revealed that grammatical cohesion was present in the writing of hearing-impaired learners. The hearing-impaired learners used more
referential devices, followed by conjunction devices. There was a total of 172 grammatical cohesive devices. The major grammatical cohesive devices used by the hearing-impaired learners were reference and conjunctions with 74 (43.03%) and 72 (41.86%) respectively. The other types of grammatical cohesive devices were substitution with 17 (9.88%) and ellipsis, 9 (5.23%). This study differs with other studies such as Nasser (2017) and Alawdi (2015), where learners under study used more conjunctions than reference cohesive devices. The hearing-impaired learners writing had several grammatical errors, but they were ignored because the researcher was interested in how they write cohesively.

**Table 1: Summary of Grammatical Ties**

<table>
<thead>
<tr>
<th>Grammatical Ties</th>
<th>Total</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference</td>
<td>74</td>
<td>43.03%</td>
</tr>
<tr>
<td>Conjunction</td>
<td>72</td>
<td>9.88%</td>
</tr>
<tr>
<td>Substitution</td>
<td>17</td>
<td>41.86%</td>
</tr>
<tr>
<td>Ellipsis</td>
<td>9</td>
<td>5.23%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>172</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Reference

Reference cohesive devices are those items that are not interpreted semantically on their own right but rather refer to something else for their interpretation (Halliday, & Hasan, 2013, p.31). The interpretation of reference items relies on some other features in a text. Halliday and Hasan (2013) consider three items in a language through which reference is realised. These are personal pronouns, demonstrative pronouns and comparatives.

Personal reference is expressed by personal pronouns such as *he, she, him, her, I, me, we, us,* and *they.* Possessive pronouns such as *her, his, us, theirs, mine* and *yours* are used to create personal references. Demonstrative references include the pronouns *this, these, were, that, those, these* and the definite article *the*. Comparatives, on the other hand, use general comparison and particular comparisons. Words such as *other, less, than, stronger and higher* are used to create comparative cohesion. Out of the 74 references used, there were 40 demonstrative ties, 26 personal reference ties, and 8 comparative ties. Among the personal reference ties, the hearing-impaired learners used pronouns; *it, they, ours, he, she, her and them.*

(1) The party good. *It* end midnight students sleep. Happy day. My happiest day. (The party was good. It ended at midnight when the students slept. It was my happiest day)

In the above example, the pronoun *it* is used to presuppose the phrase the *party,* which is the subject of the first clause. The meaning of *‘it’* is, therefore, recoverable from the earlier clause.

(2) *FCC 1: 1- 5*

'This school is fine and also best but problem with food and tourism, uniform for school miss a lot tell something about food have a lot dirty with stone small thing, miss tourism buy are a lot money. 'They are not happy in school please our principal some teachers are lazy to teach but miss lesson, able next
time must be the best way to teach a lot. They are not focused on student about education but teachers think about clothes why not education and please stop next using learning never force about clothes the best using learning never force about the clothes the best way education your meaning making our school. They are not happy a lot improve education. They are teachers to teach very poor sign language to teach but not understand from tell about subject also the best way sign language know who best making student understand fast from subject. May be our school next time change feeling in school control follow about it.

In FCC 1:4 the pronoun they refers back to students mentioned in the previous sentence though not very clear. In FCC 1: 3 the pronoun they points back to teachers who are being accused by the writer of not teaching well.

They were not happy because was assignment work lesson waste. The lesson my class lesson waste assignment lesson. She teach other class P.E two any other P.E one game why we are all not happy. Which class free two P.E day but oppress one my class only PE games day not good. It was perfect asked teacher is not good, my class lesson assignment waste is time subject all not same last. The class form 3 other deaf schools. The teacher said is patient was student all but I am small happy but go to dining hall time waste last service wait of in back class soon bell in here last same continue food but then because fast in the class my class wanted must be teacher is Sign language is like tortoise do not understand teaching everything must sign well all know must subject today please, let obey teacher same student.

(4)

FCC 3

Night very dark. Student use their torches walk in dorm because electricity out.

(The night was very dark. The students used their torches to walk to the dorm because there was no electricity.)

Their is a possessive determiner that marks ownership. Demonstrative references had the highest frequency among the three types of reference, followed by personal references, and finally the comparative. Demonstrative references had the highest percentage because of use of the definite article the, this, these. Halliday and Hasan (2013, p.71) classify the definite Article with demonstratives and possessives. The definite article serves a cohesive function through dependence on something else. Other demonstratives used were here and there, as demonstrated in the examples below.

(5)

SAC 4

(Traders like this town there are many people to buy goods here. There are many customers and shops. This is good business)

Teacher teach history. Students like history sad colonial masters mistreat Africans. That is bad.
(The teacher teaches history. The students like history. It was sad when colonial masters mistreat Africans. That was bad)

“That” is a demonstrative pronoun referring back to the act of colonial masters mistreating Africans. This reference links the third sentence to the first sentence. It creates cohesion in the text.

(6) Our school good. And our teachers good. They teach subjects students like. Exam time good students like. Our exams students do well.
(Our school is good and so are our teachers. They teach subjects that students like. Students like exam time. The students perform well in our exams).

The possessive determiner our and the personal pronoun they play a role in making the text to be cohesive, though the text has several grammatical errors. These were references used in the hearing-impaired texts. As indicated earlier, comparative references are realised using adjective and adverbs. Words such as less, than, other same and higher were used.

(7) Students shout teacher give them break. Teacher stay in class long. Students hungry. Other students more hungry.
(Students shouted at the teacher to give them a break. The teacher had stayed in class for a long time. The students were hungry. Other students were very angry.)

The word “other” has been used as a comparative reference. This falls under general comparative use.

Conjunctions
Several conjunctions used by the hearing-impaired learners were identified and described. The four subcategories of conjunctions as classified by Halliday and Hasan were present in the written texts of the hearing-impaired learners. In addition to the four conjunctions under Halliday and Hasan model of cohesion, there was one use of the item now. This is common in spoken discourse. Halliday and Hasan (2013, p.268) classify it as a ‘continuant.’ They claim that items such as now, surely, anyway, after all, of course, and well are used with a cohesive force in a text. There was only one instance in the use of the item now, and it was classified under conjunction.

(8) Bus late because heavy rain. Now students sing class. Teacher come and stop singing go bus.
(The bus was late because of the heavy rain. Now, students were singing in class.)
The teacher come and stopped the singing and we went to the bus.

There was a total of 72 conjunctions in the data collected from the hearing-impaired learners. Additive conjunctions were the highest with 22 (30.56%) followed by temporal conjunctions with 19 (26.39%). Third in rank was causal conjunctions with 17 (23.61%), and lastly, adversative conjunctions, 14 (19.44%). Similar observations were made by Pangaribuan, Haddina, and Manik (2018). However, in the current study, there was an overuse of the additive conjunction and. The learner demonstrated more competence in the use of the additive conjunctions and, though, there were errors in some of the texts. The learners used the conjunctions and, because, furthermore, but, also, in addition, later, therefore, then, as, since, after, and however. Some of these conjunctions were used correctly, but others were used erroneously. Some did not have a presupposing item. Others were used in the same simple sentence; therefore, they did not contribute to the cohesion of the text. Halliday and Hasan (2013) state that for conjunctions to be cohesive, they must conjoin two independent clauses. Some of the learners understood how these conjunctions were used while others had no clue. They sometimes used conjunctions at the beginning of the first sentence in the introductory paragraph.

Nominal substitution in the current study had a higher frequency than the verbal and clausal substitution. There were 13 nominal substitution ties, which accounted for 76.47%. The hearing-impaired learners used only 3 verbal substitution ties and 1 clausal substitution tie, accounting for 17.64% and 5.89% respectively.

The learners demonstrated a lack of knowledge in the use of substitutes. This may be the reason why there was a high frequency of collocation and same word repetition. Substitution requires both grammatical competence and lexical competence for the learner to be able to replace a phrase or a lexical item with another. Where this replacement is not possible, learners tend to repeat words or phrases.

This may be because they had not yet developed enough grammatical and lexical competence to replace clauses with a lexical item. It was evident that the hearing-impaired learners in the current study had not acquired enough grammatical resources to use substitution ties. As mentioned earlier, students should first understand grammar before constructing sentences (Pangaribuan et al., 2018). By understanding grammatical rules, hearing-impaired learners will be able to use substitutes correctly.

Substitution and Ellipsis

Substitution was not widely used in comparison to reference and conjunction. There were 17 substitution ties in total. This accounted for 10.2% of the total grammatical cohesive devices used. The three subcategories of substitution were used in the data collected for the study.

There were 9 ellipsis ties from the H.I learners’ writing. Theses ellipsis ties accounted for 1.8% of the grammatical cohesive devices identified in the current study. A similar observation was made in the use of ellipsis, as observed in the use of substitution. It was evident that the hearing-impaired learners had not acquired enough grammatical structures to use both substitution and ellipsis. Their use
requires an understanding of grammar and lexical relations in a sentence.

CONCLUSION
This article set out to determine the types of grammatical cohesion devices that are prominent in the writing of hearing-impaired learners. This article concludes that 172 grammatical cohesive devices. Among the grammatical cohesive devices used, reference ties led with 74(43.03%), followed by conjunction ties with 72(41.86%). Substitution ties and ellipsis ties were not very frequent in the study. There were 17 substitution ties and 9 ellipsis ties. The most prominently used grammatical cohesive tie was reference followed by a conjunction.

REFERENCES


