The Effect of Bilingualism on Written Narrative Language

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ABSTRACT

According to McComb (2001), about one in four Americans can hold a conversation in another language. In addition, the percentage of bilingual students has risen from 10% to 21% (USDOE: National Center for Education Statistics, 2012). With this increase in numbers, there is a need for continued research into methods of evaluation that are sensitive to documenting differences in language that may or may not be due to a language disorder. Oral and written narrative language evaluation is one method that has been studied and shown to be effective in evaluating the microstructure and macrostructure in monolingual and bilingual populations. However, most of the research that exists was conducted with children, and in particular, English/Spanish speakers. The purpose of the present study was to add to the body of research on written narratives by including adolescents, particularly college-age students. Ten bilingual and ten monolingual undergraduate students participated in this study. Students were instructed to provide a typed narrative after watching a video clip. Results showed significant differences in the areas of cohesion markers and subordination index. In addition, similarities were found amongst bilingual subjects for group and gender. Conclusions from this data can be used to develop further insight into characteristics of various groups in written narratives. This data is useful for SLP’s in using written narrative assessment in determining if a difference and/or disorder may exist.

Narrative Language Assessment in Monolingual Children

The use of narrative language assessment to document language impairments at the discourse level is not a new concept. Studies have shown this type of assessment to provide valuable information about performance, which may be missed by standardized language tests. It is well documented that narrative language development is highly correlated with academic skills in the monolingual population (Engel, 1995; Liles, 1993, Roth & Spekman, 1986). Narrative production is also related to many levels and aspects of vocabulary, grammar, and conversational skills.

A benefit of using narrative assessment is that it can be adjusted to increase or decrease difficulty thus revealing the amount of prompting that may be needed and areas of need. Narrative assessment also takes into account the diversity of speakers (Danzak, 2011 a/b; Gutiérrez-Cullen & Hofstetter, 1994; Flecken, 2011; Gutiérrez-Cullen, Restrepo, Bedore, Peña, & Anderson, 2000). Finally, narratives are relatively easy to elicit, requiring few materials. One needs to be cautious however, because the way in which the narrative is elicited may impact performance.

In studies with children, narratives that were elicited from memory tended to be longer but contained more errors because of lack of context. On the other hand, those that were derived from pictures had context but were less
complex in syntax (Morris-Friehe, & Sanger, 1992). Other studies used short films to elicit the narrative. Gutiérrez-Clellen and Hofstetter (1994) found that following viewing of the film, children were able to produce elaborate narratives and syntactical forms to coordinate events from many perspectives. Books or picture sequences have also been found to be useful in eliciting more descriptive information than other formats. The amount of contextual support that is available in the elicitation procedure will impact the length and complexity of the narrative. All of these factors need to be considered by the clinician when eliciting the narrative.

The most common way to analyze the complexity of narratives is by evaluating the macrostructure and microstructure. Analysis of story grammar has been documented to be a consistent way to document language impairments. Story grammar analysis attempts to answer questions such as, Is a setting given? Are the characters described? Is a goal presented? Is there an ending? (Applebee, 1978; Hutson-Nechkash, 1990; Merritt & Liles, 1987; Stein & Glenn, 1979). These elements provide what is called the macrostructure of the story structure. In addition to story grammar, analyses of elements like story length, number of words, and number of T-units (otherwise known as microstructure) provide information about narrative language ability. Finally, narrative style assessment may answer questions such as, Is the narrative grammatical? Is the vocabulary precise? Is dialect a factor? (Gutiérrez-Clellen, Restrepo, Bedore, Peña, & Anderson, 2000).

**Differences in Bilingual Populations**

Currently, much of the normative data that exists is based on narrative development in monolingual, not bilingual children. Children from different cultural groups develop a variety of discourse genres and communicative strategies for text production. However, not all genres may be present in all cultures. Cultural differences can occur in: (1) the functions and genres of narratives that are used, (2) the content and theme of narratives, (3) the style and structure of narratives, (4) the narrator or storyteller, and (5) how children are socialized into comprehension and production of narratives. Even with these differences, evaluation of narrative skills provides insight into cultural variations and difficulties children may be experiencing in L2 and provides valuable information that may be missed in standardized testing (Gutiérrez-Clellen & Kreiter, 2003; Gutiérrez-Clellen & Quinn, 1993).

While norm-referenced standardized testing procedures are used to assess and diagnose a disorder, these are often not sensitive to children who are learning a second language and may not account for linguistic and cultural differences. In addition, many clinicians are not prepared to complete assessment of these children in their native language as the clinicians may not be proficient in any other language but English. ASHA (2004) acknowledged these deficiencies and recommended that clinicians use alternative evaluation procedures in addition to standardized tests in formulating a diagnosis. Caesar and Kohler (2007) conducted a study to assess bilingual assessment practices used by speech-language pathologists.
They collected data through a survey instrument that was distributed to SLP’s in Michigan. Among their findings was that many clinicians used standardized tests over informal procedures to determine eligibility for services. In addition, the majority administered these tests in English. The authors also found that if informal procedures were used, the most common type was language samples, and those also were elicited in English.

Fiestas and Peña (2004) contend that there is a need to evaluate in both languages when assessing narratives, in order to document what is considered to be typical in bilingual children. They further explain that the differences in discourse may be due to both cultural and linguistic variations. Cultural variations can occur in how children are socialized into using narratives by the narrative examples that their families provide (Bliss, McCabe, & Mahecha, 2001; Gutiérrez-Clellen et al., 1995; Kester, Stubbe, & Peña, 2002). For example, McCabe (1997) found that Latino children create narratives that relate to personal experiences and family relationships. On the other hand, linguistic variations can include verb usage, pronoun omission, and word order (Fiestas & Peña, 2004). For example, in Spanish, pronouns are often omitted because the subject is revealed by verb tense. However, in English, the pronoun is necessary to identify the subject. In addition, Spanish influenced English writing may often omit the pronoun while using more complex verbs (Kester & Peña, 2002).

In addition, researchers found differences in the macrostructure of narratives in bilingual speakers (Daller, et al., 2011; Fiestas & Peña, 2004). For example, motion is conveyed differently depending on the type of verb that is used. Some languages use deictic verbs while others use manner verbs. Contextual information is important for the interpretation of deictic verbs. For example, utilizing the verbs “come” or “bring” requires a location or object to be specified. Meanwhile, manner verbs independently convey a more specific action such as “run” or “jump.” The presentation of these actions varies by languages as well. For instance, Turkish and German languages differ on the order of the action and goal description (Daller, et al., 2011). Flecken (2011) found that there are differences in how information is conveyed in narratives in various languages. According to Bliss, McCabe, and Mahecha (2001), Spanish-speaking bilingual students focus their narrative writing around description. The location and evaluation of experiences are given more attention than the action of the plot. In addition, Spanish bilingual narratives include more attempts and initiating events and put priority on relationships and familial characters.

Much of the research on narrative production with bilingual speakers that has been conducted in the past decade has focused on children in preschool and the elementary school grades. The preponderance of the literature also involves Spanish/English speaking bilingual children. In addition, the majority of these studies evaluated oral language skills. One recent study focused on narrative and expository discourse in writing. Danzak (2011) evaluated adolescents’ ages 11 to 14 years who spoke Spanish and English. She evaluated linguistic features and the interaction within and across both
languages, and whether or not the genre (narrative vs. expository) impacted production. For this study, expository and narrative autobiographical texts were used. Results of the study found that the topic of the text had an impact on lexicon, syntax, and discourse. For example, participants performed better on an expository writing prompt on a person they admired than they did on one that required them to write a letter. Danzak (2011) postulated that the differences may be due to unfamiliarity with the task or lack of interest in the topic. This finding reiterates the need to consider the type of prompt or topic that is used in eliciting writing for analysis; a fact that has been confirmed for oral language as well (Peterson & McCabe, 1983).

In another study, Danzak (2011) evaluated writing samples of 6 middle school students, in addition to conducting interviews and questionnaires. For the elicitation of writing samples, she had students produce narrative and expository texts in both Spanish and English. Her results showed differences based on how the students identified themselves either as monolingual or bilingual. These identifications influenced the writing on lexical, syntactic, and text level scales. The results revealed differences that would not have otherwise been identified on standardized tests. This study is particularly important because narrative evaluation can add to the overall assessment portfolio in identifying bilingual students who may have an undiagnosed language learning disability (Danzak, 2011). These findings are consistent with other research that indicates the adolescent bilingual adolescents in middle and high school struggle more than younger children because of the demand of the academic curriculum while continuing to becoming proficient in English (Short & Fitzsimmons, 2007).

Given that there are many bilingual adolescents who may go undiagnosed with language disorders, it stands to reason that these students may struggle in college and require identification and intervention. The present study was conducted to add to the body of literature that is being developed on bilingual adolescents (college-age) and written language narratives. Specifically, the study evaluated the macro and microstructure of undergraduate students’ written language narratives including their use of story grammar parts, grammatical units, and cohesion markers.

**METHOD**

**Subjects**

For this study, a sample of 10 bilingual and 10 monolingual Loyola undergraduate students were recruited. All of the participants were aged from 19 to 22 years old, and their majors varied across the areas of Bachelor of the Arts, Bachelor of Science, and Bachelor of Business Administration (see Table 1). The bilingual participants were required to be bilingual since early childhood to qualify. From this bilingual group, eighty percent had both languages spoken at home, and sixty percent participated in an English as a Second Language program. The monolingual and bilingual participants were all fluent in English. The other languages of the bilingual participants included Spanish, Creole, Mandarin Chinese, and Bengali.
A variety of linguistic backgrounds was utilized as the goal was to analyze a sample of prevalent secondary languages utilized by bilingual Americans. Although results of this study cannot be generalized to bilingualism as a whole, it may be generalized for the specific secondary languages included in the study.

The experiment was then administered in individual study rooms in the library. The examiner and one participant were in the room during the procedure. Each participant was provided with a laptop and headphones to complete the task.

**Materials**

The silent film “Felix the Cat in Hollywood” written by Otto Messmer and Pat Sullivan was used to elicit the written narratives. This clip was selected to avoid emotionally charged material. In addition, the clip was chosen because it had not been previously viewed by any of the participants. These precautions were taken to prevent skewed results. The participants watched the nine minute film with headphones on a laptop. After watching the film, the participants were instructed to type a one to two page double-spaced paper retelling the story line.

**Data Analysis Procedure**

Macrostructural and microstructural analysis was performed to quantify the written narrative results. To measure the macrostructure, episodic analysis—a content based assessment—was utilized. This content analysis was performed by recording story grammar parts which include: setting, initiating event, internal response, internal plan, attempt, consequence, resolution, and ending. Each t-unit of the individual narratives that contained one of these parts, as defined by Hughes, McGilivray, and Schmidek (1997), was tallied. For example, if the t-unit stated, “The movie begins with an old man in his room asking for a ham sandwich,” this would be tallied as one setting story grammar part. The sum of the tallies for each story part is the number of times that part occurred in the narratives.”

**Setting**

The written narratives were elicited in the Loyola-Notre Dame Library on the Evergreen Campus in Maryland. Each participant scheduled a time to meet.
grammar part was then recorded as the story grammar part’s score for each narrative.

Meanwhile, the microstructure of the narratives was measured in multiple respects. First, the narratives’ word counts, subordination indexes, and t-units—shortest permissible grammatical sentences—were calculated. Clauses were counted by the categories of relative, nominal, and adverbial as well. The grammatical units of conjoined verb, infinitive, gerund, and participle were also calculated. Next, a cohesion analysis based on t-unit segmentation, which examined the cohesion within each individual t-unit, was used to further measure the narratives’ microstructure. The reference and conjunctive cohesion markers counted include: personal reference (I, you, us, he, him, she, her, they, them, their, our, mine, its), demonstrative reference (the, this, that, these, those, here, now, then), comparative reference (another, same, different, else, more, so much, second, otherwise), additive (and, also, nor, or, furthermore, besides, incidentally, that is, likewise, for instance), adversative (but, however, yet, though, only, except, in fact, actually, instead, anyhow, despite), causal (so, because, as a result of, consequently), temporal (then, next, after that, finally, soon, up to now, from now on), and continuative (well, surely, now, of course, still, anyway). Once all of the data was collected, multivariate statistical analysis was performed. T-tests determined which of the variables had a statistically significant difference between the sample groups’ means. A cluster analysis was also performed to determine if the narratives were structured similarly within the sample groups.

Results

Episodic analysis was conducted to quantify the macrostructure of the written narratives. The results comparing the average bilingual story grammar parts count to the average monolingual count indicated some variation between the two groups. However, for the differences to be statistically significant, the t-score had to be greater than 2.101. Thus, the groups were not found to have a statistically significant difference for any of the story grammar parts (see Table 2).

<table>
<thead>
<tr>
<th>Story Grammar</th>
<th>Average Bilingual</th>
<th>Average Monolingual</th>
<th>T-score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Setting</td>
<td>1.6</td>
<td>1.6</td>
<td>0</td>
</tr>
<tr>
<td>Initiating Event</td>
<td>4.1</td>
<td>4</td>
<td>.25</td>
</tr>
<tr>
<td>Initial Response</td>
<td>2.7</td>
<td>2.5</td>
<td>.17</td>
</tr>
<tr>
<td>Internal Plan</td>
<td>3.3</td>
<td>2.6</td>
<td>1.4</td>
</tr>
<tr>
<td>Attempt</td>
<td>7.8</td>
<td>7.1</td>
<td>.58</td>
</tr>
<tr>
<td>Consequence</td>
<td>6.9</td>
<td>7.2</td>
<td>.26</td>
</tr>
<tr>
<td>Resolution</td>
<td>2.1</td>
<td>1.8</td>
<td>1.3</td>
</tr>
<tr>
<td>Ending</td>
<td>.7</td>
<td>.7</td>
<td>0</td>
</tr>
</tbody>
</table>

Note. *t > 2.101

After calculating the grammatical units of microstructure listed below, only clauses per t-unit, also known as the subordination index, was found to have a statistically significant difference between groups with a t-score of greater than 2.101. Therefore, the monolingual students demonstrated to have a significantly higher subordination index.
on average than the bilingual students (see Table 3).

<table>
<thead>
<tr>
<th>Microstructure</th>
<th>Average Bilingual</th>
<th>Average Monolingual</th>
<th>T-score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Words/utterance</td>
<td>13.774</td>
<td>16.341</td>
<td>2.01</td>
</tr>
<tr>
<td>Clauses/utterance</td>
<td>.453</td>
<td>.633</td>
<td>2.35*</td>
</tr>
<tr>
<td>Relative clauses/total clauses</td>
<td>.3445</td>
<td>.35</td>
<td>.07</td>
</tr>
<tr>
<td>Nominal clauses/total clauses</td>
<td>.3265</td>
<td>.297</td>
<td>.51</td>
</tr>
<tr>
<td>Adverbial clauses/total clauses</td>
<td>.34</td>
<td>.355</td>
<td>.21</td>
</tr>
<tr>
<td>Conjoined Verb</td>
<td>11.7</td>
<td>11.2</td>
<td>.23</td>
</tr>
<tr>
<td>Infinitive</td>
<td>14.4</td>
<td>11.3</td>
<td>1.45</td>
</tr>
<tr>
<td>Gerund</td>
<td>1.7</td>
<td>3.3</td>
<td>1.99</td>
</tr>
<tr>
<td>Participle</td>
<td>8.4</td>
<td>7.2</td>
<td>.63</td>
</tr>
</tbody>
</table>

Note. *t > 2.101

Finally, cohesion analysis was used to further evaluate differences in microstructure. The results revealed that the bilingual students included personal reference and demonstrative reference cohesion markers significantly more on average than the monolingual students. There was not a significant difference found for any of the other cohesion markers, however (see Figure 2).

![Figure 2](image-url). Average number of cohesion marker usages for each group. *t > 2.101

Dendrograms—graphs of similarity levels—were utilized to perform cluster analysis and determine if there were significant similarities between narrative constructions within each group. If participants were at least 55% similar, they were grouped together in a cluster. Accordingly, when the cluster analysis was conducted for the use of grammatical units of microstructure, four clusters were formed on the dendrogram (see Figure 3). Eight out of the ten monolingual students, numbers 13, 14, 15, 16, 17, 18, and 19, grouped together in Cluster 1 with at least 55% similarity. In addition, the two Mandarin Chinese bilingual students, numbers 3 and 6, grouped together in Cluster 3 with approximately 70% similarity, the Creole bilingual students, numbers 9 and 10, grouped together in Cluster 2 with approximately 55% similarity, and the female Spanish bilingual students, numbers 4 and 8, grouped together in Cluster 3 with approximately 65% similarity. The Bengali bilingual student, number 5, was the most dissimilar as he was the only one to group in Cluster 4.
Cluster analysis was conducted to determine if there were significant similarities between macrostructural narrative constructions within each group as well. The dendrogram below demonstrates that there were not significant similarities for story grammar structuring within each group as the clusters consist of various members from each group (see Figure 4).

Last, a cluster analysis of the inclusion of cohesion markers was performed. This analysis did not show any significant similarity clusters within the sample groups (see Figure 5).

Discussion

The results of the present study revealed significant differences in the areas of cohesion markers and subordination index. The bilingual students’ higher use of personal reference and demonstrative reference cohesion markers suggests that bilingual students’ writing may be more vague as it includes unclear referents. This style may make it harder for the reader to understand aspects that the
writer is referencing. For example, if the author does not clarify the referent of the words he, she, that, or those, then the reader may not know who or what the author is referencing with those words. Therefore, assessments may mark these students’ writing as being less direct. While more research is needed in the evaluation of these markers, there are implications for speech-language pathologists regarding assessment. It appears from the results, that using written narratives as a method of evaluation is sensitive in detecting differences in structure and should be part of a comprehensive evaluation. This finding is consistent with other studies including Caesar and Kohler (2007) that assessment for bilingual students should include a variety of measures to assess competence. However, given the following results, SLP’s should be aware of differences in the performance of bilingual students that may impact the interpretation of results. For example, results indicated that the monolingual participants utilized a greater number of clauses per t-unit, thus having higher subordination indexes. This finding suggests that bilingual students’ narrative writing is less sophisticated if this difference is not taken into account.

Other findings from the study show that even given a limited sample, there were similarities across specific bilingual groups. The grammatical units of microstructure cluster analysis result of 70% similarity between the Mandarin Chinese bilingual participants indicates that research should be done on how individual languages affect written narrative language. In addition, as the female Spanish bilingual students clustered together with 65% similarity, research on the effect of gender within each language should also be considered for future analysis.

The current study demonstrated a lack of significant differences between the bilingual and monolingual students’ story grammar usage, which is contrary to past childhood study findings. This converse finding may be because of factors such as the participants’ functioning in classes at the college level, having had more experience with both languages, or having had become competent in both languages. However, without testing the participants in both L1 and L2, this reasoning cannot be claimed as fact. Accordingly, a limitation to this study is that testing was not done for both L1 and L2, so it is uncertain if the participants’ all have equal competency in their two languages. More research analyzing both L1 and L2 competency is necessary to see if the results would then mirror the results of past research done with children.
References


