ABSTRACT NOUNS IN NARRATIVE AND EXPOSITORY WRITING IN SCHOOL-AGE CHILDREN

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Lexicon

- The lexicon is central in communication, providing a window of observation into language acquisition and processing (Clark, 1993).
- The lexicon is an important element of both spoken and written language development and is a crucial component of higher cognitive activity (Ravid, 2004).
- An individual’s lexical knowledge refers to the person’s knowledge of vocabulary, “the human word store” (Aitchison, 2003).
- The lexicon is the knowledge that a person has about a language including the sounds and use of words, meanings, and word categorizations (Brent & Cartwright, 2002; Clark, 1993).
- The lexicon provides a bridge between sounds and meaning, linking phonological properties to semantic and syntactic information about the words (Marslen-Wilson, 2002).
Growth in Lexicon

A child’s lexicon grows with age in different ways without direct instruction.

1. Quick incidental learning/fast mapping (Dockrell & Messer, 2004; Oetting, Rice, & Swank, 1995);
2. Use of context clues (Cain, Oakhill, & Elbro, 2003; Cain, Oakhill, & Lemmon, 2004; Chaffin, Morris, & Seely, 2001);
3. Syntactic bootstrapping (Oetting, 1999; O’Hara & Johnston, 1997; Rice, Cleave, & Oetting, 2000);

- Based on Nagy and Anderson’s (1984) report, children acquire 3000 words per year between third and ninth grades and an average high school graduate knows about 45,000 words.
- Bloom (2001) stated that an average 17-year-old English speaker knows more than 60,000 words and some literate adults even know more than 100,000 words.
Evaluate Word Knowledge

• Word knowledge should be assessed with different measures and should consider the quality and quantity of children’s vocabulary knowledge (Dockrell & Messer, 2004).

• The focus of lexical knowledge tests is often limited to the comprehension and production of meaning, vocabulary use, and word association (Laufer, Elder, Hill & Congdon, 2004), which are discrete aspects of semantic abilities (Westby, 1990).

• Vocabulary tests have been questioned by researchers (Curtis, 1987; Laufer et al., 2004).

• Most of the tests have focused on word or sentence level comprehension and production.
Evaluate Word Knowledge

- Children need to be evaluated in four modalities (i.e., reading, writing, speaking, and listening)
- Understanding some aspects of a word does not necessarily indicate understanding of the word’s meaning in a more complex context.
- The best way to evaluate children’s vocabulary size and strength is to measure their understanding of the link between the meaning and the form, and the correct use of the word in free production (Laufer et al., 2004).
Core Lexicon and Literate Lexicon

• Ravid (2004) defined the core lexicon as basic vocabulary acquired by preschoolers mainly from spoken language, and the literate lexicon as advanced vocabulary (more abstract, less familiar, and acquired mainly through schooling and education), which is due to cognitive development and linguistic literacy (Ravid, 2004).

• Nippold (1993) pointed out that two crucial components of semantic development during adolescence are the literate lexicon and figurative language.
Why Writing?

• Throughout the school-age years, writing plays an important role in learning and academic success and is viewed as schooled language competence (Perfetti & McCutchen, 1987).

• Written texts are often found to contain low-frequency lexical items and words referring to abstract entities (Bar-Ilan & Berman, 2007; Chafe & Danielewicz, 1987; Nippold, 2007; Nippold, Ward-Lonergan, & Fanning, 2005).

• Spoken text uses less diverse vocabulary and more frequent words; however, more advanced literate lexicon and a wider variety of words are seen in written text (Stromqvist, Nordqvist, & Wengelin, 2004).

• Children use more complex syntax and diverse vocabulary in written text than spoken text (Bar-Ilan & Berman, 2007; Scott, 1988) and lexical use in spoken text tends to be less formal and less informative compared to written text (Ravid & Tolchinsky, 2002).
Why Writing?

- Beyond lexical use differences, written text often contains longer sentences, denser information, and more complex syntactic structures.
- Younger children produce less complex sentences in writing, but the sentences in writing become more complex during the secondary school years (Scott & Windsor, 2000).
- Writing is a natural and practical way to examine how children use words in regular settings because children need to have full knowledge of the word in order to use it appropriately, given the context, genre, and audience.
- According to an ASHA technical report (2001), the SLP should address reading and writing that results from language learning difficulties.
- It’s part of the scope of the SLP’s practice.
Genres

• Development of an advanced lexicon interacts with syntactic complexity, genres (e.g., narrative, expository), and modality (e.g., speech, writing) (Ravid, 2004). Also, lexical measures are sensitive to genre and modality (Stromqvist, Nordqvist, & Wengelin, 2004).

• A genre is a plan for discourse and text, and different genres may have different functions (Westby, 1994). According to Scott and Windsor’s study (2000), sentential grammatical complexity is affected by genre in children age 9 to 12.

• The ability to talk and write with different genres is an important factor in development (Verhoeven, Aparici, Cahana-Amitary, van Hell, Kriz, & Viguie-Simon, 2002).
Genres

• Different genres have a significant impact on how information is presented, varying with broad ranges of vocabulary, clauses, phrases, sentences, and organization.

• Berman and Nir-Sagiv (2004) confirmed that one of the late-developing language abilities is use of genre-appropriate context structure and consistent register distinction according to different discourse types.
Narrative and Expository

- Narrative serves as an important transition from oral language to literate language, and is the first step that children learn to produce a monologue without interactive dialogue (Westby, 1985). It is about people engaged in events with a sequential timeline, including personal experiences, fictional narratives/stories, and film/book/TV program summaries (Hadley, 1998; Scott, 1988).

- Expository texts usually contain factual or technical information such as cause-effect explanations and procedural directions (Hadley, 1998), having a non-temporal, logically-based, and argumentative structure (Ragnarsdottir, Aparici, Cahana-Amitay, van Hell, & Viguie, 2002).
Berman and Katzenberger (2004) pointed out that expository and narrative texts reflect different cognitive processes. Also, expository text develops later than narrative text.

Children use different linguistic markers and verbal expressions to show distinctive knowledge between narrative and expository texts around 4th grade (Berman, 2004; Berman & Katzenberger, 2004; Berman & Nir-Sagiv, 2004).

However, a clear distinction between elements such as syntactic structures and lexical selection, is not formed until adolescence (Ravid & Zilberbuch, 2003).
Abstract Nouns and Abstract Thinking

• Abstract thought is one of the aspects of later language development that differs from early language development (Nippold, 2007).
• Concrete objects and thoughts dominate early childhood language development.
• The importance of abstract thinking and reasoning increases through cognitive and linguistic development.
• Abstract nouns are one of the representations of abstract thought.

• Concrete nouns such as *flower* and *dinosaur* and abstract nouns such as *freedom* and *loneliness* not only have different functions in language but also are processed differently in the brain.

• According to Paivio’s dual coding theory (1986), a verbal system which refers to verbal codes and a nonverbal system which implies mental imagery are processed differently. The two systems can be activated by each other in either parallel or integrated ways.

• There are fundamentally different types of information stored in working memory → logogem (verbal system-linguistic information) versus imagen (imaginal system-nonverbal information).

• Concrete words additionally activate regions in the right hemisphere and form nonverbal images, so concrete language is retained longer, recalled faster, and more easily comprehended due to the activation of both verbal and nonverbal systems → concreteness effect.

• Concrete nouns are learned through sensory experience while the meanings of abstract nouns are derived mainly from networks that are mostly made up of abstract words (Sabsevitz, Meddler, Seidenberg & Binder, 2005).

- According to several fMRI and ERP studies (Jessen et al., 2000; Kellogg, Olive, & Piolat, 2007; Nittono, Suehiro, & Hori, 2002; Noppeney & Price, 2004; Sabsevitz et al., 2005; Swaab, Baynes, & Knight, 2002), concrete words are stored differently from abstract, non-imageable words. Concrete words activate both verbal and image-based store systems.

- Based on the definition studies (McGhee-Bidlack, 1991; Nippold et al., 1999; Sadoski et al., 1997)
  - Participants tended to use the imagery strategy while defining a concrete word, but used the verbal-associate strategy for abstract words,
  - The quality of the definitions of both concrete and abstract nouns improved gradually with age but defining abstract nouns apparently develops later than concrete nouns.
  - The development of the ability to define abstract nouns improved with age into early adulthood but was still incomplete by late adolescence.
A Closer Look- Ravid’s Study (2006)

- Ravid (2006) examined two genres, narrative and expository, and two modalities, speech and writing, to detect the use of different nouns.
- Nouns were divided into ten levels based on abstractness and semantic-pragmatic content. The ten levels were concrete nouns (ball, bike), proper names (Tiffany, Mike), collection/location (library, class), role nouns (cousin, neighbor), generic nouns (people, somebody), temporal nouns (week, months), event nouns (game, party), imaginable abstract nouns (yells, kicks), abstract nouns (control, purpose), and derived abstract nominals (discussion, pressure).
- Twenty native Hebrew speakers from each age group (4th, 7th, 11th graders and adults age between 25 to 35) participated in this study (N= 80).

- The results showed
  - Nominal density (the mean number of lexical nouns per clause) increased with age especially in adolescents and adults.
  - Use of nouns was denser, more linguistically complex and rich in expository than narrative genres across all age groups.
  - Participants used more abstract and high-level nouns in expository and in written texts than narrative and spoken texts.
  - Role, collective/location, imaginable abstract, and generic nouns were the four most frequently used nouns in narrative texts; on the other hand, derived abstract, and abstract nouns were most frequently used shown in expository texts.
Research Questions

• In both spoken and written discourse, abstract nouns have received little attention from researchers.
• The aim of the present study was to provide research evidence and developmental norms regarding how typically-developing 5th and 8th graders use abstract nouns in different genres of writing.
• The use of abstract nouns in narrative and expository writing was compared between 5th and 8th graders in this study.
• The hypotheses of the current study were as follows:
  1. Eighth graders will use more abstract nouns in both narrative and expository writing than fifth graders.
  2. Both eighth and fifth graders will use more abstract nouns in expository than in narrative writing.
  3. Eighth graders will use more advanced abstract nouns such as circumstance and consequence than fifth graders.
  4. Eighth graders will use more advanced abstract nouns in expository writing than in narrative writing compared to fifth graders.
Participants

• Forty 5th graders and forty 8th graders in the same school district from a suburban area in Western Oregon participated in the study.

• Based on the teachers’ reports, all participants in the present study attended regular classes and demonstrated normal language, cognitive, behavioral, and social-emotional development without receiving an individualized education plan.

• The participants ($N = 80$) included forty 5th grade (mean age = $11;1$ [years; months], range = $10;5-11;8$) and forty 8th grade (mean age = $14;2$, range = $13;4-14;10$) students, with 23 males and 17 females in 5th grade, and 20 males and 20 females in 8th grade.

• All participants reported they were native English speakers.
Procedures

• Students completed two essays, a narrative piece and an expository piece.
• They were allowed 20 minutes per essay.
• Prior to beginning each essay, they were given an instruction sheet along with a booklet that contained four pages of lined paper to complete their writing.
• The order of the writing tasks was counterbalanced to avoid possible order effects and the order of the tasks rotated in this way throughout the study.
• The title of the narrative essay was “What Happened One Day.” The title was set to be general and participants were asked to write from their personal experiences or to imagine a story.
• The title of the expository essay was “The Nature of Friendship.” The title was set to be familiar to participants because domain knowledge has an impact on writing performance and ability.
At this time, I would like you to write a story. Please write a story about something funny, sad, or scary that happened to you and a friend. You get to decide what to write about. It can be anything that was funny, sad, or scary. If you can’t think of something that really happened, you can make it up. It doesn’t have to be a true story. You can use your imagination, if you want. It’s up to you.

The outline below will help you organize your thoughts and write a good story. In your story, be sure to do the following:

Tell where the events took place (the setting).
Tell who the main people are (characters).
Tell everything that happened in the story (plot).
Tell about the problems that came up (problems).
Explain what the characters tried to do (attempts).
Explain how things turned out (outcome).
Tell how everyone felt during the events (thoughts).

Keep this list of points in front of you as you write your story. As you address each point, try to write a full paragraph of your own ideas. You will have 20 minutes to complete your work. I have given you a booklet of lined paper to use in writing your story. Please put your name, age, and grade level on the booklet.

As you do this work, please use your best writing style with complete sentences, and correct grammar, spelling, and punctuation. If you aren’t sure how to spell a word, make your best guess. Try to write neatly, using a pen or pencil. If you make a mistake, just cross it out or use an eraser. Keep going until I ask you to stop writing.

Do you have any questions?

The title of your story is: “What Happened One Day”
At this time, I would like you to write an essay. Please write an essay on the topic of friendship. Friendship is very important to people of all ages – children, adolescents, and adults. Most people say they enjoy spending time with their friends. They like to talk with their friends in person or on the phone and spend time together.

The outline below will help you organize your thoughts and write a strong essay. In your essay, be sure to explain the following:

What is friendship?
Why is it important to people?
How can friendship make life more enjoyable?
What kinds of things do friends like to do together?
How can people become good friends?
What kinds of actions can damage friendships?
How can people remain good friends over time?

Keep this list of questions in front of you as you write your essay. As you answer each question, try to write a full paragraph of your own ideas. You will have 20 minutes to complete your work. I have given you a booklet of lined paper to use in writing your essay. Please put your name, age, and grade level on the booklet.

As you do this work, use your best writing style with complete sentences, and correct grammar, spelling, and punctuation. If you aren’t sure how to spell a word, make your best guess. Try to write neatly, using a pen or pencil. If you make a mistake, just cross it out or use an eraser. Keep going until I ask you to stop writing.

Do you have any questions?

The title of your essay is: “The Nature of Friendship”
Coding and SALT Program

• In order to analyze the data, the transcription was further segmented into T-units, a common procedure used in the analysis of written and spoken discourse.
• A T-unit is defined as an independent (main) clause and any dependent (subordinate) clauses that are attached to it (Hunt 1965). When an utterance did not qualify as a T-unit, fragment codes were used or parentheses were placed around it.
• The SALT program (Miller & Chapman, 2003) was used to determine the total number of words (TW), total number of utterances (TTU), mean length of utterance in words (MLTU), and the frequency counts for abstract nouns (ABN).
• TW was used as the foundation to compare the use of abstract nouns, since participants produced essays of different lengths.
• TTU and MLTU were used to detect the quantitative differences that participants produced in different genres of writing.
Coding and SALT Program

• The primary investigator and two graduate research assistants followed the coding system of clauses (Mansfield, 2007) and abstract nouns, and solved any inconsistencies among the coders and investigators.
• The written language samples were coded by one coder and double-checked by another coder to detect any coding errors.
• The code for abstract noun (ABN) was tagged right after each target word and clause and followed the SALT conventions.
• The spelling and spacing errors were corrected in transcription for the SALT analysis; however, the original spelling and spacing errors were unchanged on the students’ test booklets for possible future analysis.
Inclusion Criteria for Abstract Nouns

- Abstract nouns indicate intangible objects unlike concrete nouns, which have distinct boundaries and stable relations among the components (McGhee-Bidlack, 1991).
- An abstract noun often refers to states, events, concepts, feelings, qualities, and things that have no physical existence.
- Anything that cannot be perceived through the five physical senses (as with concrete nouns) is defined as an abstract noun.
- This study includes abstract nouns and derived nominals (Derived nominals included suffixes that formed from a verb or an adjective to a noun and gerunds, which is a verbal that ends in -ing and functions as a noun.)
- Examples: happiness (ness), magician (ian), payment (ment), relationship (ship), creation (tion), maintenance (ance/ence), personality (ity), director (or/er), etc.
Inter-Rater Reliability

- A separate investigator, who was familiar with the SALT program but did not code the transcripts the first time, reviewed the coding of literate words.
- Ten percent of the total transcripts were randomly selected for the reliability check. A total of 24 transcripts, 4 transcripts in each grade/genre cell, were reviewed → The level of disagreement between two investigators was 2% for abstract noun.
- The disagreements were discussed and a second round of interrater reliability was conducted.
- Another 24 transcripts which differed from the 1st round interrater reliability check, including 4 transcripts in each grade/genre cell, were randomly selected for the second round of interrater reliability check → The level of disagreement between the investigators was 1% for abstract nouns.
- All disagreements in coding were resolved through discussion, yielding 100% agreement.
Data Analysis

• Quantitative Analysis
  • Percentages instead of frequency counts were used to control for differences in the number of utterances that the writers produced (Nippold et al, 2005).
  • The raw scores were transformed to percentages such that each raw score was divided by the total words (TW) that each participant produced for each genre.
  • For example, one participant used ABN five times in narrative writing and the total words he/she produced in narrative writing was 100 words. Therefore, his/her ABN score in narrative writing was 0.05.

• Content Analysis
  • The differences in word use in writing can be subtle and not represented in statistical analyses.
  • The use of different literate words was listed, categorized, and organized to further compare word use.
Results

• A two-way (2x2) mixed analysis of variance (ANOVA) was conducted to analyze the effects of age and genre on the use of abstract nouns in writing.
• The independent variables included one between-subjects variable, age group, with two levels (5th grade, 8th grade), and one within-subjects variable, genre, with two levels (narrative and expository).
• Eta Square ($\eta^2$), which is used to report effect sizes, was also calculated. (the total amount of variance in the dependent variable that is predictable from the independent variables)
• The significance level was set at $p < .05$. 
Comparison between Age Groups and Genres

Total Number of Utterances (TTU)

• For the 5th graders, the mean of the total number of utterances was 19.10 (SD = 8.86) in narrative (n = 40) and 11.53 (SD = 5.02) in expository (n = 40). For the 8th graders, the mean of the total number of utterances was 23.80 (SD = 9.93) in narrative (n = 40) and 15.18 (SD = 6.50) in expository (n = 40).

• A two-way analysis of variance found that genre did have a significant effect $F(3, 156) = 18.15$, $p < .001$, $\eta^2 = .259$ (means that 25.9% of the variability in the dependent variable (TTU) can be explained or accounted for by, the independent variable (genre); Both grades generated significantly more TTU in narrative than expository writing.
Comparison between Age Groups and Genres

Mean Length of Utterance in Words (MLTU)

• For the 5th graders, the mean of MLTU was 9.14 (SD = 2.22) in narrative (n = 40) and 12.33 (SD = 3.00) in expository (n = 40). For the 8th graders, the mean of MLTU was 11.19 (SD = 3.93) in narrative (n = 40) and 14.53 (SD = 3.13) in expository (n = 40).

• A two-way analysis of variance found that genre did have a significant effect $F(3, 156) = 20.69$, $p < .001$, $\eta^2 = .285$ (means that 28.5% of the variability in the dependent variable (MLTU) can be explained or accounted for by, the independent variable (genre); Both grades generated significantly longer MLTU$s$ in expository than in narrative writing.
Comparison between Age Groups and Genres
TTU and MLTU

**Estimated Marginal Means of TTU**

- **TTU-** Total Number of Utterances
- **Contcode1:** 5\(^{th}\) Expository
- **Contcode2:** 5\(^{th}\) Narrative
- **Contcode3:** 8\(^{th}\) Expository
- **Contcode4:** 8\(^{th}\) Narrative
Comparison between Age Groups and Genres
TTU and MLTU

MLTU - Mean Length of Utterance in Words

Contcode1: 5th Expository
Contcode2: 5th Narrative
Contcode3: 8th Expository
Contcode4: 8th Narrative
Test the Hypotheses

✓ Eighth graders will use more abstract nouns in both narrative and expository writing than fifth graders.

✓ Both eighth and fifth graders will use more abstract nouns in expository than narrative writing.

• For the 5th graders, the mean of the use of ABN was 0.009 (SD = 0.013) in narrative (n = 40) and 0.050 (SD = 0.024) in expository (n = 40). For the 8th graders, the mean of the use of ABN was 0.012 (SD = 0.011) in narrative (n = 40) and 0.063 (SD = 0.022) in expository (n = 40).

• A one-way ANOVA indicated although 8th graders used more abstract nouns in both narrative and expository writings, the difference did not reach significance level. $F(1, 159) = 2.77, p = .098$.

• However, a two-way analysis of variance found that genre did have a significant effect $F(3, 156) = 86.95, p < .001, \eta^2 = .626$ (means that 62.6% of the variability in the dependent variable (ABN) can be explained or accounted for by, the independent variable (genre); Both grades generated significantly more abstract nouns in expository than narrative writing.
The Use of Abstract Nouns between Age Groups and Genres

Estimated Marginal Means of ABNTW

- ABNTW: abstract nouns divided by total number of words (TW)
- Contcode1: 5th Expository
- Contcode2: 5th Narrative
- Contcode3: 8th Expository
- Contcode4: 8th Narrative
Test the Hypotheses

**✓ Eighth graders will use more advanced abstract nouns such as circumstance and consequence than fifth graders.**

**✓ Eighth graders will use more advanced abstract nouns in expository writing than in narrative writing than fifth graders.**

<table>
<thead>
<tr>
<th>Grade 5 narrative – Abstract Nouns</th>
<th>Grade 5 expository – Abstract Nouns</th>
</tr>
</thead>
<tbody>
<tr>
<td>accident, carnival, chill, contact, dream, fight, friend, fun, mistake, prank, problem section, sense, shock, story, subject, sudden, time, trick, trouble, try, way, word</td>
<td>advice, answer, apology, category, cause, choice, culture, drama, enemy, gift goal, gossip, heritage, history, interest, lie, lifestyle, moment, nature, paragraph, problem, reason, recess, religion, rule, science, secret, suicide, trick, trouble, turn vibe</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade 8 narrative – Abstract Nouns</th>
<th>Grade 8 expository – Abstract Nouns</th>
</tr>
</thead>
<tbody>
<tr>
<td>abuse, anniversary, attack, balance, basics, blast, bond, community, control, distance, effort, errand, lesson, nature, offense, outcome, peace, point, practice, reply, slope, support, surprise, suspense, torture, view, wit</td>
<td>adventure, aspect, attitude, basis, belief, breakdown, company, downfall, effect, encounter, gossip, insult, interlude, memory, mind, moment, mood, pride, quality, thought, trait, trust, weight</td>
</tr>
</tbody>
</table>
# Test the Hypotheses

<table>
<thead>
<tr>
<th>Grade 5 narrative --Derived Nominals</th>
<th>Grade 5 expository --Derived Nominals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>al</strong>: festival</td>
<td><strong>er</strong>: teacher, partner</td>
</tr>
<tr>
<td><strong>ence</strong>: silence</td>
<td><strong>ing</strong>: feeling, liking, cheating, socializing</td>
</tr>
<tr>
<td><strong>er</strong>: runner, stroller, skater</td>
<td><strong>ship</strong>: relationship, friendship, hardship</td>
</tr>
<tr>
<td><strong>ing</strong>: camping, shopping, setting</td>
<td><strong>tion/ion</strong>: action</td>
</tr>
<tr>
<td><strong>ness</strong>: darkness</td>
<td><strong>th</strong>: truth</td>
</tr>
<tr>
<td><strong>th</strong>: death</td>
<td></td>
</tr>
<tr>
<td><strong>tion/ion</strong>: vacation, admission</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade 5 narrative --Derived Nominals</th>
<th>Grade 5 expository --Derived Nominals</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>al</strong>: arrival</td>
<td><strong>al</strong>: betrayal</td>
</tr>
<tr>
<td><strong>ance</strong>: entrance</td>
<td><strong>ance/ence</strong>: difference, confidence, experience, influence, acceptance</td>
</tr>
<tr>
<td><strong>can</strong>: mexican</td>
<td><strong>er/or</strong>: scooter, killer, counselor</td>
</tr>
<tr>
<td><strong>cy</strong>: emergency, pregnancy</td>
<td><strong>ing</strong>: saying, feeling, understanding</td>
</tr>
<tr>
<td><strong>ee</strong>: employee</td>
<td><strong>ist</strong>: racist</td>
</tr>
<tr>
<td><strong>er/or</strong>: manager, instructor, investigator,</td>
<td><strong>ite</strong>: opposite</td>
</tr>
<tr>
<td><strong>ing</strong>: beginning, disputing, screaming</td>
<td><strong>ity</strong>: personality, profanity, popularity</td>
</tr>
<tr>
<td><strong>ist</strong>: guitarist, terrorist</td>
<td><strong>ness</strong>: loneliness</td>
</tr>
<tr>
<td><strong>istic</strong>: characteristic</td>
<td><strong>ship</strong>: friendship, relationship</td>
</tr>
<tr>
<td><strong>ite</strong>: favorite</td>
<td><strong>ty</strong>: honesty, property, (dis)loyalty</td>
</tr>
<tr>
<td><strong>ity</strong>: opportunity</td>
<td><strong>th</strong>: truth, death</td>
</tr>
<tr>
<td><strong>ment</strong>: excitement</td>
<td><strong>tion/ion</strong>: tension, opinion,, confrontation, imagination, connection, communication</td>
</tr>
<tr>
<td><strong>ship</strong>: friendship</td>
<td></td>
</tr>
<tr>
<td><strong>th</strong>: youth</td>
<td></td>
</tr>
<tr>
<td><strong>tion/ion</strong>: inspection, companion</td>
<td></td>
</tr>
<tr>
<td><strong>ure</strong>: creature</td>
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</tbody>
</table>


Findings

• The results indicated that 8th graders produced significantly more utterances (TTU), longer utterances (MLTU) in both narrative and expository writing than did 5th graders.

• Although 8th graders used more abstract nouns than 5th graders in both writings, the difference did not reach the significance level (p = .098)

• Regarding the genre comparison within each grade, 5th graders used significantly more abstract nouns, fewer utterances, and longer utterances in expository writing than narrative writing.
Findings

• A similar pattern was also found in 8th graders. Eighth graders used significantly more abstract nouns, fewer words, fewer utterances, but longer utterances in expository writing than narrative writing.

• In terms of the content analysis, 8th graders tended to use more complex and advanced abstract nouns in narrative and expository writing than 5th graders.

• The use of abstract nouns was topic related and genre relevant. The abstract nouns used in expository writing were less varied than in narrative writing, and the 5th graders used less diverse abstract nouns in both narrative and expository writing compared to 8th graders.
Discussions

• According to Nippold’s statement (2007), abstract thought is one of the differences between early and later language development. Since the use of abstract nouns reflects abstract thinking, it is expected that the use of abstract nouns will increase between childhood and adulthood (Nippold et al, 2005).

• Because the word learning process heavily focuses on abstract concepts in adolescents and adults, older children have a larger repertoire of abstract nouns. Therefore, the finding that the use of abstract nouns increased from 5th grade to 8th grade supported the development of abstract thinking although not all of the results reached significant levels.

• The findings are in line with Ravid’s study that concrete nouns were mostly used in the narrative writing while abstract nouns and derived abstract nominals were shown in expository writing.

• Genres have a significant impact to the use of abstract nouns in writing.
Discussions

• Although the changes in quantity might be subtle, changes in quality of language use show differences (Nippold, 2007; Nippold, Mansfield & Billow, 2007; Scott, 1988). 8th graders tended to use slightly more complex and advanced abstract nouns in narrative and expository writing compared to fifth graders.

• For example, 5th graders used accident, mistake, problem, trouble, advice, heritage, history, interest; and 8th graders used offense, outcome, suspense, torture, wit, adventure, breakdown, downfall.

• Although the use of abstract nouns was heavily topic dependent, it was clear that older children used more complex abstract nouns compared to younger ones.

• The development in linguistic and cognitive ability and exposure to more schooling contribute a larger repertoire of abstract nouns in older children.
Limitations

1. The definitions of inclusion criteria were partially supported by literature; therefore, it was possible that some abstract nouns may have been left out from the present study.

2. The topic of expository writing, “Friendship” might constrain and narrow the use of certain words and may have resulted in a homogeneous use of abstract nouns. It was possible that children had larger repertoires of abstract nouns, but that they only chose to use certain words that fit best for the topic and genre.

3. More interrater reliability checking was needed for this study to enhance the internal validity since the inclusion criteria provided only a general idea of each type of literate word. Increasing the number of raters would enhance internal validity and strengthen the ability to draw conclusions and results.

4. Both raters were not blind to this study; therefore, possible bias may have occurred during the coding.

5. No other tests scores were obtained for further correlation tests. Measures of vocabulary knowledge, reading ability, and literacy skill, might be able to provide adequate explanations and control for potentially interfering factors.
Future Research

• Future studies should examine different types of literate words and advanced vocabulary such as words with multiple meanings (e.g., strike, short), words with multiple grammatical functions (e.g., hard, sweet), adverbs of likelihood and magnitude (e.g., possibly, extremely), and Latinate vocabulary of English (e.g. transfer, responsible) (Bar-Ilan & Berman 2007; Nippold, 2007; Paul, 2007) to further understand how children use later developing literate words in writing.

• It is suggested that investigators measure participants’ implicit knowledge of literate words such as vocabulary knowledge, literacy skill, and reading comprehension to provide a full understanding of the use of literate words in writing.

• Also, understanding teachers’ vocabulary instruction in writing not only provides useful information about effective instruction in writing but also verifies the relationship between vocabulary instruction in writing and students’ production of literate words.

• Examining the use of abstract nouns in children with language learning disabilities and other disabilities related to language delay such as autism would provide a guidance for SLPs to work beyond core vocabulary especially for school-age children.
Clinical Implications

• In general
  • Facilitating abstract thinking and the use of abstract nouns should be emphasized starting in elementary school through reading and writing.
  • Provide ample opportunities to work on expository writing to facilitate the use of literate words and the development of abstract thinking.

• Assessment
  • Testing a child’s word knowledge must focus on a variety of words such as both concrete/abstract nouns, verbs, adjectives, adverbs, literate words/advanced vocabulary, using both receptive and expressive modalities.
  • In addition to using standardized vocabulary tests, SLPs should pay attention to the appropriate use of words according to the context, the variety of words, the complexity of words, and the use of advanced vocabulary/literate lexicon.
  • Keep Basic Interpersonal Communication Skills (BICS) and Cognitive Academic Language Proficiency (CALP) in mind while assessing a child’s language abilities.
Clinical Implications

• How does it tie to RTI (Response to Intervention)
  • Tier 1
    • Cooperate with general education teachers to provide support in vocabulary instruction.
    • Provide in-house training regarding vocabulary assessment and instruction in reading and writing to assist screening and monitoring for students who have difficulty keeping pace with grade level expectations.
  • Tier 2
    • Cooperate with resource teachers to design more evidence-based and direct vocabulary intervention in reading and writing to small groups of students in order to frequently monitor their progress in vocabulary.
    • Include direct service for targeted group intervention and indirect service to provide assistance.
  • Tier 3
    • Provide frequent, explicit, intensive, and individualized intervention.
    • Need to work on general language skills, including expanding vocabulary.
Clinical Implications

• Ways to facilitate abstract noun development
  • Semantic based word learning such as synonyms, antonyms, definition of words, classification should be utilized to stimulate the abstract word learning process.
  • Facilitate the use of affixes (prefixes and suffixes) to expand vocabulary, especially abstract nouns.
  • Utilize context cues to assist learning of abstract nouns.
  • Encourage independent reading.
  • Encourage different types of writing including narratives, expository, persuasive, descriptive, and creative.
Partial References