

Developing Morphemic Awareness in D/HH Children Learning to Read Proficiently

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Assessing Morphemic Awareness

1. The cat was _____ with me.

- play
- plays
- played
- playing

2. The boy _____ loudly, didn't he?

- talk
- talked
- talking
- talks

EXAMPLE of SPEECH/MA ACTIVITY



Assessing Morphemic Awareness

3. I think you were _____ when you said you didn't cheat.

- dishonest
- imhonest
- nonhonest
- unhonest

4. I am _____ the toy can be fixed.

- hope
- hopefulness
- hopeful
- hopefully

Our Subjects

NORTHWEST SCHOOL
FOR HEARING-
IMPAIRED
CHILDREN



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Basic Goals Of NWSFHIC

- Brochures with details are available
- Assessment based, individualized and small group instruction with an emphasis on grammatically-correct English, speech, and listening.
- "Again" strategy emphasizes authentic English and correct speech.



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Despite Early Screening and Technology...

Recently, Moog, Biedenstein, Brenner, and Hayes (2009) reported
50 % of children with hearing loss do not read, write, or use English as do their same-age peers.



Reading and MA

- English printed forms of words reflect not only phonemic content but syllabic, **morphemic**, and orthographic regularities as well.
- In English the compilation of meaning within words and discrimination among the meanings for different words is accomplished principally **through affixing, by rule-governed sequencing of affixed morphemes in complex multi-morpheme English words.**

The manager would be attending college to become an accountant or an engineer.

Essential for literacy growth = the ability to access and understand the meaning of multi-morphemic words.

✓ True for both hearing children and those with hearing loss.



MA Helps Vocabulary Growth To Explode!!

- Anglin (1993): Middle-grade students learned **an average of 8-10 multi-morphemic words per day**, potentially "thousands" per year.
- Thus, as Gaustad and Kelly (2004) suggested, "morphologically based vocabulary growth, rather than being linear, is more likely to be **exponential**" (p. 272).



Deafness And MA

White, Power, and White (1989):

One of the first to report:

- morphology plays an important role in students' reading development.

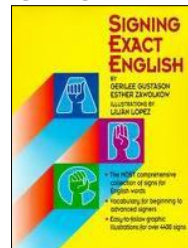
- The proficient reader
 - is able to delete affixes to discern a root form of a word,
 - check that word for its meaning,
 - and then add the meaning of the root word to the meaning of each of the affixed morphemes to uncover the meaning of the whole word.

SEE Can Provide A Bridge to Literacy

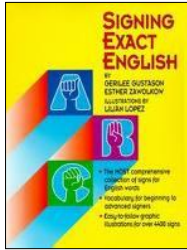
- SEE can provide a bridge to developing the morphemic awareness
- As can **emphasizing these word parts in your speech, fingerspelling them, etc.**



Signing Exact English



Signing Exact English



SEE = Each Morpheme Is Signed



Our research involves students who use Signing Exact English (SEE) (Gustason & Zawolkow, 1993), a system of signing English constructed in which the morphology of words is made visible.

SEE Research

- SEE can serve as a “first language”
- SEE can be signed such that the grammar of English—especially the morphology—is made visual.
- SEE use can result in age-appropriate English language development;
- SEE use can result in age-appropriate reading vocabulary knowledge and reading comprehension
- **Nielsen, D., Luetke, B., & Stryker, D. (2011). The Importance of Morphemic Awareness to Reading Achievement and the Potential of Signing Morphemes to Supporting Reading Development. JDSDE.**

Shift From PA to MA For Word Analysis

Mahoney, Singson, and Mann (2000)

- MA = typical strategy for hearing 4th graders, an age when the reading achievement of deaf students is often reported to plateau (Traxler, 2000).
- **Good news for children with hearing loss, because MA might be a more effective strategy than PA, depending on hearing acuity.**



Nagy, Berninger, and Abbott (2006)

- Studied the contribution of the MA of students in 4th/5th, 6th/7th 8th/9th graders with regard to aspects of reading empirically verified the importance of MA.
- They found that **MA made significant and unique contributions to vocabulary, reading comprehension, and spelling** for all groups.
- ...as well as to the **decoding rate of the 8th/9th graders.**
- For all three groups, MA significantly affected reading comprehension, **even “above and beyond that of reading vocabulary” (p.134).**

Nagy And Colleagues (2003), Etc.

- Research on **hearing 2nd graders**: MA made a significant, unique contribution to reading achievement, when PA, orthographical abilities, and expressive vocabulary were controlled.
- Deacon and Kirby (2004) found for **2nd graders**: **MA predicted 4-5th-grade reading comprehension.**
- Apel and Swank (1999) and Carlisle (1995; 2004): MA is routinely used by hearing children as a word-recognition strategy by **3rd grade.**
- Poor English MA contributes to poor decoding skills.
- Deacon and Kirby’s (2004): MA made a significant unique contribution to decoding beyond PA for **3rd, 4th, and 5th graders.**

Moore and Sweet (1990)

- Studied the relationships between English grammar and communicative fluency and the reading achievement of congenitally deaf students ages 16 to 18 years.
- One group (n=65) was deaf children of deaf parents and the other group (n=65) had hearing parents.
- Two tasks tapped grammar: the Test of Syntactic Abilities (a paper-and-pencil task normed on deaf students) and the **Signed English Morphology Tests (focused on inflectional morphology and collected by the students signing what is seen on a videotape)**. The researchers found high correlations between reading and knowledge of grammar for both groups. They concluded that knowledge of grammar is highly predictive of reading achievement.
- **ASL proficiency was not well correlated with reading** (.06 for deaf children of deaf parents and .04 for deaf students of hearing parents).

Gaustad and her colleagues (Gaustad, Kelly, Payne & Lylak, 2002)

- Studied the morphemic abilities of **deaf middle and high school students**: 43 deaf and 33 hearing college students, as well as 27 deaf and 25 hearing deaf middle school students.
- No information was given regarding level of hearing ability, use of assistive listening devices, social economic status, or use of a sign system or ASL.
- Participants were given two paper and pencil assessments: **segmenting words into their morphological parts and a measure students' knowledge of morphological meanings**.
- Multivariate analysis of variance revealed that the **hearing students out-performed the deaf students**.

Results: Gaustad & Colleagues

- **The deaf college students demonstrated essentially the same level of reading achievement as the hearing middle-school students.**
- Findings revealed "serious deficiencies" (p. 14) in both older and younger deaf students' underlying knowledge of and ability to quickly analyze the morphological aspects of words "**with attainment levels so low as to negatively affect text processing and comprehension**" (p. 14).
- Implications on not only the **area of reading** but also reading in **content areas**: students must read morphemically-complex words and gain much of the knowledge in content areas through extensive reading.

Kelly and Gaustad (2007)



- Mathematics assessments at the National Technical Institute for the Deaf, MA, and reading.
- Students' MA regarding word segmentation and meaning was significantly related to their achievement on the mathematics assessments.
- **Morphological knowledge is important not only to achievement in reading, but also mathematics.**

English-Language Learners (ELLs)

- While most research on reading has been done with native-English speakers, there is a **growing body of knowledge focused on the reading development and achievement of English-language learners (ELLs)**.
- While most of the research with ELLs has focused on vocabulary knowledge, **recent studies have focused on the role of MA**.

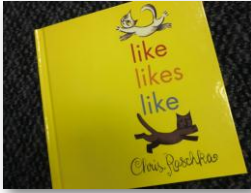


Lesaux (2008)

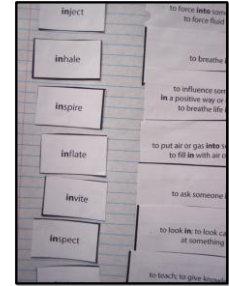
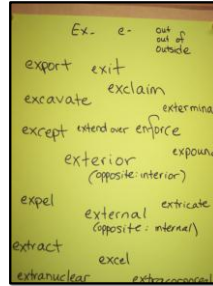


- For example, Kieffer and Lesaux (2008) investigated the relationship between (derivational) MA and reading comprehension in English of a group of ELLs whose first language was **Spanish**.
- The researchers followed the students for two years (4th–5th grade) and found that during this time, **the relationship between MA morphology and comprehension increased**.

Look For Read-Aloud Books That Support Your MA Focus



Base MA Word Work On Vocabulary From the Selection



Discuss Multi-Morphemic Words From the Selection



Creating Multi-Morphemic Words From Those in the Selection



Our Research: 17 2-8th Graders

- In process now.
- Many background variables
 - UNAIDED AND AIDED HEARING LOSS
 - AGE AT IDENTITY AND AGE WHEN CI/HEARING AID
 - PARENTS' SIGN ABILITY
 - SES
 - PARENT INVOLVEMENT
 - ETHNICITY



Clinical Evaluation of Language Fundamentals (CELF); Gates-MacGinitie Reading Test

- All CELF subtests require MA.
- All language measures correlated significantly with reading vocabulary and reading comprehension.
- Our MA "test" correlated with the GMRT Reading Vocabulary.
- Developmental trend for MA for 2-8th graders.



Data from 70% of NWSFHIC Graduates Indicates...



Most of the students at the NWSFHIC reading at or above grade level; the expectation is a year's progress in a year's time.

NWSFHIC Graduates

- Recently, (manuscript has been submitted)
- 510 postsecondary subjects who participated in the 2007 National Longitudinal Transition Study II (NLTS2) study (Newman et al (2009) and 66 potential subjects who were identified as having attended NWSFHIC school for at least four years.
- Responses were obtained from 46 (70%) of these potential participants.
- Asked about their level of education, their employment, and their independence.

Comparison

- NWSFHIC responses were compared to a national sample of young, deaf adults who were the same age and gender, and who had about the same levels of hearing loss.
- NWSFHIC alumni were significantly better educated, were employed to a higher degree, and were more independent than those represented in the national sample.



Results Of The NWSFHIC Graduate Study

- All of the young adults who had attended NWSFHIC had graduated from high school compared to about 93% of the national sample.
- 88% of the NWSFHIC alumni attended either two or four-year postsecondary programs, and almost 67% graduated successfully and earned a degree.
- 85% of NWSFHIC school participants work (and most work full time) as compared to about 63% of those in the national sample. In the national sample, employment was almost 34 hours per week; NWSFHIC alumni averaged 38 hours per week.

Questions?

- Visit our website:
<http://www.northestschool.com>
- **Come and visit our school!**
- **Email us if you have questions or to share your progress assessing and teaching MA!**

