10 things you always wanted to know about the alphabetic principle...

But were afraid to ask!

How would you describe the alphabetic principle?

- Foundation of any alphabetic system
- Understanding the systematic and predictable relationship between letters (graphemes) and sounds (phonemes) of the language
- Modern languages with nearly perfect phonemic orthography include Finnish, Estonian, Italian and Spanish

What skills are involved in developing the alphabetic principle?

- Phonemic awareness
  - Learning to manipulate phonemes “through the air”
- Phonics
  - Learning the letter and/or letter combinations that represent the sounds of the language
- Letter knowledge
  - Recognizing and naming letters in a random order
How important is the alphabetic principle in developing overall reading abilities?

- Once the alphabetic principle is mastered, readers can develop automaticity with word identification.
- Automaticity leads to fluency at the sentence and passage level.
- Frees cognitive energy to focus on comprehending text.
- Interactive model of reading development (Chall, 1983, 1996)

- Reading develops in a hierarchical manner.
- Phonemic awareness and phonics skills form foundation for higher level skills (i.e., fluency, vocabulary and comprehension).
- Alphabetic principle provides a strategy to identify and access words in print.

- Without knowledge of the alphabetic principle, readers would have to learn words holistically and by sight.
- If automaticity and fluency fail to develop, shifting from “learning to read” to “reading to learn” is significantly hindered.
- Comprehension of text can be a futile endeavor.

- Alphabetic principle is only part of word identification process.
- It is necessary, but not sufficient.
- Word meaning and context of selections also play a vital role in applying the alphabetic principle.
Simultaneous engagement of 4 processors
- Process information from orthography
- Relate to the phonology of the language
- Meaning engages to make sense of word
- Context enhances comprehension rate

Consider that it's...
- Possible for reader to pronounce a word, but not know its meaning
- Possible for reader to know a meaning of a word, but not be able to identify its written counterpart
- Therefore, both factors must interact for "reading" to occur

How do teachers develop the phonemic awareness and phonics skills that enable readers to apply the alphabetic principle?

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Phonemic awareness
- Prereading skill
- Along with letter knowledge, best predictor of how well a child will learn to read
- Understanding that words are comprised of phonemes

Phonemic awareness
- Activities include phoneme isolation, identity, categorization, addition, deletion and substitution
- Most critical blending and segmenting
- Forms the foundation for reading and spelling skills
- Decoding and encoding

National Reading Panel (2000) recommended five areas of effective reading instruction
- Phonemic awareness
- Phonics
- Fluency
- Vocabulary
- Comprehension

Areas parallel interactive model of reading development
**Phonics**
- Systematic and predictable relationship between written letters and spoken sounds
- Helps children recognize familiar words accurately and automatically and decode unfamiliar words
- Contributes greatly to ability to read words in isolation and in connected text

**Criticism of phonics instruction**
- English spellings are too irregular
- But think of it this way…
  - Teaches children a system for remembering how to read words
  - Even when a word is “irregular”, it usually contains some regularity that can help children remember how to read them
  - Alphabetic system is a mnemonic device

- Various instructional approaches (e.g., embedded, analytic, etc.)
- NRP recommended systematic, explicit and direct instruction
- Systematic
  - Planned sequence of phoneme introduction
  - Incorporates skills in both reading and spelling
  - Use of decodable text
  - Adapted to students’ needs based on assessment

**Direct Instruction**
- Model the expected learning outcomes by providing clear explanations and examples
- Set the stage for learning
- Monitor and engage pupils with assigned learning tasks
- Provide learning tasks that are independent of teacher assistance
- Assess pupil progress
- Bring the lesson to a conclusion by highlighting what was covered

Can students who are deaf or hard of hearing acquire these skills?
Lack of instruction in phonology may contribute to reading difficulties (Leybaert, 1993, 2005)

Accounts, in part, to 4th grade ceiling experienced by many students

Qualitatively similar hypothesis (Paul, 2008, 2009; Paul & Lee, in press)

Differentiated instruction rather than different instruction

How do students who cannot access phonemes auditorally develop the alphabetic principle?

Issues

Learning to read by memorizing words would be impossible for any child

Would need to learn 30 words per day if sight word recognition were the only strategy used

Requires at least 35 exposures to becomes a sight word

Evidence

Skilled deaf readers utilize phonological information more often than average readers

Combine information from print, their oral skills (speechreading, speech and residual hearing) and kinesthetic movements to develop mental representations of letter-sound correspondences

Differentiated access

Enhance audition through use of hearing aid, cochlear implant, assistive listening device

Speechreading

Articulatory feedback

Cued Speech

Visual Phonics

Differentiated instruction
What about older students who have not acquired the alphabetic principle?

Beyond 3rd grade
- Instruction shifts from “learning to read” to “reading to learn”
- Students without foundational skills are often left behind
- Acquisition of higher level reading skills may be difficult if not impossible to achieve

Remedial instruction
- Early intervention is most effective
- NRP (2000) studies indicated that phonemic awareness instruction improved abilities in students from 2nd to 6th grade
- Instruction should possibly focus more on decoding (phonics)
- If blending and segmenting are issues, can benefit from 5 minutes of practice per day

How do I know where to begin and what instructional materials I should use?

Start with assessment
- Determine student's knowledge of alphabetic principle
- Assess
  - phoneme awareness
  - phoneme blending/segmenting
  - letter knowledge
  - pseudoword decoding
  - high frequency word reading
  - reading fluency

Assessments
- Criterion and norm referenced
- Curriculum-based measures
- Ensure validity of administration, especially when communicating using sign language
- http://www.sedl.org/
Intervention

- Choose age-appropriate materials
- Consider core and/or supplemental curriculum
- Monitor progress and differentiate based on assessments (administered at least quarterly)
- http://www.fcrr.org/

Intervention research

- Difficult to conduct due to low incidence and heterogeneity of population
- Systematic and explicit instruction
- Supplemented by Visual Phonics
- Total communication and bilingual environments

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Is there research supporting providing instruction in the alphabetic principle for students who are deaf or hard of hearing?

Remedial Instruction (2nd HS)

- Corrective Reading-Decoding curriculum
- Curriculum-based measure of first 20 lessons
- Replication studies confirm findings ($N = 97$) ($n = 60$ residential school)
- Residential school for the deaf study now includes 127 students

Beginning instruction (K-1st)

- Reading Mastery for one year
- Four subtests of Woodcock Johnson
- 59 students in four sites in Illinois
Beginning instruction (K-1st)

- LACES for one year
- Six subtests of Dominie assessment
- 20 students in Ohio
- 10 participants with cochlear implants

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<th>Phonemic Awareness Segmentation</th>
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Where can I get more information about developing the alphabetic principle with students who are deaf or hard of hearing?


Literacy and deafness


Phonology and deafness


Intervention research

Trezek, B. J. (in preparation). Remedial phonics instruction for students who are deaf or hard of hearing: Results of multiple investigations.


In summary…

- Alphabetic principle forms the foundation for developing reading and spelling skills
- These skills are critical to success in all school subjects
- Professional development for teachers is also essential