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# **Cross-Language Comparability of Early Grade Reading Assessments**

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# Session Objectives

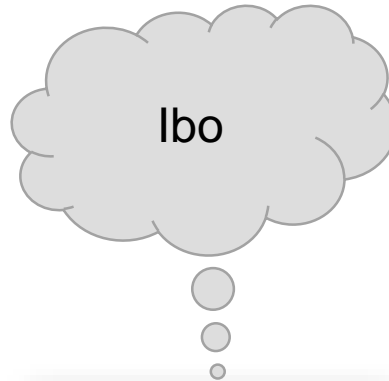
- Why compare?
- Why be careful when comparing?
- Language-specific considerations
  - Sound (phonology)
  - Script (orthography)
  - Language comprehension (semantics)

# Why compare?

Across languages across countries



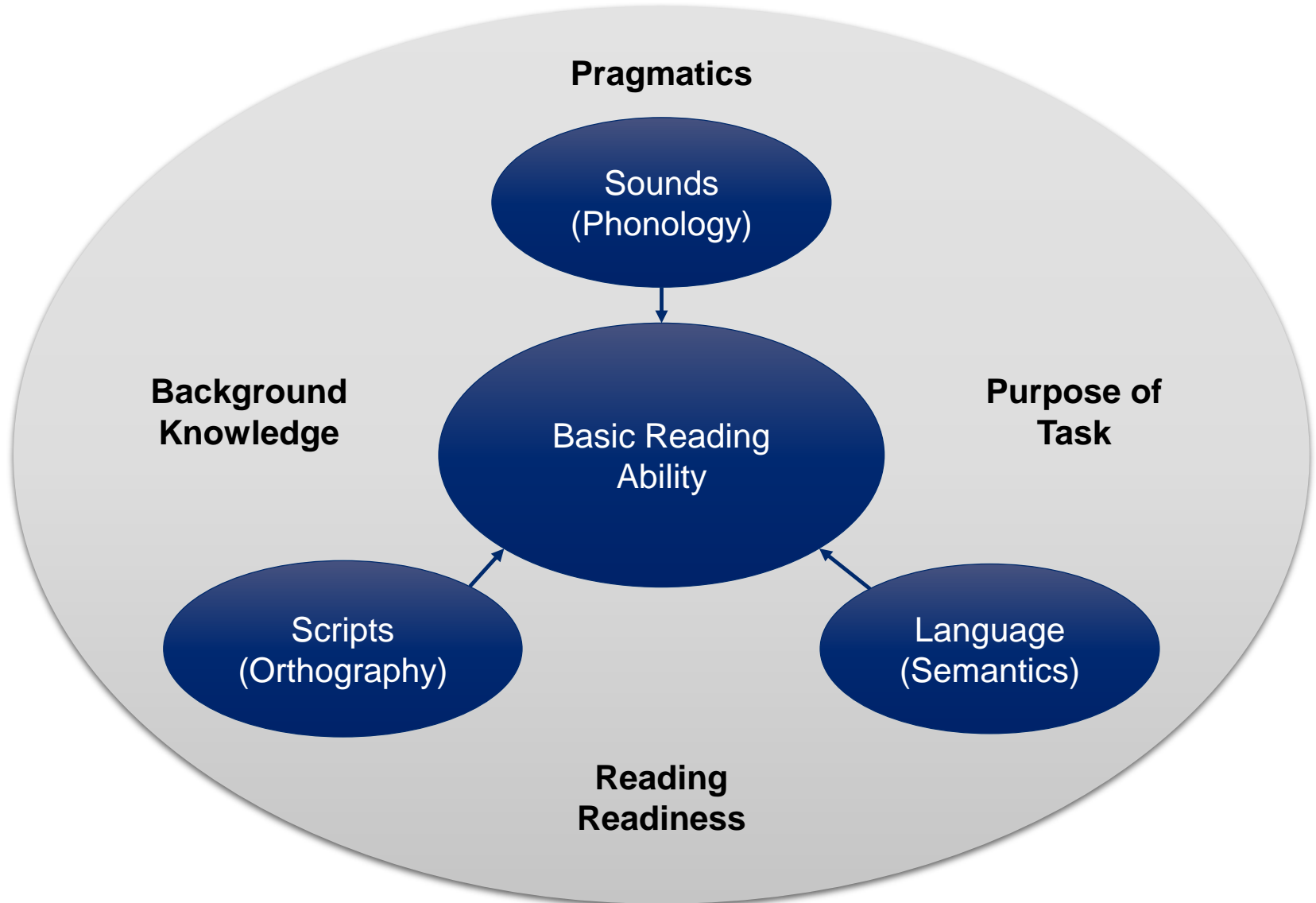
Across languages within a country



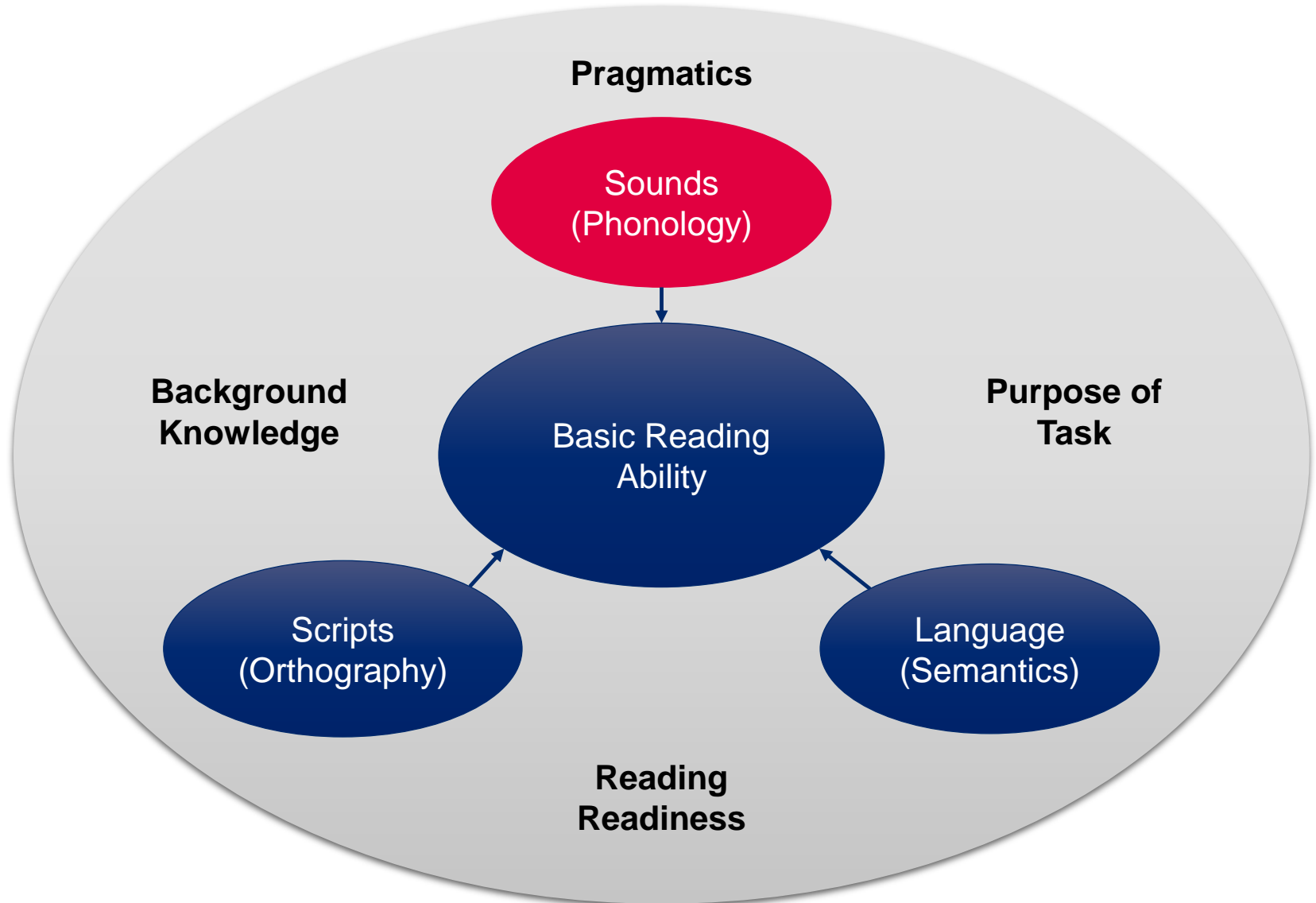
# Why should you be careful when comparing?

- Early Grade Reading Assessments (EGRAs) often assess a set of subtasks:
  - Initial word sound, phonemic awareness, word and nonword reading, oral reading fluency, reading comprehension, and listening comprehension
- Several aspects of these subtasks are ***not comparable*** in all languages
- The subtasks' importance differs:
  - Across languages
  - Across grades
  - Across first, second, and later languages

# Early Grade Reading Framework



# Early Grade Reading Framework



# Poll: Sounds (Phonology)

- Is phonemic awareness the best way to measure phonological awareness in all languages?

# SOUNDS: Phonology

- Phonology: the way sounds are organized in a particular language
- Phonological awareness: the ability to hear, identify, and manipulate those sounds
- One of the most significant predictors of early reading in ***all*** languages
- **However**, there are levels of phonological awareness, and their importance varies across languages
- The assessment of phonological awareness should be independent of an assessment of reading and writing ability



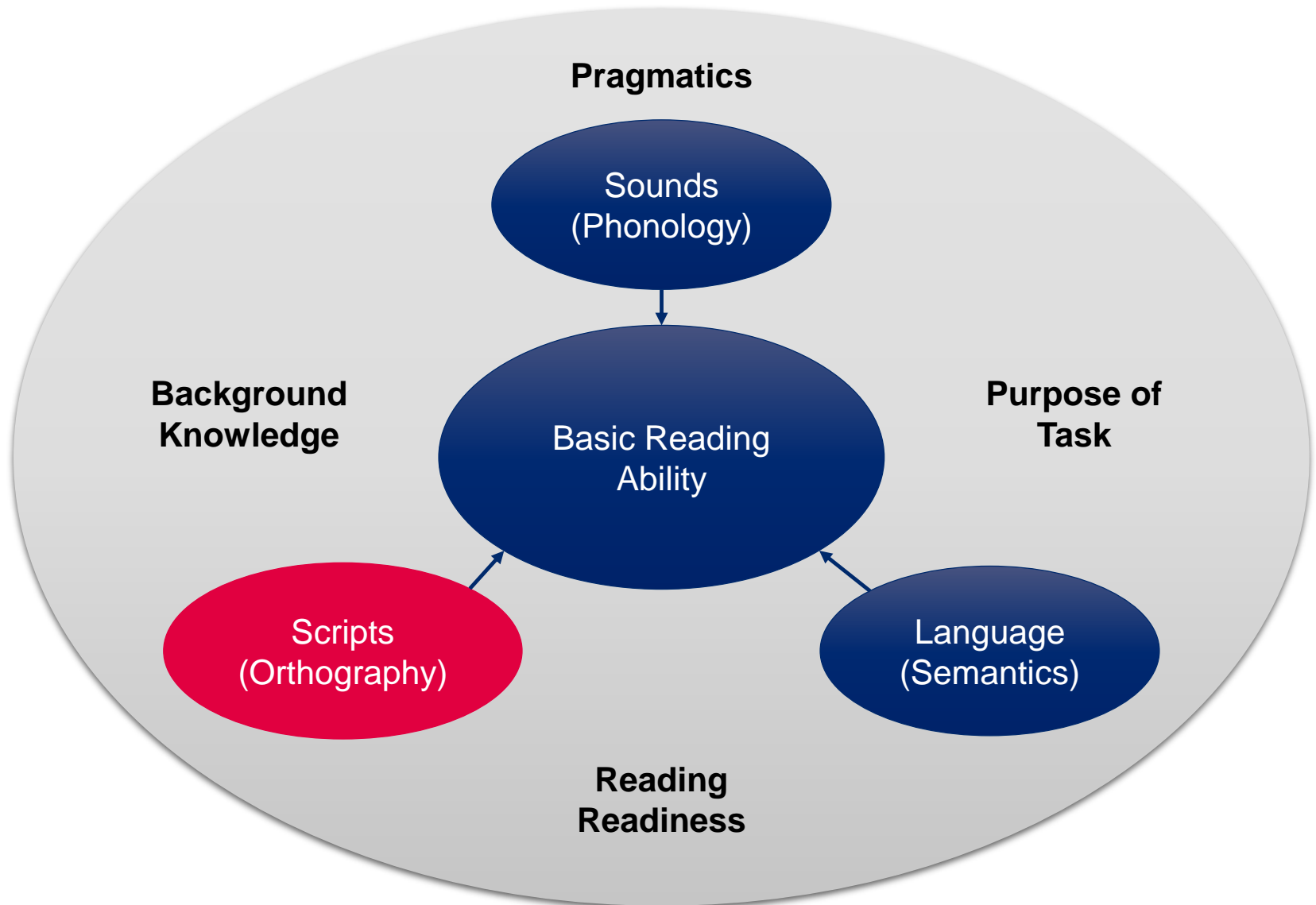
# Phonological Unit Sizes

- Syllable (syllabic awareness)
  - am; cat; pool; sprint
  - Am-ster-dam; cat-er-pil-lar; sprint-er
- Onset-rime (rime awareness)
  - c-at; p-ool
- Phoneme (phoneme awareness)
  - c-a-t; p-oo-l
- Phoneme plus “shwa”
  - ष (pə)    ठ (thə)

# Implications for Assessments

- Assess language-specific phonological awareness.
- Can the units be segmented? ಮನೆ (mané) vs. man
- Larger units are easier (assess first).
  - English example:
    - FIRST: Segmenting, blending, etc. – cat/nap, rain/bow, mark/er
    - LATER: c-a-t, n-a-p
  - Kannada example:
    - FIRST: ಕ, ಗ, ಚ, ವ
    - LATER: ಕಾ, ಕಿ, ಕೀ, ಕು, ಕೂ, ಕೆ, ಕೇ
- Phonemic awareness is not universal; phonological awareness is


# Early Grade Reading Framework



# Poll: Scripts (Orthography)

- Do students who read fluently understand what they read equally in all written languages?

# Scripts (Orthography)

- Orthography is the implementation of the rules of a writing system.
- **Universal:** All scripts represent spoken sound.
  - C represents the spoken sound /k/ or /s/ (in English).
  - की represents the spoken sound /ki/ (in Hindi).
  - 木 represents the spoken word /ki/ (tree in Chinese).
  -  does not represent spoken language.
- **Language-specific:**
  - Phonological size
  - Orthographic depth
  - Number of symbols
  - Visual complexity

# Scripts (Orthography): Phonological Size

Phonological Unit	Writing System	Examples
Phonemes	Alphabetic (letters)	cat niña אבא
Syllables	Syllabic (kana)	たこ
Syllables with phonemes	Alphasyllabic (akshara/fidel)	ಕ ಂ ಕ್ಕ ሰ ሰ ሰ
Syllables with morphemes	Morphosyllabic (characters)	海橋

# Scripts (Orthography): Orthographic Depth

- Degree of consistency between symbols and sounds

Nyanja (transparent or shallow)

zikomo

/z/ /i/ /k/ /o/ /m/ /o/

English (opaque or deep)

enough

/i/ /n/ /u/ /f/

have/rave; gone/tone; rough/dough; gel/gal; city/catty

## Let's try!

Transparent alphabetic (Kiswahili):

*Jina langu ni Paul. Mimi nafuga paka. Mimi ni mwanafunzi.*

Opaque alphabetic (French):

*Je m'appelle Paul. J'ai un chat. J'attandre l'école.*



# Number of Symbols

- Large orthographic sets – e.g., Kannada
  - 14 + 4 vowels, 36 consonants, more than 400 graphemes (Nag, 2007)
  - Independent consonants (plus schwa): ಕ, ಗ, ಚ, ಪ
  - Phonemic diacritics: ಕಾ, ಕಿ, ಕು, ಕೆ, ಕೊ
  - Number of phonemes in each syllable: ಕ ಕಿ ಕ್ರಿ
- Takes longer for basic word reading mastery (grade 5)
  - compared with transparent alphabetic languages (around grade 1–2) and English (around grade 2–3)

# Visual Complexity

- Similar-looking graphemes

ツ                  シ

خ                  ح                  ج

- Nonlinearity

दे                          नु                          हि                          द्वि

- Upper and lower case

E                          e

r                          R

- Types of fonts

ENGLISH

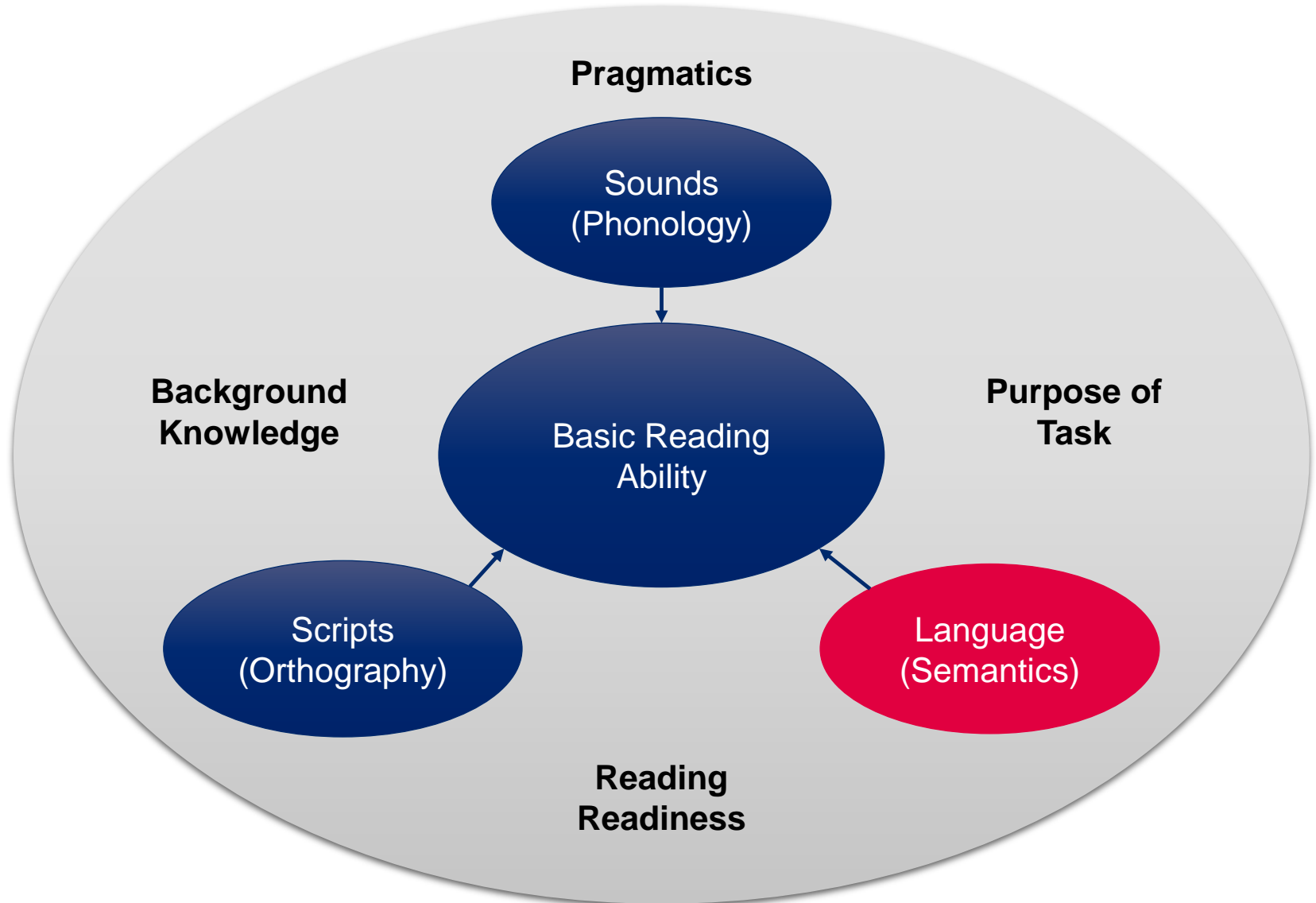
English

*English*

# Implications for Assessment: Orthography

- Need to understand which kind of writing system it is (Roman alphabetic, non-Roman alphabetic, alphasyllabic, syllabic, morphosyllabic)
- Words per minute (oral reading fluency, or ORF) may be less predictive of reading comprehension in transparent scripts compared to opaque scripts
  - e.g., Transparent: Spanish, Portuguese, Kiswahili, Nyanja
  - e.g., Opaque: English, French
- Frequency of words/sight words is more important to consider in opaque orthographies than in transparent orthographies
- Large orthographies (even if they are transparent) take longer to acquire word reading and reading fluency
  - e.g., Hindi, Bangla, Telugu, Nepalese, Lao, Amharic
- Need to be thoughtful about visual complexities

# Early Grade Reading Framework



# Poll: Language (Semantics)

- Is showing a child a written word and asking them what it means a good way to measure whether the child knows what the word means?

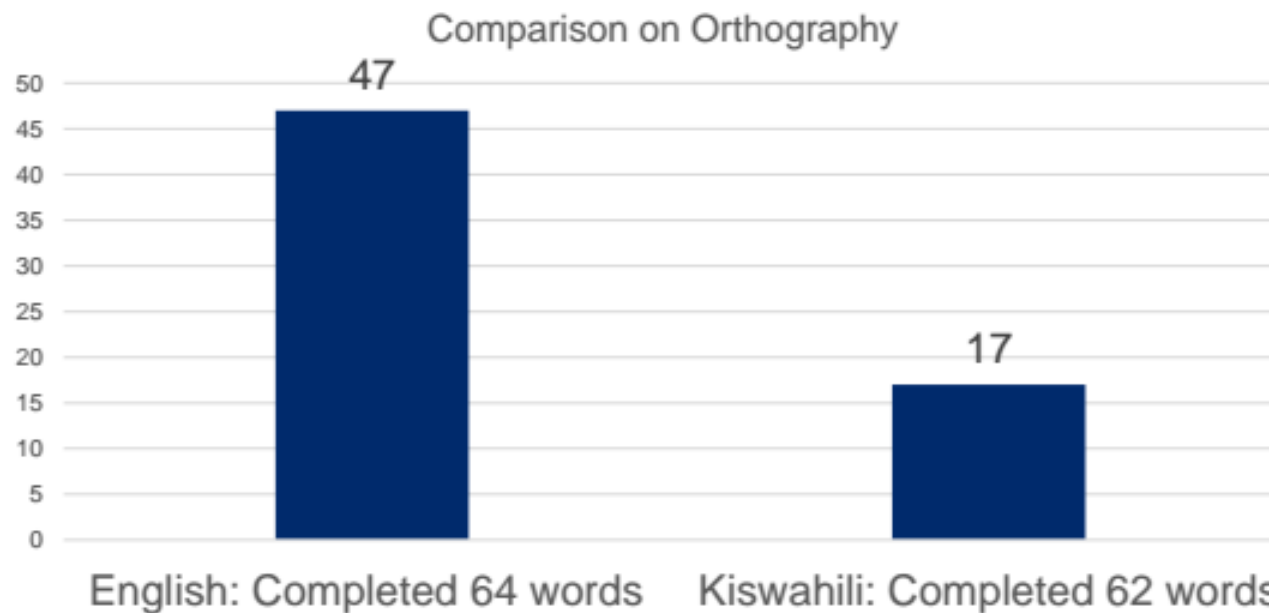
# LANGUAGE: Semantics

- Reading is dependent on language ability in all languages.
- At least one EGRA subtask should be *completely independent* of decoding skills.
- The relative importance of oral language ability keeps increasing through the grades.

# LANGUAGE: Word Length (Morphological Complexity)

I have been cut off. (5 words English)

Imekatika. (1 word Kiswahili)



Source: RTI International, USAID/Kenya Primary Math and Reading Initiative (EdData II), 2013 midterm assessment.

# LANGUAGE: Problems with Translation

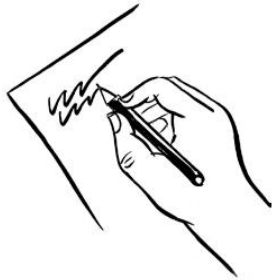
- Word appropriateness
  - Jan saw the man **farming**
  - Jan saw the man **cultivating**
- Concept or thing may be language-dependent
  - Common food items
  - Kitchen utensils
  - Type of housing
  - Greetings



# LANGUAGE: Assessing Language Comprehension

- Listening comprehension
- Following requests
- Receptive oral vocabulary
- Receptive written vocabulary
- Productive oral vocabulary
- Productive written vocabulary

# LANGUAGE: Assessing Receptive Oral Vocabulary



# LANGUAGE: Assessing Productive Oral Vocabulary



# Guiding Questions for Cross-Language Comparisons

1. Are both languages **equally transparent**?
2. Are the **orthographic patterns** (linearity, direction) similar in both languages?
3. Is **word length** (morphological structure) similar across both languages?
4. Are the **numbers of symbols** that need to be acquired similar in both languages?
5. Are the **test items (words, grammar, etc.) equally complex** in both languages?
6. Are you comparing **first language(s) to first language(s)**?

# References

Nag, S. (2007). Early reading in Kannada: The pace of acquisition of orthographic knowledge and phonemic awareness. *Journal of Research in Reading*, 30(1), 7–22.

Piper, B., & Mugenda, A. (2013). *The Primary Math and Reading (PRIMR) Initiative: Midterm impact evaluation*. Prepared under the USAID Education Data for Decision Making (EdData II) project, Task Order No. AID-623-M-11-00001 (RTI Task 13). Research Triangle Park, NC: RTI International.  
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