

*Symposium: Multiple Lenses for Understanding
Source-Based Analytical Writing Development*

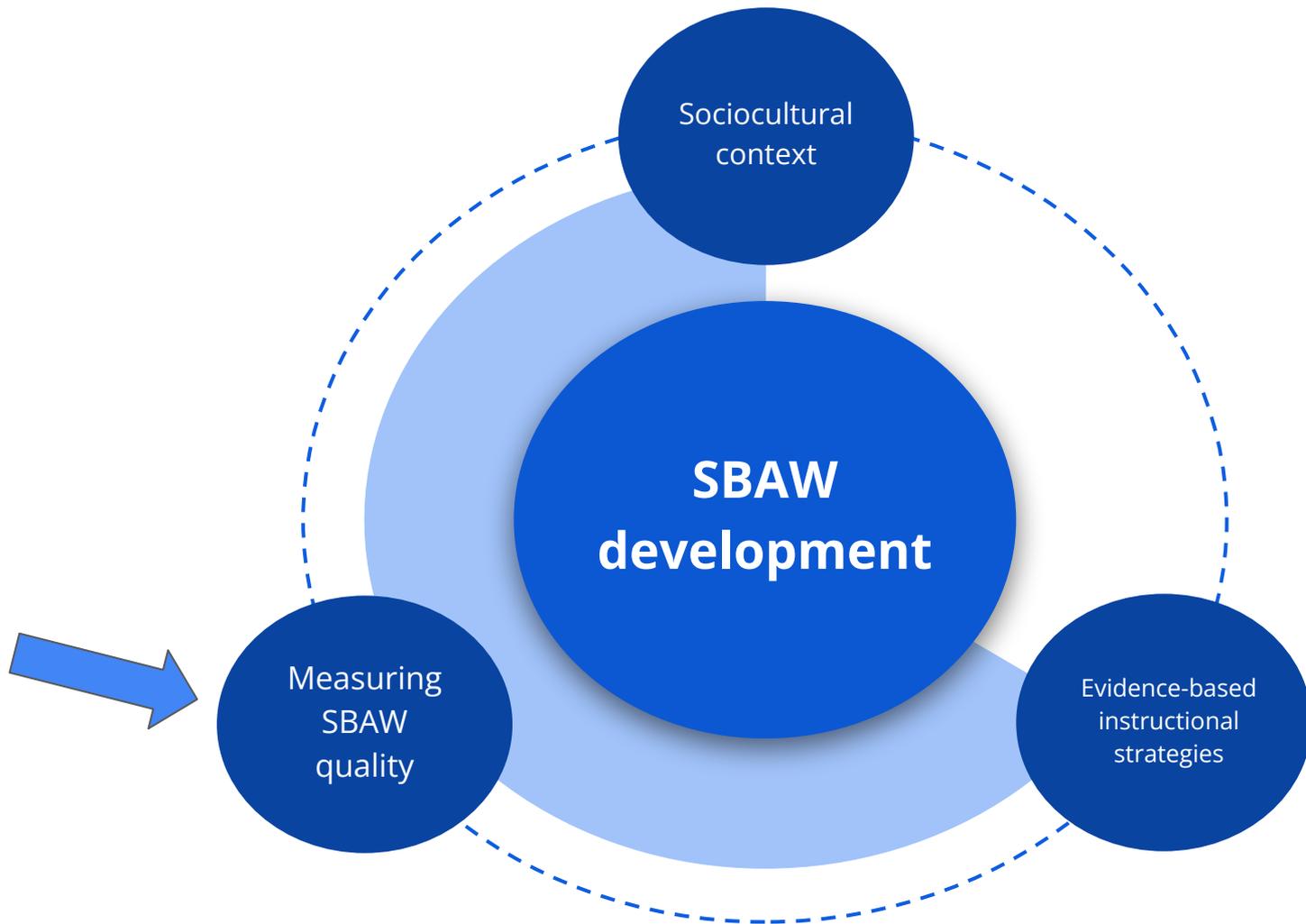
Assessing the Dimensions of Source-Based Analytical Writing

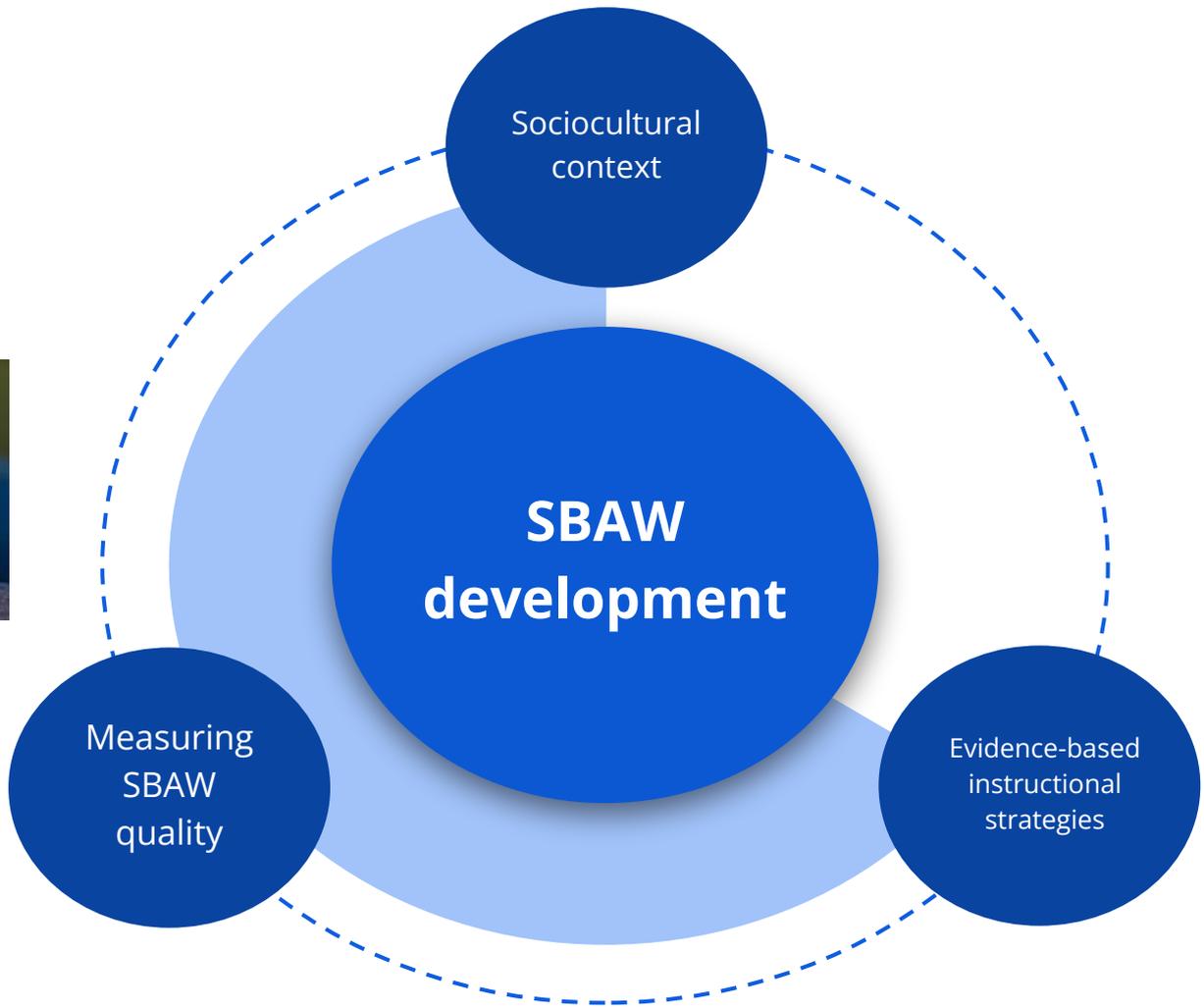
Jacob Steiss, Dr. Jenell Krishnan, & Dr. Young-Suk Kim



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Outline

- **Background**
- **RQs**
- **Methodology**
- **Results**
- **Significance**



What is source-based analytical writing?

- 1) Writing clear and arguable **claims** (Olson, 2012; Rogers, Stoeckel, Sikali, 2013)
- 2) Evaluating and selecting **evidence** relevant to claims (Goldman & Scardamalia, 2013; McGrew et al., 2018; Rouet and Britt 2011)
- 3) **Explaining** how evidence supports claims (List, et al., 2019)
- 4) Using argument **structures** (Hillocks, 1995)

Studies find secondary students have difficulty

- 1) Writing clear and arguable **claims** (Olson, 2012; Rogers, Stoeckel, Sikali, 2013)
- 2) Evaluating and selecting **evidence** relevant to claims (Goldman & Scardamalia, 2013; McGrew et al., 2018; Rouet and Britt 2011)
- 3) **Explaining** how evidence supports claims (List, et al., 2019)
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Do we measure SBAW holistically or analytically?

Analytically:

- Writing is a complex, strategic activity with **many components** (Wagner et al., 2011; Hayes, 1984, 2012; Kim, et al., 2015)
- Use of **analytic trait rubrics** (National Writing Project, 2005, 2010; Northwest Regional Educational Laboratory, 2011).
- Writing quality is **multidimensional**

Holistically:

- Skills are so related, writing is a **single construct** and can best understand its quality and development with a **holistic score** (Espin, et al., 2005; Huot, 1990; Olinghouse, 2008)
- Writing quality is **unidimensional**



Research questions:

- What are the **dimensions** of SBAW?
- What **differences** exist **across dimensions** for student subgroups (e.g., English Learners and sex)?
- How do dimensions of writing **predict holistic writing scores**?



Data and Analysis

- Writing corpus
- Analytic coding of student writing
- CFA and SEM



Writing Corpus

- Stratified random sampling > 206 essays
- Grade 7-12 students
 - California school district
 - 80% Latinx students and 73% students eligible for the National School Lunch program
- Wrote to one of two source-based analytical writing prompts
 - Read two texts
 - Write argument of interpretive analysis or literary judgment (Smith, Wilhelm, & Fredricksen 2012; Hillocks, 2011)



Analytic Coding of Student Writing

- As opposed to a holistic score, we assign a score for **specific** and discrete **parts of student writing**
 - quality of the claim, the use of textual evidence, the quality of the commentary. etc.
- Develop a shared codebook for **each component**, learn to assess these reliably in writing
- **Product:** A really analytic picture students' writing. We see differences within students, between grades, between ELs and non-ELs.



NWP Analytic Writing Continuum | Literary Analysis 2016



CONTENT

<p>1. The writing:</p> <ul style="list-style-type: none"> • Demonstrates little or no understanding about a central message from the text. <ul style="list-style-type: none"> • May exclusively or primarily consist of sections of copied text. <u>OR</u> May be too brief to evaluate. 	<p>2. The writing:</p> <ul style="list-style-type: none"> • Presents little understanding about a central idea or message from the text. • Provides a general, often brief retelling or interpretation of what the story is "about" with little to no textual evidence. <ul style="list-style-type: none"> • Includes no discussion of the author's use of literary elements or techniques. • May include material from the text, but it is often copied. 	<p>3. The writing:</p> <ul style="list-style-type: none"> • May present a limited understanding about a central idea or message from the text. • Consists primarily of a summary of the text with limited textual evidence. <u>OR</u> Provides uneven support through selection of textual evidence. • Presents either superficial, uneven or no interpretation or analysis of textual evidence. • If included, presents a limited or flawed discussion of the author's use of literary elements or techniques. 	<p>4. The writing:</p> <ul style="list-style-type: none"> • Presents a satisfactory thesis about a central idea or message from the text. • Satisfactorily supports the thesis through selection and use of textual evidence. • Presents satisfactory interpretation or analysis about the textual evidence. • If included, presents a satisfactory discussion of the author's use of literary elements and techniques. 	<p>5. The writing:</p> <ul style="list-style-type: none"> • Presents a competent thesis about a central idea or message from the text. • Competently develops and supports the thesis through selection and use of specific textual evidence. • Presents competent interpretation or analysis about the textual evidence. • Presents a competent discussion of the author's use of literary elements and techniques. 	<p>6. The writing:</p> <ul style="list-style-type: none"> • Presents a compelling thesis about a central idea or message from the text. • Effectively develops and supports the thesis through skillful selection and use of specific textual evidence. • Presents insightful interpretation or analysis about the textual evidence. • Presents an insightful discussion of the author's use of literary elements and techniques.
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NWP Analytic Writing Continuum | Literary Analysis 2016

CONTENT

1. The writing:	2. The writing:	3. The writing:	4. The writing:	5. The writing:	6. The writing:
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Item	Description
Evidence	How well does the student use source material as evidence?
Commentary	How well does commentary interpret and use the textual evidence (to support a claim)?
Balance	How well does the writing balance purposeful summary, evidence, and commentary?
Address prompt	How well does the writing address all aspects of the prompt?
Present claim	How well does the writing present a clear and compelling claim
Focus	How well is the writing focused on proving/substantiating an interpretable claim?
Cohesion	How well is the writing globally organized?
Introduction	How well does the writing advance a strong introduction
Conclusion	How well does the conclusion relate to claims made throughout and give the writing a sense of completeness?
Fluency	How well does the essay demonstrate sentence fluency and sentence flow?
Syntax	How well does the essay demonstrate syntactic variety and style?
Diction	How well does the essay demonstrate command of diction and word choice? (discount language "borrowed" from source text)
Conventions	How well does the essay demonstrate control of language and standard grammar conventions including spelling, capitalization, and punctuation?
Tone	How well does the writing adjust language and use tone appropriate to purpose, audience, and task?

CFA and Structural Equation Modeling

- Confirmatory Factor Analysis (CFA) to examine
 - **Dimensions** of source-based analytical writing for secondary students
 - How these dimensions **relate** to each other
- Structural Equation Modeling (SEM) to examine
 - How these **dimensions** of writing **predict** overall writing quality
 - How **demographic factors predict** performance in different dimensions.



Figure 1a

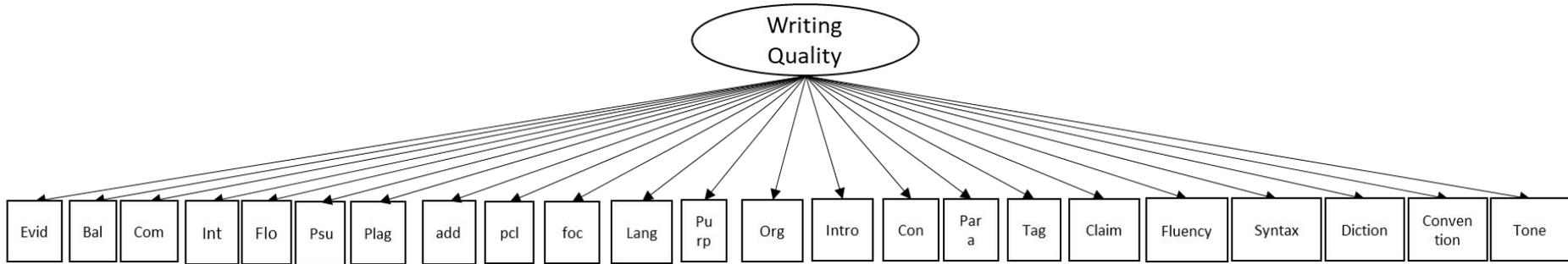


Figure 1b

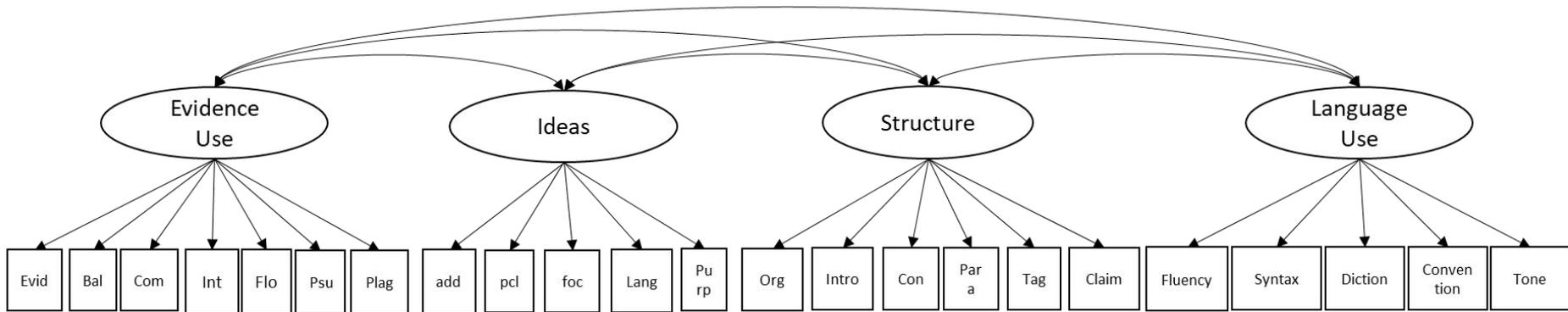


Figure 1c

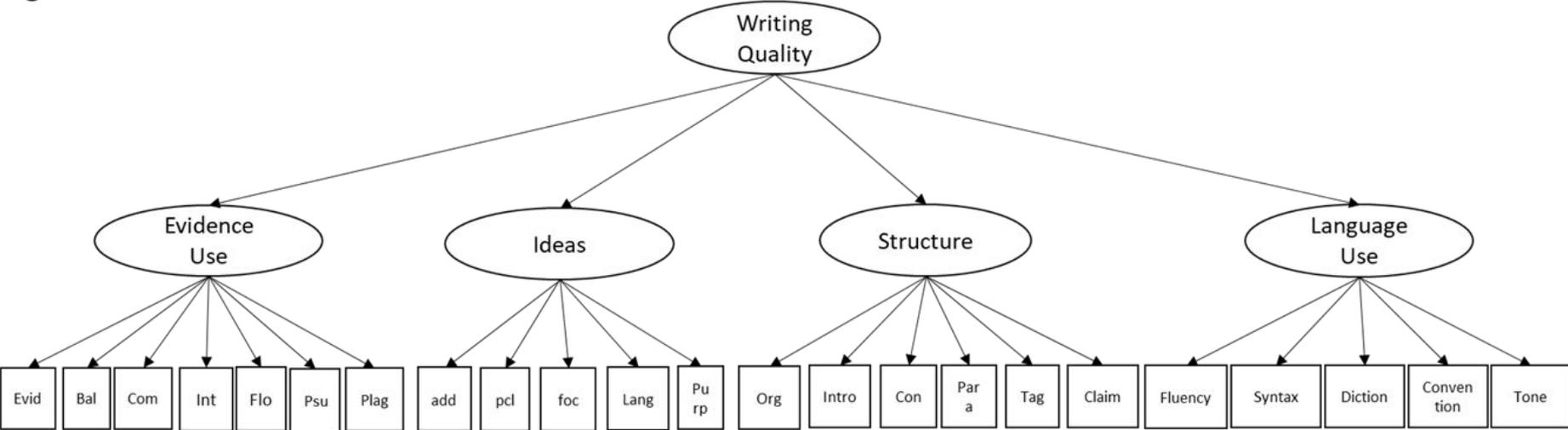
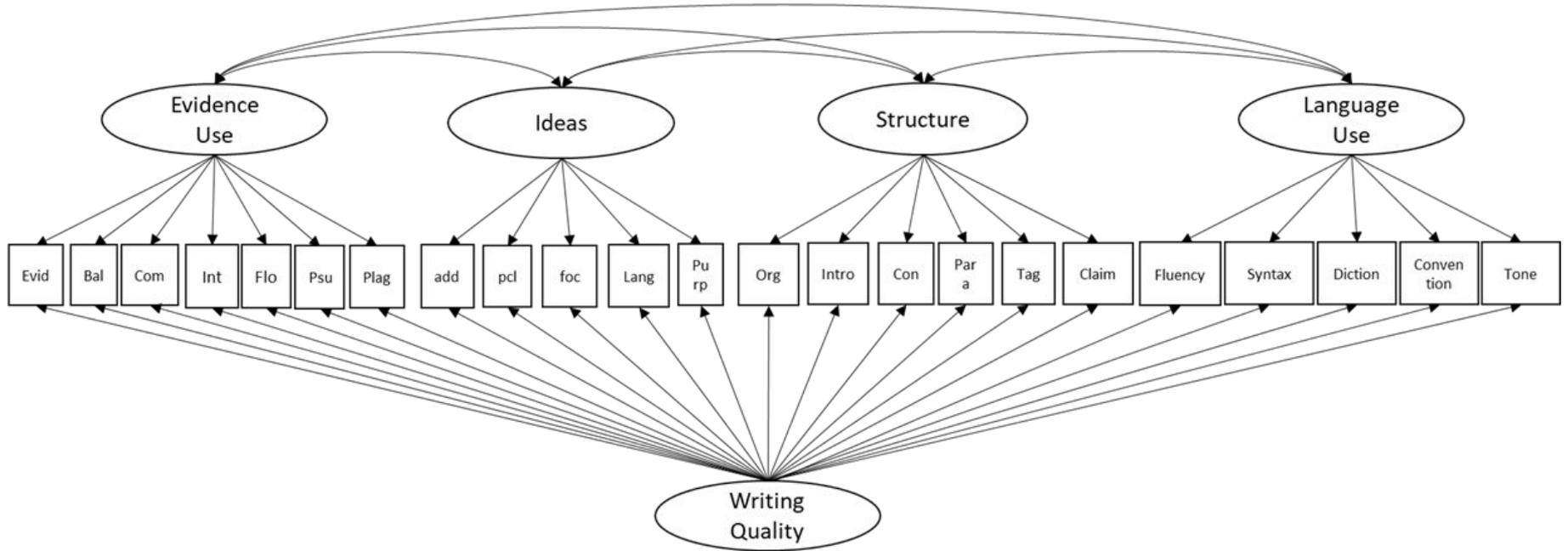
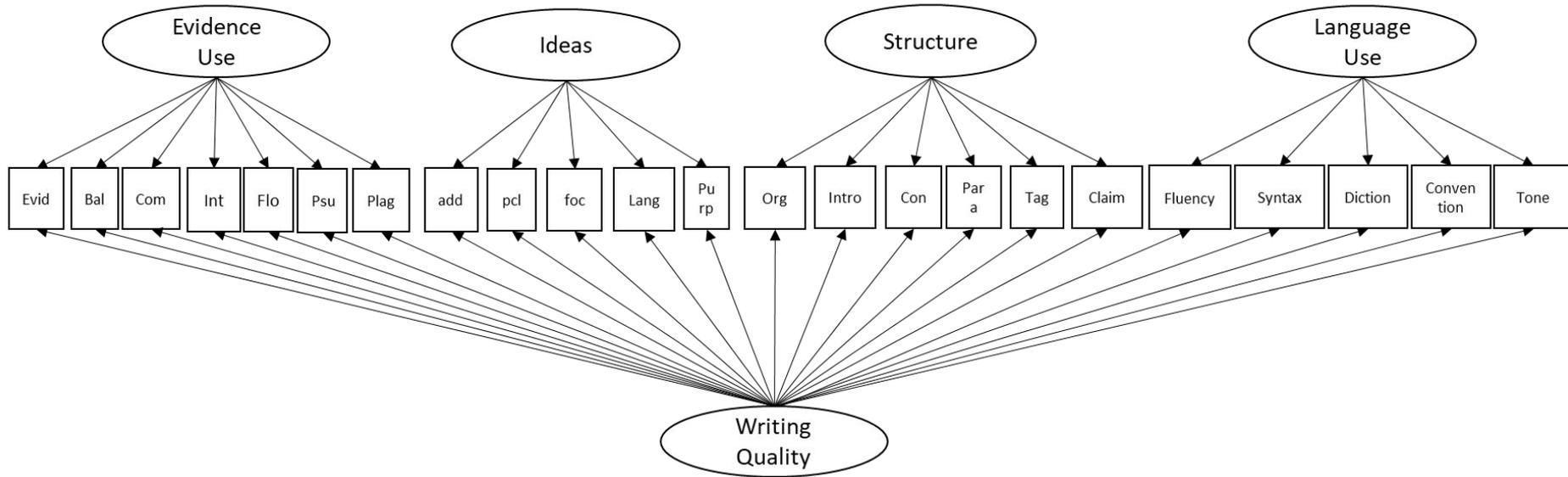


Figure 1d



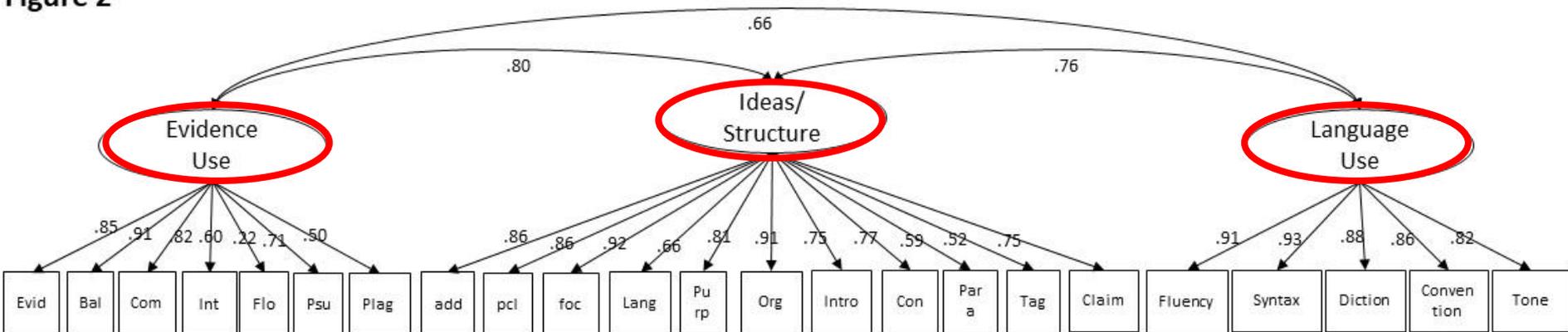
SEM 2

Figure 1e

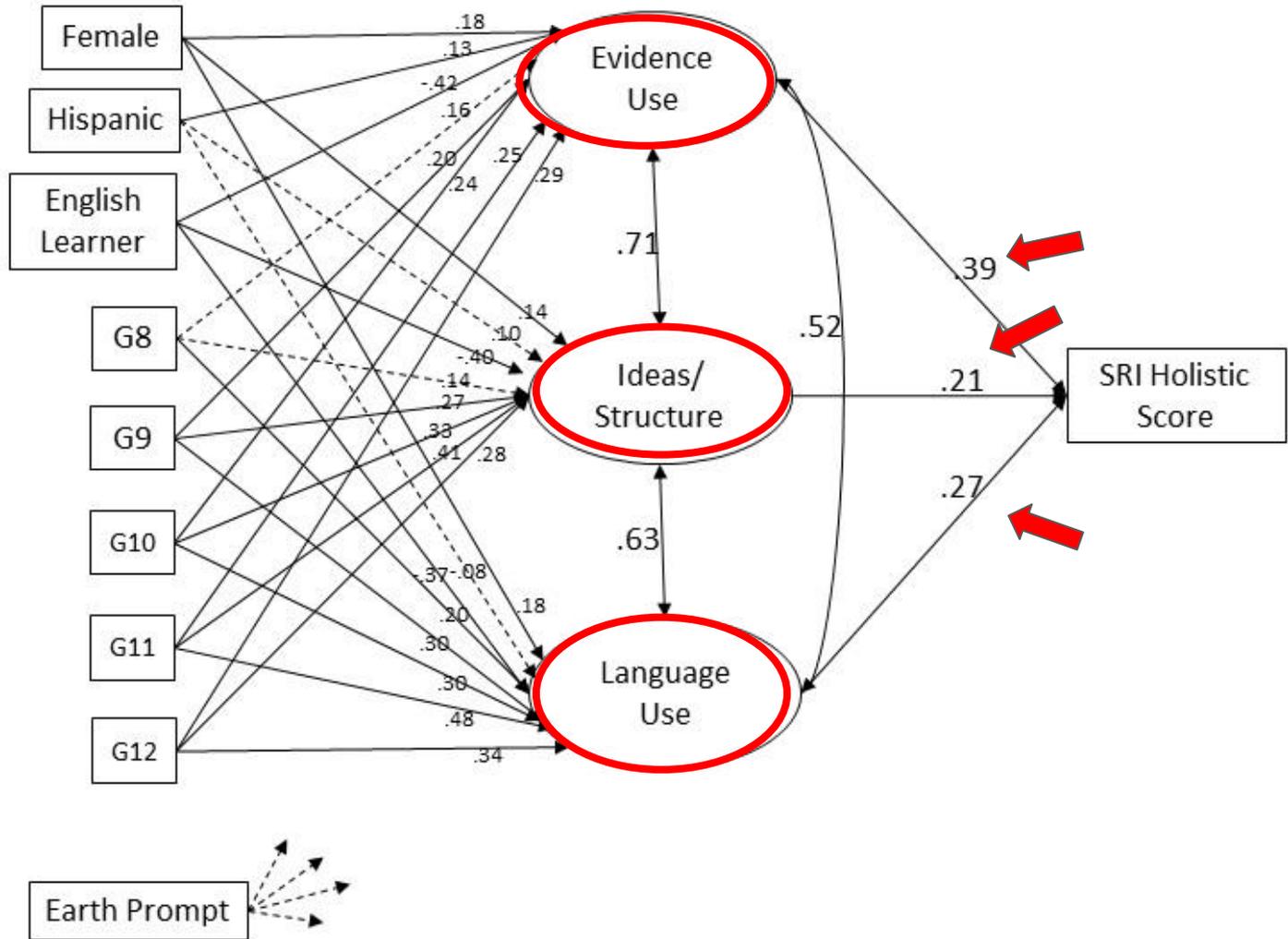


Respecification > Best fitting model

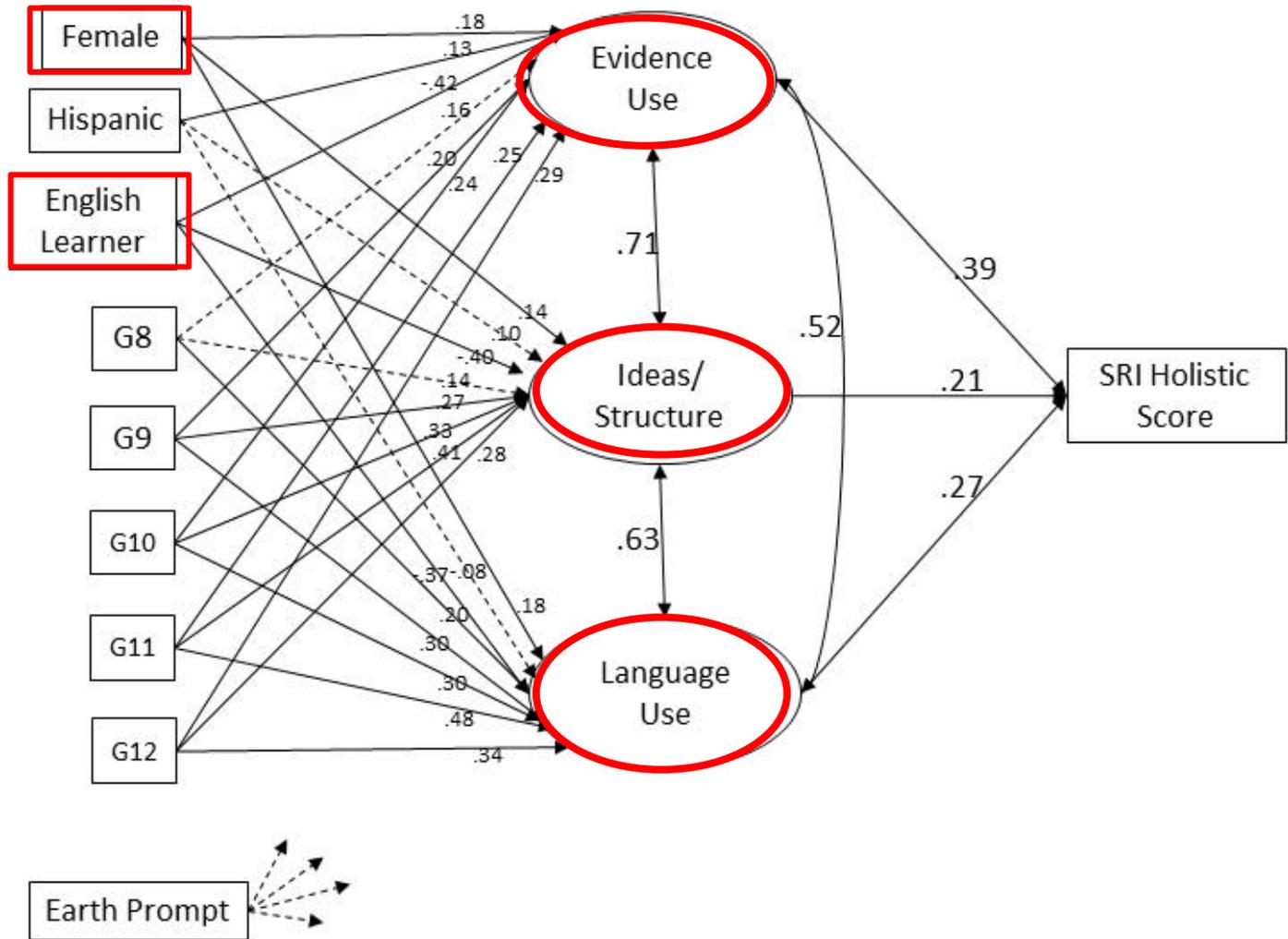
Figure 2



SEM



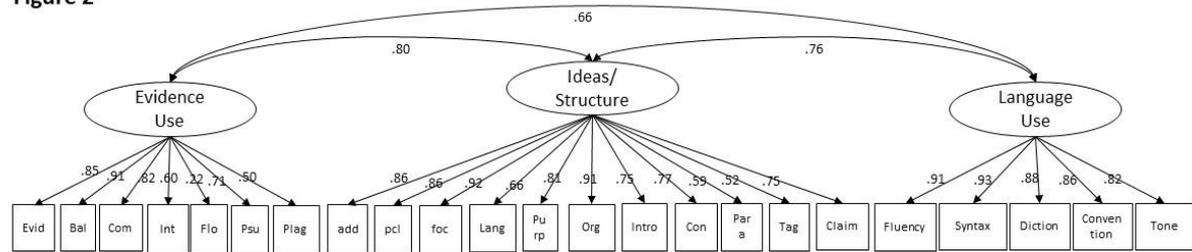
SEM



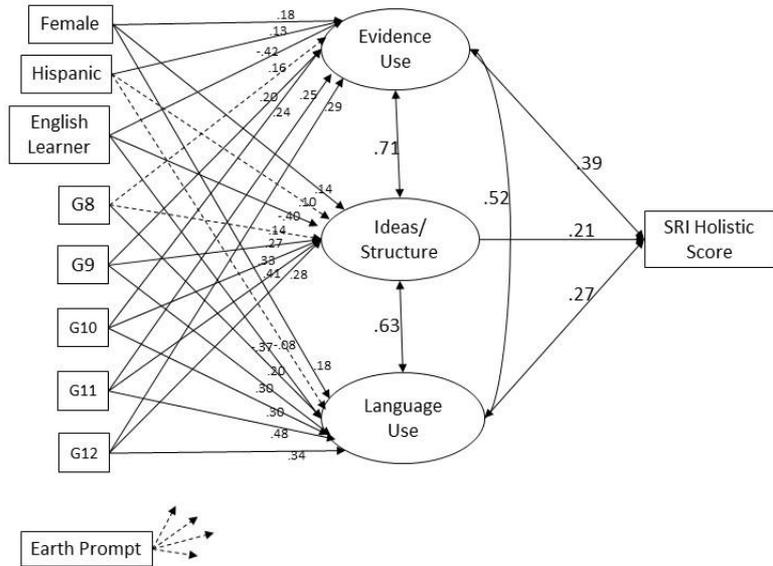
Significance

- **Multidimensional** view of writing quality
 - Through rigorous analytic coding
- Ideas/Structure, Evidence Use, and Language Use
- Three dimensions are dissociable but fairly strongly to strongly related to each other.

Figure 2

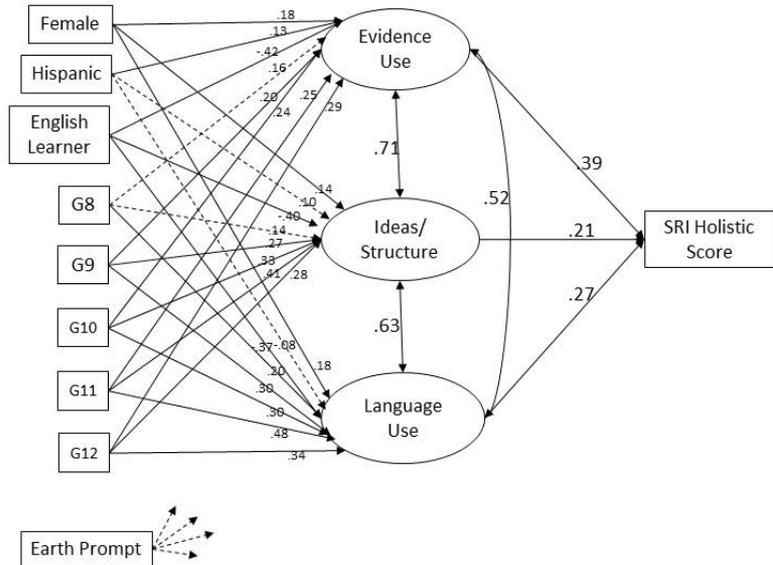


Significance



- All dimensions **predict** holistic scores
 - Attend to all components in measurement and instruction
- Affirms an instructional approach that attends to
 - General writing proficiency
 - Discrete skills like evidence use
 - Academic language needed to write in a challenging genre like source-based analytical writing

Significance



- **EL status** affected writing quality
 - at the sentence level (e.g. syntactic variety, diction, sentence fluency, conventions, tone)
 - as well as dimensions of writing related to the presentation of ideas, structure, and evidence use.
- ELs need support in **all** these **areas**, not just language
 - develop students' academic language as well as general writing proficiency (Olson et al., 2020; Short & Fitzsimmons, 2007)

Limitations and Next Steps

- Single school district
- Limited racial/ethnic diversity (72% Hispanic)
- Single variable for EL Status
- Ideas/Structure as single construct needs to be examined further



Thank you!

jsteiss@uci.edu



jkrishn@wested.org



young.kim@uci.edu



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Supplemental Slides

Holistic Scores

- An outside evaluator, SRI international, randomly sampled and scored a subset of essays from the intervention study (20%). Essays were scored by trained raters using the NWP-Analytic Writing Continuum (NWP-AWC; see Appendix B). All papers received a holistic score on a 6-point scale. In the present study, these holistic scores are used to determine the extent to which the dimensions of writing predict holistic writing scores