Future Directions for Writing Research at the Secondary Level

Technical Working Group Meeting

National Center for Education Research (NCER) and

National Center for Special Education Research (NCSER), Institute of Education Sciences (IES)

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The following meeting summary was edited by IES staff for clarity and consistency. Panel participants were allowed to review and comment on it, and their corrections were incorporated and clarifications were included as needed. The views expressed in this document reflect both individual and collective opinions of the meeting participants and not necessarily those of the U.S. Department of Education.

INTRODUCTION

On September 12, 2016, the National Center for Special Education Research (NCSER) and the National Center for Education Research (NCER) of the Institute of Education Sciences (IES) convened a group of experts to discuss and provide input on research needs in the area of middle and high school writing for students, including English learners (ELs) and those with or at risk for disabilities. The discussion focused on four topic areas: (1) argumentative writing, (2) support for struggling writers, (3) engaging adolescents in writing, and (4) assessment and feedback. Each session consisted of a brief review of the topic and introductory questions (see Appendix A), presenter remarks, and general discussion. The meeting concluded with each expert identifying the most critical research need from his or her viewpoint. This report summarizes the key points and themes that emerged from the presenters' remarks and discussion.

ARGUMENTATIVE WRITING

What are the most pressing research issues related to argumentative writing, especially as it pertains to writing in different content areas and integrating across texts?

What tools, strategies, or knowledge do teachers, especially content area teachers, need to effectively teach students argumentative writing?

Argumentative writing is used for many purposes and can be found in the academic writing produced in all disciplines. Moreover, teachers in all secondary content areas/subjects expect students to write arguments in school. However, argumentation is not a genre in and of itself; rather, it leads to a wide range of genres (e.g. written works that are distinguished based on form and style such as essays, letters, research reports, etc.). Features of an argument may include a claim supported by evidence, but what counts as evidence can differ by discipline. Although standards of argument differ across content areas (e.g., English versus science versus social studies), researchers continue to debate whether the process of argumentative writing may be similar across disciplines or content areas. If so, it would be efficient to design instructional strategies that can be adapted and applied across content areas. In addition, teachers would benefit from professional development focused on what argumentative writing looks like across content areas.

Argumentative writing can enable students to make connections across content areas, that is, as a way to think critically about ideas and experience. It can also foster learning beyond the classroom, enabling students to become critical thinkers and thoughtful human beings as they navigate the real world. The field needs to better understand: (1) how, why, and in what context argumentative writing is used within and outside of school; and (2) how argumentative writing supports participation and engagement in the classroom and how it shapes the construction of knowledge and self-efficacy in general.

There is a distinction between “argument in the discipline” and “argument as a way of thinking in the discipline.” However, in most secondary schools, content in state and district standards is taught as a linear set of facts to be memorized, which is largely dictated by state testing mandates, time constraints, and a wide-spread set of assumptions about transmission views of teaching and learning. Content-area reading and disciplinary literacy are not the same, but not all teachers understand this distinction. Disciplinary literacy includes reading, writing, listening, speaking, and thinking in ways that are specific to each discipline (e.g., scientists and mathematicians engage in different reading and writing acts). Content-area reading focuses on skills needed to understand and learn from subject-specific texts. Content area teachers need support to understand disciplinary ways of thinking and what it means for learning, and for teaching of writing. In this regard, teachers can conceptualize argument as not only a form or structure but also as a way to think in the discipline based upon different rules of evidence and argument.

Students can become confused when teachers in different content areas frame writing tasks differently around content and ignore how to think about content using argumentation and argumentative writing. Ideally, teachers should be able to collaborate within and across disciplines to plan assessments, review and discuss student work, identify areas of success and struggle, and understand what is developmentally appropriate within their respective content areas. The field would benefit from greater study of the types of teacher collaboration and support both within and across content areas that result in instructional support for desired student outcomes.

Teachers have different beliefs (i.e., epistemologies) about how argumentation should be taught or developed in their students. The design of a curricular intervention should consider the wide varieties and depth of experience, knowledge, and understandings of the teachers who will use the intervention. A good practice is to co-construct the intervention with the teachers and provide a feedback loop as they implement the intervention in their classrooms. Because it is common for teachers to stop using an intervention upon study completion, the field needs to identify ways to help teachers sustain use of the intervention by integrating the knowledge gained into their own approach to teaching writing after funding for projects and increased supports associated with that funding ends. In addition, teachers would benefit from instructional strategies that pivot from “learning to argue” toward “arguing as a way to learn.” Given the complexities of teaching and learning argumentative writing, such professional development work requires opportunities for job embedded, ongoing, collaborative learning.

Just as teacher development requires time, students also benefit from a long apprenticeship and immersion to gain a deep understanding of argumentative writing. Students’ skills evolve over many years based on developmental stage, context, and experiences and instruction they receive. Although all children “argue” from an early age, argumentative writing in academic contexts is not a natural skill and depends on instruction that is developmentally appropriate. The field would benefit from longitudinal research to understand how argumentative skills develop over time, as well as how teachers foster that evolution. The goal of having all students learn to write at the same level of high-quality performance may be unrealistic; rather, the goal

should be to move all students forward in using writing as a tool to promote thinking, learning, and participating in society. Recent research suggests that most adults use writing outside of school, but what argumentation and argumentative writing look like for different people in different occupations will vary. The field would also benefit from additional work in understanding what successful teachers do, how they adapt their instruction to changing instructional contexts and students' needs, and how particular approaches to instruction is linked to argumentative writing achievement. In addition, the field should develop a better understanding of teaching argumentative writing to children from cultures that engage in unique ways in argumentation as a social practice.

Finally, the field should leverage instructional practices that have already been identified as effective. However, the field needs to be innovative and willing to take chances. Ideally, multiple evidence-based instructional practices will result, increasing the number of tools from which teachers can select based on their particular context.

SUPPORT FOR STRUGGLING WRITERS

What are the most pressing needs for research to support struggling writers?

As the demographics of English Learners have changed with the influx of refugees and other immigrants from non-Spanish-speaking countries, what new challenges exist in the area of writing and what research is needed to support schools in meeting the needs of a more diverse group of English Learners?

What do we still need to understand about the role of teachers and technology in supporting struggling writers?

Strategies that support the cognitive skills required for proficient writing boost outcomes for all students. However, the focus at the secondary level tends to be on content acquisition, not necessarily writing skills themselves, which creates a barrier for all students, including those with disabilities and English learners (ELs) who have heterogeneous background knowledge and abilities.

Goals for students with disabilities may be driven by their Individualized Education Program (IEP), which are often not specific to content area standards, and therefore provide no guidance for content area teachers at the secondary level. Research is needed to understand writing instruction occurring in each tier of Response to Intervention implementation in secondary schools. For example, are connections being made between what students are learning in Tier 3 instruction and what they are learning in Tier 1 instruction?

Students with disabilities often experience failure. Research is needed to identify ways to re-engage them by exploring the benefits of: (1) providing students with agency (i.e., the level of control or choice students have over their own learning); (2) personalizing topics and texts to students' unique needs and interests; (3) providing scaffolds to progress to the more interesting work; and (4) devoting classroom time to reflection activities and peer discussions.

EL students at the secondary level have such diverse needs, largely stemming from their various backgrounds (e.g., EL students from varied cultural backgrounds with different writing styles, EL students with interrupted formal schooling experience who need foundational writing skills, long-term EL students who need to develop academic writing skills). Research is needed to understand how writing instruction can be tailored to different subgroups of ELs to address their various needs (e.g., foundational writing skills, writing processes, writing styles or certain structures, higher-order writing skills). Some teachers are working on ways to engage students from different cultures in classroom discourse, often referred to as culturally responsive pedagogy. This discourse then serves as a scaffold for writing, where talking becomes part of planning for writing. The needs of ELs are diverse; instructional strategies might include scaffolding, use of sentence frames, and analyzing model text. Development work is needed in technology-based writing tutors and self-management tools for ELs.

Writing involves careful planning, thinking skills as well as other oral language skills such as listening and speaking. A student can be exited from an English as a Second Language (ESL) program with improvements in oral language, while still being significantly behind in writing. Teachers need preparation to meet the needs of ELs; however, there is a lack of resources and support for teachers in this area. Development work is needed in the area of professional development to support teachers in this area. Research is also needed to understand effective feedback on writing for ELs. While a good body of research has been conducted with mainstream students, little is available on effective strategies for ELs who may have a language barrier to comprehend the feedback.

Research has been conducted on time spent writing in the United States and in other countries and it appears that time spent writing at the middle and high school is not in and of itself related to improvements in writing. Schools often devote only 1-2 hours per week to writing, which is not nearly enough time for struggling students, who benefit from practice and repetition. Although Advanced Placement or International Baccalaureate students may also receive only 1 hour per week of writing instruction, in contrast to struggling writers, they likely spend 10-20 hours engaged in writing outside of the classroom. Therefore, research is needed to understand how to maximize writing time so it is best used, especially for ELs and students with disabilities.

Early negative experiences with writing transcription and fluency can cause students to avoid writing, leading to lack of practice and continued difficulty, negative feedback, and perpetual avoidance. Engaging struggling writers involves sustained, comprehensive instructional models that include supports such as teacher modeling (with or without graphic organizers or other scaffolds), socially-valued activities and valued writing products for the community. Students also need choices and opportunities to have agency to write about topics in which they are interested. As mentioned above, technology offers promising opportunities to engage struggling students. However, technologies also present challenges, many of which are yet unknown, and are subjects for future exploration. For example, new technologies allow students to listen instead of read, which in turn may limit their exposure to examples of sophisticated sentence structures and text structures. Research is needed to better understand

how technology can be used to support the development of writing across a child's lifespan, especially for struggling students.

ENGAGING ADOLESCENTS IN WRITING

What do we need to understand about how to increase student engagement in writing?

How can technology be used to engage adolescents in writing?

What role do model texts or topics have in engaging adolescents in writing?

Students are motivated to write when the topic is interesting and meaningful, they are supported to explore the topic, and they are given the opportunity to engage in writing for a purpose with a real audience and where their writing can affect their community. Therefore, research is needed to understand:

- In what ways can instruction support students as they explore and expand their interests?
- What opportunities for short writing enable students to achieve small successes?
- What small successes along the way will sustain engagement in writing?
- How can we assess writing that occurs outside of school and school-based tasks (e.g., Are there different things to look for in a letter to the editor type of writing?)?

Using terms from modern expectancy value theory, five aspects of a student's beliefs might be important drivers of engagement, motivation, and perseverance: (1) capability to carry out a task (efficacy); (2) perception of the value and utility of the task; (3) rationale for engaging in the task (e.g., curious, bored); (4) mindset about why one is successful (attribution theory); and (5) identity as a writer (socio-cultural theory). The practical application of this theory to engaging adolescents in writing is to not only explain to students the value of writing, but also to show them that they can succeed as writers (via assessment), which increases their self-efficacy.

Exploring ways to change student mindsets from fixed (i.e., believing ability/talent are fixed traits) to growth (i.e., believing effort can improve ability/talent) is important to increasing motivation. In addition, changing motivation might require changing group identity (i.e., "my friends do not write, so I do not write"). Students must be provided with the tools and resources necessary for success, or they will likely persist in learned helplessness. Mindset is also important for teachers, especially teachers of students with disabilities and ELs who need to support the grade-appropriate, high expectations for these students. Research is needed to understand ways to change student and teacher mindsets related to writing.

Technology can be used to provide students with access to an outside audience. Even motivated writers do not want to revise and edit. However, an online setting where students can read and comment on others' writing may provide motivation to sustain attention to quality. Web-based writing environments are one way to connect students in a community, give them an audience, and provide them with opportunities for agency. In these online

environments, students can be given choices about what to read, discuss, and write about and to share their work with others and receive peer feedback. Research is needed to better understand how to prepare teachers to integrate these kinds of opportunities into their instruction to engage students.

Engaging students is important, but they also need to be taught the tools to succeed. As students acquire skills in writing their self-efficacy will improve. Therefore, struggling writers need strategies and opportunities for practice to improve their writing skills. Through assessment and feedback, students have evidence that they are more capable. Research is needed to better understand the strategies used by strong writers. For example, additional research is needed to better understand the importance of flexibility and then how to teach students to become more flexible so that they can be successful when given different writing prompts or situations.

ASSESSMENT AND FEEDBACK

What role does technology have in supporting writing assessment and teachers' and students' feedback on writing?

What do we need to know about the role of teacher feedback in improving student writing outcomes?

What do we need to know about the role of peer feedback in improving student writing outcomes, both for the feedback provider and receiver?

Current writing assessment instruments are blunt, meaning they are often not precise enough to inform students about areas in which work is needed. At the same time, teachers often provide too much feedback at one time. The field needs to understand the best measurement tools for student writing across the range of writing occasions—that is, broad tools for large-scale testing or small, nuanced tools for the classroom environment. In addition, the field needs to create occasions and prompts for assessment that move away from more formulaic writing.

Because writing is a science and an art, its measurement is difficult and demands flexibility. Therefore, the use of assessment rubrics (i.e., scoring guides that outline descriptions or criteria for different levels of quality) is an area that requires further exploration. Rubrics tend to be "one size fits all," which may not be appropriate if writing differs across content areas. The field needs methods to improve and be able to measure the internal consistency of rubrics, as well as methods to better align rubrics and tasks with instruction and standards. In addition, researchers need to investigate questions such as "How many performance levels should a rubric have?", "Should the performance levels vary, and if so, when?", and "How many constructs should a rubric measure?" Finally, the field requires better guidelines for interpretation of scores across various rubrics.

In addition to measures for teacher and student use, the field needs better measures for researcher use. The only way to know whether interventions or other efforts to improve student writing are working is by measuring writing effectively, but the field is still refining a

measurement system for writing. Also needed are more researchers in writing who have expertise in measurement and psychometrics, and greater collaboration between writing researchers and psychometricians to develop and validate assessments of writing.

Feedback is the predominant way that teachers interact with writing. Yet, many teachers report that their preparation for teaching writing, let alone providing feedback, is inadequate. Therefore, they create their own systems, likely based on the systems that they experienced in the past and that focus on grammar and sentence structure. Teachers would benefit from professional development that presents a different lens for assessing writing.

While there is a large body of research on feedback in general, little is known specifically about feedback on writing. It is not clear what types of feedback and strategies have the greatest impact on improvement of student writing. Teacher feedback should be associated with the specific learning goals set out for the task, and should provide students with areas for improvement in their next writing task. Teachers tend to believe that a lot of feedback is good, but that might not be the case. Because teachers often feel they need to provide a lot of feedback, they may limit the amount of writing they ask their students to do.

Some teachers may not have time to provide feedback. One solution to limited teacher time for feedback may be to incorporate peer feedback or self-assessment. Peer feedback may help both the reviewer and the student who receives the feedback to improve the quality of their writing. If feedback comes from their peers it may resonate more than if feedback comes from the teacher. Students may need instruction on how to provide effective peer feedback so that the other student can implement changes to her/his writing based on the feedback. This type of instruction can move students beyond peer feedback that is only praise or criticism to feedback that is actionable.

Many researchers have begun to study feedback. Computer scientists are studying the different types of feedback (e.g., praise, criticism, summary), as well as the properties of feedback that make it actionable, with the goal of automating some of the analyses. It is not clear what specific feedback (e.g., on structure, grammar) has the biggest impact on student writing. Technology is intended to supplement, not replace, the work of humans in terms of both instruction and assessment. Technology can play an important role in student writing practice by providing tools such as spelling and grammar check and the use of features to have a passage read back by the computer. Recently, researchers have moved beyond practice to introduce scoring and evaluation/feedback, as well as strategies, customized instruction, and scaffolded support and feedback. The provision of automated feedback requires algorithms that demonstrate validity, that is, feedback that actually matters and is motivational. The field would benefit from studies of the validity of computer provided formative feedback, specifically whether the feedback offered by computers is consistent with that offered by expert writing teachers.

Research funding can facilitate the following trends in the natural language processing field:

- Build infrastructure for big data that the larger community can use;

- Track the revision process (e.g., draft 1, draft 2) ;
- Develop source-based assessments to integrate reading and writing; and
- Expand tools to support teachers who are developing materials.

FUTURE DIRECTIONS

Participants identified the following critical research needs:

- Valid and reliable summative measures of writing outcomes, as well as assessment tools to be used by secondary teachers to provide formative feedback;
- Nuanced assessment tools for use in the classroom and more personal learning environments;
- Instructional practices and professional development for teachers that can be generalized across context and content for all learners;
- Understanding of how learning happens in different contexts;
- Understanding of argumentative writing development and effective approaches to argumentative writing instruction within and across content areas and disciplines;
- Theoretical and conceptual work on motivation, including an understanding of how motivation and engagement evolve over time and connects to skills; and
- Understanding of writing instruction needs for a diverse EL student population.

APPENDIX A

MEETING AGENDA

9:00 **Welcome**

Joan McLaughlin, Commissioner, National Center for Special Education Research
Tom Brock, Commissioner, National Center for Education Research

9:15 **What Do We Know About Writing Instruction?**

In this session, IES staff will briefly review some of the research IES has funded and raise some key questions about writing instruction for adolescents.

What do secondary students need to know how to do when it comes to writing?

What differentiates high-quality writing from low-quality or average writing?

Has technology created any additional demands or novel opportunities for secondary student writing?

Presenters:

- **Becky McGill-Wilkinson**, National Center for Education Research
- **Sarah Brasiel**, National Center for Special Education Research

9:45 **Argumentative Writing**

Argumentative writing requires students to explore a topic, collect and evaluate evidence, establish a position on the topic, and consider (and refute) alternative positions. Argumentative writing often involves using evidence from text and integrating information across multiple texts. Because middle and high school students usually do not have a dedicated writing class, they are often asked to write in content area classes, and argumentative writing can occur in all content areas.

What are the most pressing research issues related to argumentative writing, especially as it pertains to writing in different content areas and integrating across texts?

What tools, strategies, or knowledge do teachers, especially content area teachers, need to effectively teach students argumentative writing?

Presenters:

- **Steve Graham**, Arizona State University
- **Skip MacArthur**, University of Delaware
- **George Newell**, The Ohio State University
- **Chris Moore**, Olentangy Liberty High School

10:45 **Break**

11:00 **Support for Struggling Writers**

The demands of the new standards for writing may increase the challenges that struggling writers face. Some students who struggle with writing lack foundational writing skills such as spelling, handwriting, vocabulary, and sentence construction. Others have challenges just generating ideas to begin to write. Students with disabilities and English learners may also struggle with writing and need support targeted to their unique areas of need. However, more research is needed to understand how teachers can effectively support the needs of diverse learners in their classroom at the secondary level.

What are the most pressing needs for research to support struggling writers?

As the demographics of English Learners have changed with the influx of refugees and other immigrants from non-Spanish-speaking countries, what new challenges exist in the area of writing and what research is needed to support schools in meeting the needs of a more diverse group of English Learners?

What do we still need to understand about the role of teachers and technology in supporting struggling writers?

Presenters:

- **Susan De La Paz**, University of Maryland
- **Linda Mason**, University of North Carolina at Chapel Hill
- **Mikyung Wolf**, Educational Testing Services (ETS)

12:00 **Lunch**

Lunch will be on-site with time for informal discussion of issues raised during the morning sessions.

1:00 **Engaging Adolescents in Writing**

Teachers can engage students in writing by structuring activities so that students are actively involved. This could include opportunities for students to collaborate with peers on a writing assignment, and to choose writing topics of personal interest. There are also technology solutions to engage students in writing. However, more research is needed to understand effective approaches for engaging students in writing in ways that improve writing outcomes, especially for students who struggle with writing and may be more resistant to participate.

What do we need to understand about how to increase student engagement in writing?

How can technology be used to engage adolescents in writing?

What role do model texts or topics have in engaging adolescents in writing?

Presenters:

- **Jose Blackorby**, CAST, Inc.
- **Danielle McNamara**, Arizona State University
- **Linda Friedrich**, National Writing Project

2:00 **Assessment and Feedback**

Formative and summative assessments for writing in middle and high school may involve asking students to compose sentence-length short answers or longer essays, but research suggests that scoring of writing quality is often difficult or unreliable. Human scoring of assessments can be unreliable, but automatic, computer-based scoring is often limited to assessing grammar, sentence length, or spelling. At the same time, teachers and peers often provide feedback on writing, but it is unclear whether such feedback actually improves writing outcomes. While assessment and feedback can theoretically be used to inform instruction and improve writing, little is known about the extent to which this is true.

What role does technology have in supporting writing assessment and teachers' and students' feedback on writing?

What do we need to know about the role of teacher feedback in improving student writing outcomes?

What do we need to know about the role of peer feedback in improving student writing outcomes, both for the feedback provider and receiver?

Presenters:

- **Natalie Olinghouse**, University of Connecticut
- **Diane Litman**, University of Pittsburgh
- **Carol Booth Olson**, University of California, Irvine

3:00 **Break**

3:15 **Future Directions**

This session will wrap up any discussions from early sessions and ask each participant to indicate which research need he/she views as most critical.

3:45 **Closing Remarks**

Joan McLaughlin, Commissioner, National Center for Special Education Research
Tom Brock, Commissioner, National Center for Education Research