

Self-Regulated Strategy Development in Writing: Policy Implications of an Evidence-Based Practice

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Abstract

U.S. students are not performing well in writing, both typically achieving students and students with learning disabilities (LD). Factors that impact learning to write include the complexity of writing and learning to write, challenges in developing effective writing instruction, teacher preparation for teaching writing, and instructional models in use in today's schools. These factors have influenced the development of Self-Regulated Strategy Development (SRSD) for writing, and its scientific evidence base. Potential policy implications follow from SRSD research in the areas of evidence-based practices, teacher development, curriculum development and reform, and research. For evidence-based practices such as SRSD to transform education, as they have medicine, effective partnerships between policymakers and education stakeholders, our students, and our schools are critical.

Keywords

writing, learning disabilities, Self-Regulated Strategy Development, SRSD, instruction, evidence-based practice

Tweet

Self-Regulated Strategy Development for writing can help everyone: teachers and students, with and without learning disabilities.

Key Points

- Most U.S. students are not capable writers, demonstrating significant difficulties with narrative, informative, and persuasive writing.
- The complexity of writing challenges teachers, as well as students.
- Self-Regulated Strategy Development for writing offers evidence-based benefits for writing instruction.

Introduction

U.S. students do not write well, true for both typically achieving students and students with learning disabilities (LD). Writing instruction in our schools is among the factors that impact learning to write. These factors have influenced the development of Self-Regulated Strategy Development (SRSD) for writing, and this article presents the scientific evidence base for SRSD. SRSD is an instructional approach for teaching composing across grades and genres, including persuasive/opinion, informative/explanatory, and narrative/story writing. Although this approach to teaching writing

was initially developed in the early 1980s by Harris (cf. Harris & Graham, 2009; in press) for students with LD, more than 100 studies of SRSD have subsequently been conducted with typical learners across Grades 2 to 12 and with adults. SRSD is an effective method for teaching writing strategies to students who represent the full range of writing ability in a typical class, as well as struggling writers and students with varying disabilities. Finally, we discuss potential policy implications drawn from SRSD research.

Writing Performance Among U.S. Students With and Without Disabilities

Historians consider writing such a critical aspect of humanity that they distinguish between prehistory and history, with history defined by the invention of writing more than 5,000 years ago (Harris, Graham, Brindle, & Sandmel, 2009). Students who struggle significantly with writing are at a terrible disadvantage. By the upper elementary grades, writing becomes an essential tool both for learning and for showing what you know, and writing is one of the primary cornerstones for

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building content learning (Bangert-Drowns, Hurley, & Wilkinson, 2004; Graham & Hebert, 2011). Writing, like reading, is a foundational skill that can boost comprehension and achievement across all subject areas. Writing allows us to gather, explore, refine, organize, extend, preserve, and transmit information and understandings; make ideas available for consideration, evaluation and future discourse; and demonstrate our knowledge.

Writing is an integral part of today's work (National Commission on Writing, 2006). More than 90% of white-collar and 80% of blue-collar workers' jobs involve writing (National Commission on Writing, 2005). High-level literacy skills are required for most jobs that pay a living wage today, with this likely to increase over the near future (Berman, 2009). Our knowledge economy demands high levels of literacy and strong communication skills for all workers (The Conference Board, 2006). Jobs today require, on average, a higher level of literacy skill than entry-level jobs did just 10 or 20 years ago, and this trend is accelerating (Business Roundtable, 2009).

More and more, experts tell us that many of the skills students need for success in college and the skills they need for success in the workplace are the same (The Conference Board, 2006). Writing is one of these critical skills. K-12 students and adults who struggle with writing, including those with LD, face challenges drawing on its power to support their learning and development. Lack of competence in writing puts students at risk for school failure, and the consequences extend beyond the school years (Graham & Perin, 2007).

How Are We Doing in Developing Writing Abilities?

The simple answer is, not well. A major problem facing our schools today is that the majority of our students are not capable writers; they demonstrate significant difficulties with narrative, informative, and persuasive writing.

- The National Assessment of Educational Progress (NAEP) data show that writing performance has remained stagnant for decades (National Center for Educational Statistics, Aud et al., 2012).
- In 2011, only 27% of eighth- and 12th-grade students scored at or above proficient on the writing portion of the NAEP; 20% of eighth-graders and 21% of 12th-graders scored "below basic," meaning they are unable to perform at even the minimum standard for their grade level.
- Students with disabilities and English language learners show even lower performance on the NAEP—only 5% perform at the proficient level and only 1% perform above the proficient level, respectively.
- Students with LD score meaningfully lower than their normally achieving peers on critical aspects of

writing: quality, ideation, organization, vocabulary, voice, sentence fluency, conventions (spelling, grammar, and handwriting), genre elements, output, motivation, self-regulation, and knowledge (Graham, Collins, & Rigby-Wills, 2015).

- The class of 2012 attained an average score of 488 (out of 800) on the writing portion of the SAT, the lowest score since the assessment was introduced in 2006.
- According to the College Board, only 43% of SAT testers in the class of 2012 are ready for college-level work (College Board, 2012).
- Two billion dollars is spent each year on remedial courses for postsecondary students (Fulton, 2010).
- Almost one in every five first-year college students requires a remedial writing class, and more than one-half of new college students are unable to write a paper relatively free of errors (Intersegmental Committee of the Academic Senates, 2002).
- Businesses spend 3.1 billion dollars annually to remediate workers whose writing skills are lacking (National Commission on Writing, 2004).

What Factors Help Explain Where We Are and Where We Need to Go?

Four main factors are relevant to policy implications we draw later based on our research and have driven this research on SRSD (and professional development for teachers on SRSD): challenges inherent in learning to write, challenges inherent in developing effective writing instruction, teacher preparation in teaching writing, and current instructional methods in our schools today for writing.

Challenges inherent in learning to write. After a long, hard day at work, do you go home and read for relaxation, pleasure, entertainment, or to learn about something that deeply interests you? When we ask large groups of educators this question, nearly every hand goes up. Then we ask, after a long, hard day at work, do you go home and write for relaxation, pleasure, entertainment, or to learn about something that deeply interests you? Very few hands go up, and these individuals most frequently talk about writing blogs or poetry. Writing and reading share many important aspects, but they remain very different beasts (IRA/NICHD, 2012). Instruction in reading and writing requires some integration of the two, but from a solid base of competence in both (Graham & Harris, 2016; Harris & Graham, 2014).

Skilled writing is complex, requiring extensive self-regulation of an intricate process. In addition to basic skills, students must also develop understandings about the writing process, genre knowledge, and strategies for writing and self-regulating the writing process (Graham, 2006; Harris & Graham, 2009). Among skilled writers, writing is a flexible,

goal-directed activity that is scaffolded by a rich knowledge of cognitive processes and strategies for planning, text production, and revision (Harris & Graham, 2009). Skilled writers are sensitive to the functions their writing is intended to serve and use effective self-regulation strategies throughout the recursive writing process. Finally, skilled writers evidence topic knowledge, motivation, and persistence. Researchers agree that writing is a complex activity, and that learning to write is, therefore, potentially even more complex (Harris & Graham, in press). Expertise in writing does not develop easily, and development needs to be explicitly supported for most students across the K-12 grades and into postsecondary employment or education as appropriate.

Challenges inherent in developing effective writing instruction.

Although researchers have elucidated what strong writers do, the knowledge base on how to help students become skilled writers is woefully incomplete (Graham, 2006). In part, writing lacks the wealth of developmental data available in reading and math. This lack of a well-established developmental sequence in writing has meant that curriculum developers and educators, including the developers of the Common Core State Standards (CCSS; 2012) for writing, have had to make educated guesses when deciding what to emphasize in writing development and when to teach it. Furthermore, writing research has received far less funding and attention than research in reading or math/STEM (science, technology, engineering, and math). As a result, we do not have sufficient evidence base on effective methods for teaching and developing the basic and advanced aspects of writing.

The NAEP data, national reports on writing, and the CCSS standards for writing have helped bring writing onto center stage with reading and STEM. The CCSS in writing focus on acquiring foundational writing skills (such as handwriting, keyboarding, and spelling). Students are expected to learn how to write skillfully in multiple genres (with an emphasis on persuasive, informative, and narrative writing), routinely use shorter as well as extended writing applications to conduct research in subject-matter courses, and apply writing as a tool for analyzing, understanding, and recalling information from text and classroom experiences. CCSS further emphasizes students' mastery of various writing processes (e.g., planning, editing, and revising) and digital tools. These standards are helping to shape a new perspective on when and what to teach students in writing, although questions remain about the developmental appropriateness of some standards at some grade levels. Thus, although CCSS is not perfect in the area of writing, and changes will undoubtedly be needed based on ongoing research and classroom experiences, it offers a beginning roadmap for writing development across the grade levels.

Teacher preparation in teaching writing. Inadequate teacher preparation for teaching writing is a major factor in the poor

writing performance of students today. The majority of teachers report inadequate pre-service preparation in writing instruction (typically less than one course), rarely implement evidence-based practices (EBPs), and frequently have difficulty meeting diverse writing needs in their classrooms (e.g., Applebee & Langer, 2011; Kiuahara, Graham, & Hawken, 2009). Elementary school teachers report being significantly less prepared to teach writing than to teach reading, math, and science. Many teachers report low self-efficacy for teaching writing and do little writing outside of their jobs (Brindle, Graham, Harris, & Hebert, in press). Furthermore, teachers who feel less prepared and less positive about writing teach it less. While teachers do report using some EBPs to teach writing, they use these practices infrequently (Applebee & Langer, 2011; Kiuahara et al., 2009).

Furthermore, little time is spent teaching this complex skill. In surveys, teachers reported that students receive little instruction in writing after third grade (cf. Applebee & Langer, 2011; Kiuahara et al., 2009). In Grades 4 to 6, teachers reported spending only about 15 min a day teaching writing. Secondary teachers indicated writing instruction occurred infrequently, especially outside of the English period. Across grades, instructional adaptations for weaker writers were also uncommon in many classrooms. Furthermore, teachers reported that elementary students spend only about 20 to 25 min a day writing text, whereas much of the writing done by secondary students involved tasks such as filling out worksheets, making lists, writing one-sentence responses to homework questions, and composing a brief summary of material read. Writing was not particularly common in English classes, and even less so in content subjects such as science and history. The National Commission on Writing (2003) reported that of the three "Rs," writing has become the most neglected in classrooms today.

Current instructional methods for writing. Many of the major approaches to teaching writing used in schools today have been developed based on theoretical stances and general research on learning and writing, and lack a sound evidence base. The widespread adoption of whole language and process approaches in instruction is an example. These movements developed in response to the product-oriented model of writing instruction that prevailed in U.S. schools until the late 1980s. Mechanics and grammar tended to be emphasized over content and process in the product-oriented model. In contrast, whole language, or process writing approaches, emphasize features such as creating an environment where students choose their own topics, help each other, take risks, learn about writing through discussion and emulation of what they read, and spend time writing (Harris & Graham, 2009, in press).

Although definitions and practices vary widely under the terms whole language and process writing, many approaches

soundly reject any supported, explicit instruction in writing strategies and abilities. Advocates of these approaches believe that through rich immersion in authentic learning experiences, students will come to learn all they need to know, and develop all of the skills and abilities they need, in due developmental time. Learning to read and to write is believed to occur “naturally” within such environments. Although these approaches have done much to help us think about improving our approach to writing instruction, research indicates their effects on writing development have been relatively small, and that many typically achieving students do not thrive in writing, or reading, in these approaches (Graham & Harris, 1997; Moats, 2007). Given the complex nature of skilled writing and its development, effective instruction likely requires integrating all of what we know about writing, its development, and EBPs in writing instruction. Although the body of research on SRSD supports this conclusion, SRSD is not a complete writing program, and such integration has yet to be achieved on a large scale.

The Development of, and Evidence Base for, SRSD

These issues discussed so far clarify why writing is difficult across the grade levels for so many students and why writing achievement is a concern in this country. These issues have also impacted the initial and ongoing development of SRSD. Given the complex demands of writing and of teaching writing, SRSD is a complex, multicomponent intervention. Elements of the SRSD approach to writing instruction all are based on sound evidence of their meaningful effects on cognition, affect (including motivation and attitudes), and behavior (such as persistence with difficult writing tasks). These elements and the characteristics of SRSD have developed based on sound research evidence across multiple theories and lines of research, rather than any single theoretical or research perspective (Harris & Graham, 2009, in press; Harris et al., 2009). Single theories of writing, learning, and teaching simply do not adequately address the complex nature of learning to write and the diversity among our students.

Genre studies (examining the elements and characteristics of effective writing within and across genres) go at least as far back as the ancient Greeks, including Aristotle (Bawarshi & Reif, 2010). The genre-based and general writing strategies targeted for SRSD instruction have been developed through careful analysis and study of each genre and of strong writers in these genres. This work has been conducted in modern times over several decades by our team and many others, including multiple state and teacher groups, The National Writing Project (cf. http://www.nwp.org/cs/public/print/resource_topic/teaching_writing), children’s authors (cf. <http://www.suzanne-williams.com/>) who write about teaching writing for teachers, and many more.

Scholars in genre study or composition studies (cf. Bazerman, 2008; Cope & Kalantzis, 1993) have also devoted their work to study of genres, and for some, the implications for K-12 instruction.

Furthermore, SRSD development has been informed by research on aspects of effective writing instruction (Graham & Harris, 2013; Olinghouse, Graham, & Harris, 2010). Briefly, SRSD instruction includes interactive, discourse based, scaffolded, explicit learning of genre knowledge and strategies for genre-specific and general writing, the knowledge (such as vocabulary and background knowledge) needed to use these strategies, and strategies for self-regulating strategy use and writing behavior (e.g., goal setting, self-assessment, self-instructions, and self-reinforcement). SRSD instruction takes place across six flexible, recursive, and highly interactive stages, with gradual release of responsibility for writing to the student. Theoretical and empirical integration continues, with the goal of refinement and greater understanding of a robust, versatile, and flexible model of instruction.

Multiple elements of SRSD instruction help teachers deliberately and repeatedly support students in development of self-regulation, motivation, positive attitudes toward writing, and belief in themselves as capable writers. Teachers use their knowledge of students’ strengths and needs to differentiate both what and how they teach (Harris & Graham, in press; Harris et al., 2009). SRSD is a mastery-based approach, meaning students move through SRSD stages of instruction as they meet criteria for knowledge, understanding, and writing. Students are given the time, feedback, and experience with the critical knowledge and strategies needed to make them their own. Multiple procedures that promote long-term maintenance (the desire and ability to continue using strategies after instruction ends) and generalization (appropriately and effectively applying strategies to other writing tasks and settings) are integrated throughout the SRSD stages of instruction.

The total time required for students to learn and independently use targeted writing and self-regulation strategies will, of course, vary; however, it often takes less time than teachers anticipate. With elementary-aged students, 8 to 15 lessons conducted over 4 to 8 weeks is often sufficient to reach initial independent performance and ownership of a set of strategies in a writing genre (cf. Harris et al., 2009). Given the importance of the three major genres of writing (persuasive, informative, and narrative) identified in the CCSS, giving students the time they need to learn writing and self-regulation strategies and enhance their writing is critical.

The Evidence Base for SRSD

More than 100 studies of SRSD have been conducted from Grades 2 to 12 and with adults across several countries and

multiple research teams (Graham & Harris, 2013; Harris & Graham, in press). This research indicates SRSD instruction is effective with typically achieving students; struggling writers without an identified disability; students with LD, emotional behavioral difficulties, attention deficit disorders, and autism.

Meta-analyses have shown that SRSD achieves significantly higher effect sizes, or impact on learning to write, than any other researched instructional approaches in writing (Graham et al., 2012). SRSD improves five main aspects of students' performance: genre elements included in writing, quality of writing, knowledge of writing, approach to writing, motivation, and self-efficacy.

SRSD for writing was deemed an EBP for typically achieving and struggling writers in the U.S. Institute for Education Sciences *Practice Guide: Teaching Elementary School Students to Be Effective Writers* (June 2012) and by a panel of independent researchers focused on outcomes among students with disabilities (Baker et al., 2009). SRSD received strong ratings from the U.S. National Center on Intensive Interventions and was identified as having the strongest impact of any writing instruction approach in *Writing Next: Effective Strategies to Improve Writing of Adolescents in Middle and High Schools*, commissioned by the Carnegie Corporation (2007; cf. Graham & Perin, 2007). SRSD research has developed writing strategies (with the assistance of teachers and their students) for multiple genres. SRSD research has also integrated reading and writing strategies to improve reading, writing, and learning (Graham & Harris, 2016; Graham et al., 2012; Harris & Graham, in press).

Potential Policy Implications Drawn From SRSD Research

Although SRSD for writing has been recognized as an evidence-based instructional practice resulting in meaningful gains across typically achieving students and students with disabilities, schools do not widely apply it. Furthermore, as noted, it does not represent a complete writing program or curriculum. In addition, numerous unanswered research questions in writing will further refine SRSD; numerous research questions regarding SRSD also need to be addressed. These limitations in writing and SRSD research, as well as the existing research in writing and in SRSD, lead to four major implications for policy. First, we note implications relevant to the growing EBP movement in education. Second, implications for policy in teacher development are considered, followed by policy implications for curriculum development and reform. Finally, implications for policy in terms of research are suggested.

Policy Implications for EBP

The Federation of Associations in Behavioral and Brain Sciences (FABBS) is committed to the shared goal of

building a solid foundation for advancing the sciences of mind, brain, and behavior in this country to promote human potential and well-being (<http://www.fabbs.org/about-fabbs>). Policies, and policymakers, are critical to this goal. The acceptance and growth of effective use of EBPs has the potential to be transformative in education, as it has been in medicine, agriculture, and technology.

As former teachers, we entered the field of educational research with a commitment to effective practices in the teaching and development of writing that were strongly supported by research. For far too many decades, the adoption of curriculum and teaching methods in this country has been driven by "Pied Pipers," engaging and effective speakers and writers with a method or theory to sell to their colleagues, schools, and parents, but who do not have the evidence to back their claims regarding that actual product (cf. <https://www2.ed.gov/rschstat/research/pubs/rigorous-vid/rigorous-vid.pdf>; Schmoker, 2015). Continued strong support by policymakers regarding the potential of EBPs in education is needed to keep investment in this movement center stage and ongoing. We hope that the evidence base for SRSD makes a contribution to the growing swell of research that defies paradigm wars, ideology, and Pied Pipers, and puts the future of our students' learning on track for positive and lasting change.

This will not be an easy, or quick, road for education; without strong leadership, this new and vulnerable pathway is endangered. Although funding is certainly an important aspect for strengthening the EBP movement in education (and something we will return to), so much more can be done. First and foremost, policy and policymakers can assist in the clear communication of what an EBP is, what the results of EBPs look like, compared with business as usual, and the need to get these practices in schools. At the same time, we do not have an evidence base for all of what our schools and teachers are entrusted with doing, and the challenges ahead and time this will take need to be recognized.

Our experience with SRSD being recognized as an EBP can illuminate some of the challenges here. Although SRSD clearly makes meaningful differences in writing development, some engaging and prominent leaders in education have characterized it in ways that are inaccurate and misleading, resulting in reluctance to learn more about and try SRSD in schools and among teachers. For example, prominent educators from radical constructivist perspectives, such as extreme examples of whole language, have described SRSD instruction as cold; teacher rather than student centered; uncaring; and aimed at creating "robotic," cookie-cutter writers. We hope our description of SRSD here has made it clear how uninformed and inaccurate this is.

Some leaders in the field of composition studies, who have a great deal of influence on writing research funding and publication, as well as on educators, have made similar claims. In addition, they have stated that SRSD is not based

on deep study of composition or genres, does not respect writing as a process, and leads teachers to treat students as “stagnant” objects rather than dynamic learners. Obviously, they have not deeply studied or ever seen SRSD in action. One group recently claimed that SRSD and other instructional research in writing that has shown very positive outcomes for English language learners is “racist” in nature, stating that it is a “product of state and national policies that are driven by a lack of knowledge about bilingualism . . .” and a “fundamentally racist perspective” (personal communication, Anonymous Reviewer, June 18, 2012) on the part of politicians and researchers regarding students who do not yet speak English in our schools.

Sadly, this sort of rhetoric from influential scholars creates significant and divisive damage. Although we long ago grew thick-skinned, teachers need to hear voices that make it clear that such misinformation and caricatures are posed by those who have never seen or used SRSD and other EBPs, and who frequently do not work in schools with children. This sort of ad hominem attack aimed at emotions rather than fact and science-based reasoning is readily apparent and increasing, as EBPs continue to be identified in reading and STEM, as well as writing. Without much cost, policymakers can sponsor accurate information and open discussion that help terminate this damage. Transformational leadership regarding EBPs, shared by policymakers, will make a difference in education, as it has in medicine (cf. Aarons, 2006).

Policy Implications for Teacher Development

The emergence of EBPs in education creates meaningful demands on teacher preparation, both pre-service and in-service. Policymakers can create opportunities that bring together those deeply invested in teacher development, including teacher preparation programs and professional developers, to accelerate integrating these practices into teacher development. Despite recent reports that professional development is largely ineffective, even based on contemporary approaches (cf. Hill, Beisiegel, & Jacob, 2013; Schmoker, 2015; The New Teacher Project, 2015), four experimental or randomized controlled trials have found that practice-based professional development (PBPD) for SRSD in writing resulted in significant and meaningful outcomes for general-education teachers and their students (cf. Harris & Graham, in press; Harris, Graham, & Adkins, 2015; Harris et al., 2012). We need to know a great deal more about moving EBPs into schools, and researchers who know these practices well and how to support them in schools should be part of this work (rather than explicitly prohibited from leading research on scaling up as required by some funding agencies). Here again, shared leadership by policymakers can be transformational in the study and scaling up of effective EBPs.

The importance of teachers as key to student learning is well-recognized; meaningful impact on student outcomes

and school performance cannot be obtained without addressing teacher preparation (Harris et al., 2012). As indicated, teachers need deep and powerful preparation in the teaching of writing, support in developing young writers, and a larger EBP base. Advocacy, policy, and support for continued progress in identifying effective, evidence-based means of teacher development is also critical in advancing EBPs in schools. Policymakers helped transform the preparation of teachers in reading, based on science, and can do so again in writing.

Policy Implications for Curriculum Development and Reform

In addition to the knowledge, strategies, and motivation to use EBPs in teaching writing, teachers need time to teach writing, and students need time to learn and to write across the K-12 grades. As noted, skilled writing is complex and requires extensive self-regulation of an intricate process. Learning to write is a long, developmental process, and one that schools are not currently engaging well. We need to address learning to write beyond the early elementary years, and we need to prepare and support all teachers, including middle and high school teachers, to share in the development of effective young writers. Finally, as the CCSS in writing drives both state and national testing, policymakers need to share responsibility in redesigning the writing curriculum.

Policy Implications for Research

Although we could write an entire paper on research needs in writing, we will be brief here. The needs in ongoing research in writing follow logically from our earlier discussions of why writing is challenging and how little we know regarding normal development in writing. Without this developmental data in writing, we will continue to set up expectations for students and their teachers that may be developmentally inappropriate. If CCSS goals are inappropriate, performance on CCSS-aligned assessments will be misinterpreted as failures by teachers and students, rather than as flawed goals and assessments. We need more and better practices, supported by research, for formative assessment of writing, as well as formal assessment of writing. In addition, we need to develop far more EBPs in writing. As we have argued frequently, SRSD is neither a complete writing program nor a panacea. Furthermore, it does not address aspects of writing such as handwriting, keyboarding, spelling, and grammar.

Many other research needs remain for SRSD to meet its potential in schools. When teachers and students achieve the goals of SRSD in differing genres, this represents only a beginning in that genre, not an ending. We know little about how best to support teachers and schools in writing development from here, and again longitudinal research is badly needed across EBPs in writing. Although SRSD has been used effectively by general-education teachers in their

classrooms (also referred to as Tier 1), there is far more research on SRSD with small groups (Tier 2) and individual students (Tier 3). The research we have at the classroom level indicates that results are not quite as strong for all learners as they are at Tiers 2 and 3, and that teachers face many challenges in differentiating SRSD instruction for the diverse learners in their classrooms (Harris & Graham, in press; Harris et al., 2015; Harris et al., 2012).

Currently, education researchers and policymakers face significant budgeting challenges, as well as challenges in authorizing funding targeted at the science of teaching and learning. Despite these challenges, policy leaders, researchers, organizations, educators, and others must share the responsibility for keeping education in the foreground and for establishing a clear understanding of why research in education, including research on EBPs, is critical to our national interest. For EBPs such as SRSD to be transformative in education, as they have been in medicine, effective partnerships between policymakers and those invested in education, our students, and our schools are clearly critical.

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