

Disciplinary Literacy:

A Cure for the Illiteracy Epidemic Plaguing America's Public Schools?

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According to the National Commission on Adult Literacy, “America is losing its place as a world leader in education, and in fact is becoming less educated... Every year, one in three young adults—more than 1.2 million people—drop out of high school. Even more alarming, many high school graduates who do complete high school lack basic skills and readiness for job training and college” (2008, p. v). An increasing amount of high school drop-outs, a growing population of underserved English learners from abroad, declining numbers of parents capable of teaching their children how to read, and a decreasingly prepared adult workforce all point to the emerging and undeniable realization that the United States is facing a multigenerational literacy crisis (NCAL, 2008, pp. v-vi).

Some see disciplinary literacy as a solution to America’s literacy problem. Its proponents loosely define disciplinary literacy as a non-traditional reading strategy that challenges and develops student literacies through the meta-analyses of model texts (Håland, 2017, pp. 457-458). Unfortunately, disciplinary literacy is an ambiguous construct that perplexes teachers and policymakers across the entire spectrum of the education community—even higher education scholars wrestle with its abstruseness (Spires, Kerkhoff, Graham, Thompson, & Lee, 2018, pp. 1403-1406). Why then, has America’s public education system, along with so many of its vast appendages and associated agencies, widely adopted this enigmatic and ethereal strategy? Is disciplinary literacy really a cure for America’s literacy ills or is it, instead, nothing more than a false panacea for one of the greatest epidemics plaguing today’s teachers and students?

This literature review therefore aims to demystify the relative value of disciplinary literacy in education by answering a single question: Is disciplinary literacy a valid teaching and learning strategy for improving student reading and communication skills in public schools (K-12)?

Key Terms & Definitions

Adolescent Literacy – Pre-teen and teenage students communicating and thinking amid a backdrop of modern cultural systems and social ideologies. From a pedagogically functional standpoint, *adolescent literacy* is viewed more as a socio-communal practice rather than an isolated reading/academic activity (Learned, 2018, p. 191).

Close Reading – As a verb, *close reading* refers to the act of connecting with significant texts that, due to their complexity and sophistication, require the reader to critically analyze what is being read. To do so, students are often asked to reread texts multiple times. As the subject or object of a sentence, *close reading* broadly refers to texts or passages selected for preplanned reading assignments (Paul, 2018, p. 161).

Disciplinary Literacy (DL) – For the purposes of this paper, *disciplinary literacy* is defined as being able to read, write, listen, speak, and think in ways that are specifically influenced by disciplinary concepts, such as critically analyzing and comparing historical sources to establish cause-effect relationships. Disciplinary literacy differs from content area reading in that the former aims to develop cognitive and metacognitive literacy skills whereas the latter is exclusively concerned with the learning and retention of subject matter (Håland, 2017, pp. 457-458).

Model Text – A disciplinary-specific work, such as a lab report written by research scientists or a case study penned by a sociologist, that can be used to guide students in the more nuanced aspects of close reading and DL (Håland, 2016, p. 457).

Methodology

The search strategy employed while researching and writing this paper primarily consisted of performing online database and journal locator inquiries at Houston Baptist University's [Moody Library](#) website. Secondary and tertiary research were additionally conducted through Google

Scholar. The major search terms used while performing this research are listed below. Following each description are corresponding database results, the criteria used in each search, and subsequent justifications for using each criterion.

Content literacy. The primary database used while searching for media related to this term was the Institute of Education Sciences' Education Resources Information Center (ERIC), jointly hosted by the Elton B. Stevens Company (EBSCO) and Texas State Library and Archives Commission (TexShare), which yielded 1,255 results. Further criteria modifications included restricting the general search to only the past five years of peer-reviewed and full-text articles containing abstracts using the term *content literacy*. These adjustments netted a search total of 155 hits that were subsequently reduced to 141 results by additionally limiting the search to academic journals. The above criteria were used to obtain a manageable net number of studies directly and/or indirectly related to content literacy.

Content area reading. ERIC was again the primary database used while searching for studies utilizing this term, which yielded 4,647 results. Additional criteria modifications included restricting the general search to only the past five years of peer-reviewed and full-text articles containing abstracts using the term *content area reading*. These adjustments netted a search total of 48 hits that were subsequently reduced to six results by additionally limiting the search to academic journals and by using Boolean operators in conjunction with the near-synonymous term, *content area literacy*. The above criteria were used to obtain a manageable net number of studies directly and/or indirectly related to content area reading and content area literacy.

Disciplinary literacy. As was the case with the above search terms, ERIC was the primary database used to locate research media utilizing this term, which yielded 348 results. Additional criteria modifications included restricting the general search to only the past five years of peer-

reviewed and full-text articles containing abstracts using the term *disciplinary literacy*. These adjustments netted a search total of 113 hits that were subsequently reduced to 111 results by additionally limiting the search to academic journals. The above criteria were used to obtain a manageable net number of studies directly and/or indirectly related to DL.

Elementary school. ERIC was again the primary database employed to find studies using this term, which yielded 120,631 results. Additional criteria modifications included restricting the general search to only the past five years of peer-reviewed and full-text articles containing abstracts using the term *elementary school*. These adjustments netted a search total of 2,635 hits that were subsequently reduced to one result by additionally limiting the search to academic journals and by using Boolean operators in conjunction with the term *disciplinary literacy*. The above criteria were used to obtain a manageable net number of studies directly and/or indirectly related to the use of DL in elementary schools.

History education. The primary resource used to conduct this search was the Journal Storage database, or JSTOR, which yielded 755,380 results. Additional criteria modifications included restricting the general search to only the past five years of peer-reviewed and full-text articles containing abstracts using the term *history education*. These adjustments netted a search total of 166 hits that were subsequently reduced to three results by additionally limiting the search to academic journals and by using Boolean operators in conjunction with the term *disciplinary literacy*. The above criteria were used to obtain a manageable net number of studies directly and/or indirectly related to the use of DL in history education.

Literacy in history. The main resource used to conduct this search was Google Scholar, which yielded 5,370 results. Additional criteria modifications included restricting the general search to only the past five years of articles with titles containing the phrase *literacy in history*.

These adjustments netted a search total of 24 hits. The above criteria were used to obtain a manageable net number of studies directly and/or indirectly related to literacy in history.

Literacy in mathematics. The main resource used to conduct this search was Google Scholar, which yielded 1,090 results. Additional criteria modifications included restricting the general search to only the past five years of articles with titles containing the phrase *literacy in mathematics*. These adjustments netted a search total of 52 hits. The above criteria were used to obtain a manageable net number of studies directly and/or indirectly related to literacy in mathematics.

Literacy in science. The main resource used to conduct this search was Google Scholar, which yielded 6,250 results. Additional criteria modifications included restricting the general search to only the past five years of articles with titles containing the phrase *literacy in science*. These adjustments netted a search total of 109 hits. The above criteria were used to obtain a manageable net number of studies directly and/or indirectly related to literacy in science.

Public education. ERIC was the primary database used to find studies using this term, which yielded 32,574 results. Additional criteria modifications included restricting the general search to only the past five years of peer-reviewed and full-text articles containing abstracts using the term *public education*. These adjustments netted a search total of 1,161 hits that were subsequently reduced to 267 results by additionally limiting the search to academic journals and by using Boolean operators in conjunction with the term *disciplinary literacy*. The above criteria were used to obtain a manageable net number of studies directly and/or indirectly related to the use of DL in public education.

Secondary education. Again, ERIC was the primary database used to find studies using this term, which yielded 376,349 results. Additional criteria modifications included restricting the

general search to only the past five years of peer-reviewed and full-text articles containing abstracts using the term *secondary education*. These adjustments netted a search total of 1,437 hits that were subsequently reduced to four results by additionally limiting the search to academic journals and by using Boolean operators in conjunction with the term *disciplinary literacy*. The above criteria were used to obtain a manageable net number of studies directly and/or indirectly related to the use of DL in secondary education.

Social studies education. JSTOR was the primary database used to find studies using this term, which yielded 589,671 results. Additional criteria modifications included restricting the general search to only the past five years of peer-reviewed and full-text articles containing abstracts using the term *social studies education*. These adjustments netted a search total of 95 hits that were subsequently reduced to eight results by additionally limiting the search to academic journals and by using Boolean operators in conjunction with the term *disciplinary literacy*. The above criteria were used to obtain a manageable net number of studies directly and/or indirectly related to the use of DL in social studies education.

Findings

Disciplinary literacy, as a teaching and learning strategy in K-12 education, is a relatively new philosophy. Despite being in use for more than two decades at the post-secondary level and its recent integration into the Common Core State Standards (CCSS) for grades 6-12, current research states that it is a quasi-substantiated and highly misunderstood strategy (Learned, 2018; Monte-Sano, De La Paz, Felton, Piantedosi, Yee, & Carey, 2017; Paul, 2018; Spires et al., 2018). Moreover, few scholars have quantifiably justified DL's use in secondary schools, which is only overshadowed by the strategy's glaring lack of advocates for its potential application in grades K-5 (Spires et al., 2018, pp. 1402-1403). Complicating all these issues, or perhaps because of them,

is the ongoing controversy surrounding the very definition of DL, which lacks consensus even among today's most experienced scholars (Spires et al., 2018, pp. 1403-1406).

Finally, there exists within the field two fundamental camps that respectively subscribe to a diverging set of principles. One group views DL as an advanced pedagogical strategy; they see it as something exclusively for use with secondary school students that possess the requisite cognitive skills needed to effectively interpret, synthesize, and reproduce complex materials (Paul, 2018, pp. 162-163). On the other side of the fence are the scholars and educators who believe that all students can benefit from DL, regardless their respective ages or reading abilities (Paul, 2018, pp. 162-163). The one thing these two camps share in common, however, is the idea that DL can potentially serve as a vehicle for social change; that is to say that DL is capable helping struggling readers overcome social obstacles associated with illiteracy, such as the stigmatization of being labeled as a below-level reader (Paul, 2018, pp. 162-163).

Fundamental Characteristics

A recent work that attempts to address some of the issues surrounding DL is “Operationalizing and Validating Disciplinary Literacy in Secondary Education,” published in a 2018 issue of the peer-reviewed journal *Reading and Writing* (Spires et al., pp. 1401-1434). The team of researchers behind this study undertook the project to qualitatively define an operating construct of DL while quantitatively validating and justifying its use in secondary schools (Spires et al., p. 1401). The authors considered their work groundbreaking because, as they noted in their abstract, it was “the first study of its kind to attempt to define, quantify, and validate the construct of disciplinary literacy” (Spires et al., p. 1402).

The first half of their research, which consisted of a detailed review of other existing studies, defined DL as “the use of reading, reasoning, investigating, speaking, and writing required

to learn and form complex content knowledge appropriate to a particular discipline” (Spires et al., p. 1402). This meaning, however, has yet to receive universal acceptance across the academic community and is therefore no more or less valid than any of the other definitions of DL presently in use within many of today’s different scholarly circles.

The quantitative phase of Spires’ work consisted of three major segments centered around the creation, validation, implementation, and collection of a web-based self-report survey that was distributed to over 800 national respondents (Spires et al., 2018, pp. 1401). The first phase of this operation required the convening of several focus groups, consisting of subject matter experts across the four major disciplines, who created a bank of prompts for the self-survey (Spires et al., 2018, pp. 1412). The latter two phases of the research concerned the validation and implementation of the self-report surveys and the collection, validation, and interpretation of their findings (Spires et al., 2018, pp. 1412).

Despite several self-disclosed limitations, some aspects of the authors’ findings were compelling enough to likely stimulate future conversations about DL in secondary education. Two major ideas included: (1) The view that DL is more an exercise in “social discourse” rather than an “academic tool” and that (2) literacy development occurs within communities outside of classrooms (Spires et al., 2018, p. 1426). The major issue with Spires’ approach, however, primarily rested with her team’s attempt to quantify a construct that, by definition, is something very conceptual and subjective in nature.

Disciplinary Literacy in Elementary School

Another article that explores DL’s use in previously uncharted areas asked the question for which it is titled, “Does Disciplinary Literacy Have a Place in Elementary School?” (Shanahan & Shanahan, 2014, p. 636). The authors provide a more concrete definition of DL than some other

studies, which is critical in understanding and interpreting most of the literature dedicated to this burgeoning philosophy. They defined DL as “the idea that we should teach the specialized ways of reading, understanding, and thinking used in each academic discipline, such as science, history, or literature” (2014, p. 636).

The Shanahans also point-out that students must be introduced to the fundamentals of DL in elementary school if policymakers desire to see it used with any measure of success in grades 6-12, which is generally an underrepresented view within this field of study (Shanahan & Shanahan, 2014, p. 639). Students, as they move up in grades, should advance from generic literacy strategies to the disciplinary-specific or specialized ones (Shanahan & Shanahan, 2014, p. 636).

Where the Shanahans deviated from their predecessors, is in the belief that this specialized “literacy instruction” should occur as early as kindergarten rather than waiting until secondary school (2014, p. 636-637). The logic behind their assertion is that the transition from simply reading informal texts to critically analyzing trade books and model texts can be a difficult one; especially if this change occurs very abruptly during the shift from process instruction to content instruction that takes place when ascending to secondary school.

Although some critics consider the use of DL in elementary school too great a cognitive challenge for many young students, the Shanahans argued the opposite by instead providing several examples of how elementary school teachers could weave DL into their instruction. By helping students gain familiarity with key terms or sentence structures specific to different academic disciplines, for instance, teachers can help prepare their students for success in secondary school (Shanahan & Shanahan, 2014, p. 637-639). Ultimately, their article is an excellent place to start for anyone researching DL in public education (particularly educators and policymakers who work within primary schools).

In a related work, titled “Disciplinary Literacy in Elementary School” (2017), Norwegian education scholar Anne Håland makes a claim similar to the one discussed in the above review (pp. 457-468). In the initial phase of her study, Håland asked how struggling students could benefit from the use of model texts (2016, p. 457). Over the course of her school year-long study, Håland narrowed her research focus from a class of 44 Norwegian elementary school students to just one pupil, named Gro, who labored with many of her reading assignments. Håland was impressed with the role that DL played in Gro’s amazing ascension from “struggling student” to accomplished writer over the course of the school year (2016, p. 457).

Håland conducted a very thorough study by first researching her subjects via many embedded observation periods within their natural (classroom) setting. She initially avoided interacting with her subjects but eventually conducted a series of first-person interviews to determine the effects of contextual factors, such as comparing Gro’s reading and writing progress against that of her fellow students (Håland, 2016, pp. 457-458). Håland’s study culminated with Gro creating a children’s book, about ancient Egypt, and the adaptation of more elaborate reading concepts, such as the role that punctuation can play in emphasizing ideas and the relative “lexical density” of different texts (2016, pp. 464-466).

One possible issue with Håland’s work is that she conducted unilateral research in a relatively isolated environment, observing only a single class of fifth grade students without an assistant. She made no mention of how her findings compared to other classes of students, nor did she explain how she mitigated her own bias. On the other hand, her embedded research led to many important discoveries, such as her findings about the usefulness of model texts used in conjunction with DL, that could only be gathered through Håland’s interpersonal observations (2016, pp. 466-467).

Disciplinary Literacy in Secondary School

Another researcher who followed Håland's lead, albeit in secondary school studies rather than the primary grades, is the University at Albany's Assistant Professor of Education Julie Learned. In her 2018 article "Doing History," she speaks to the effectiveness of DL in helping "struggling readers" in meeting their literacy goals. Her primary objective was to illustrate how DL improved adolescent literacy skills by challenging students to think like historians, through the critiquing of historical documents and historical perspectives across different periods of the past (Learned, 2018, p.190). Learned additionally focused on "questions about instructional, social, and sociohistorical contexts," which she noted were key in her study of "struggling readers" (2018, p. 191).

Primarily a qualitative study, Learned oriented her work within the context that "literacy is socially situated" (2018, p. 195). She spent 48 hours of fieldwork conducting first-hand inquiries, including face-to-face interviews, classroom artifact investigations, and lesson plan analyses (Learned, 2018, p. 190). Learned additionally performed several quantitative analyses of some existing third-party sources, such as state and district studies concerning school literacy rates related to student demographics (2018, p. 191). Thus, Learned's work is best classified as a mixed-methodology study in which she used several research tactics to achieve her stated end.

Learned arrived at the conclusion that DL, in addition to aiding toiling readers, helped students gain critical and more developed opinions about the past. Moreover, emphasizing DL concepts, such as challenging students to think like historians instead of simply "struggling readers," helped in reducing overall literacy deficits across all content areas while simultaneously enhancing student self-efficacy and overall performance (Learned, 2018, pp. 204- 208). Despite

DL being a somewhat fluid concept within certain scholarly circles, works like Learned's demonstrate its usefulness in helping students overcome many academic and social obstacles.

Teaching Disciplinary Literacy

Thematically, the majority of existing research concerning the effectiveness and potential applications of DL in public education consists of student-centric studies. That is to say, most researchers are concerned with concrete outcomes associated with student learning, self-efficacy, and academic performance. Over the past few years, however, a growing body of “top-down” research has emerged, which reflects society's focus upon obtaining, training, and retaining quality teachers. Moreover, this belief constitutes the very foundation of today's CCSS that are ostensibly designed to emphasize “critical-thinking, problem-solving, and analytical skills that are required for success in college, career, and life” (“English Language Arts Standards,” 2019). Correspondingly, some DL scholars have recently turned their attention toward how teachers should go about fostering and developing these concepts in the classroom.

In 2017, a multi-university interdisciplinary team of six prominent scholars published an article that documented a multi-tiered study related to the above topics. Titled “Learning to Teach Disciplinary Literacy across Diverse Eighth-Grade History Classrooms within a District-University Partnership” (2017), their research centered around the professional development and day-to-day activities of teachers using historical essay writing as a vehicle for implementing and improving DL in the classroom (Monte-Sano et al., 2017, pp. 102-103).

In striving to meet the above ends, the team performed an exhaustive research study. First, they identified and contacted several mid-Atlantic middle schools containing student and teacher populations of varying skill-levels, experience, and backgrounds. Some schools, for example, mostly served struggling readers—economically disadvantaged students who read below their

grade level, English learners battling to learn a new language, and students with disabilities detrimental to reading and writing (Monte-Sano et al., 2017, pp. 103-104). Other schools, however, boasted very high on-target reading levels that met or exceeded the national average. Teacher populations, likewise, included a variety of educators, from different personal and professional backgrounds, who possessed differing levels of education, certifications, and experience (Monte-Sano et al., 2017, pp. 103-104).

The research team undertook a series of year-long mediations at each of the selected institutions. During these periods, the researchers worked side-by-side with public school teachers and administrators in developing and implementing 18-day-long history curriculums, about the Revolutionary War, which served as testbeds for their experiments (Monte-Sano et al., 2017, p. 99). Concurrently, the research team also created and administered several professional development (PD) courses aimed at educating and training teachers about incorporating DL into their lesson planning experiments (Monte-Sano et al., 2017, pp. 99-100). Finally, the researchers embedded themselves in their work, by both observing teachers and students in their natural environment and analyzing student-teacher feedback during PD sessions.

Ultimately, the researchers discovered that teachers were receptive to the idea of DL and became exceedingly proficient at teaching and assessing their students with many of its associated techniques over the course of the school year (Monte-Sano et al., 2017, p. 107). One of the major faults they noticed, however, was that teachers, upon completing pre-generated lesson plans, showed difficulty in creating their own lessons incorporating these new concepts (Monte-Sano et al., 2017, pp. 107-108). The team thus came to the determination that, in order for DL strategies to be successfully implemented in today's classrooms, teachers must be provided comprehensive

PD courses that specifically address DL theory, application, and best practices (Monte-Sano et al., 2017, pp. 110-117).

Given the enormous scope and complexity of their study, Monte-Sano's article is deserving of a multipage literature review in its own right. For brevity's sake, this review will only cite two specific points. First, the article, unlike most education research pieces, does not contain a section detailing its research limitations. Instead, their audience is forced to read "against the grain" or selectively cherry pick weaknesses in the team's research. This is often a difficult task, for both novice researchers and seasoned scholars alike. On the other hand, the authors did exhaustively document their findings, including the potential applications and benefits of their research (Monte-Sano et al., 2017, pp. 110-117).

The final subject of this review is a related work by Casey Medlock Paul, Professor of Education and Learning Sciences at North Carolina State University (2018, p. 161). His recent article, "Building Disciplinary Literacy" (2018), is a much shorter work but, like the preceding article, sheds considerable light on how teachers are taught about DL. Specifically, Paul scrutinized the ways in which secondary school teachers were taught to incorporate DL within their respective disciplines (2018, p.161). In performing his research, he sought to answer two overarching and interrelated questions: (1) Why have U.S. student literacy rates seemingly stalled in secondary schools? (2) How are teachers using close reading—a disciplinary literacy teaching and learning strategy—with their students (Paul, 2018, p. 161)?

Paul set about his task in two phases. First, he conducted a comprehensive review of the existing literature about DL and close reading, which included some of the sources cited herein. Paul next followed-up his literature review with "a collective case study using archived documents from a Massive Open Online Course (MOOC) on disciplinary literacy" (2018, p. 163). Archival

analysis of source documents, transcripts, and forum posts from this 2014-15 PD event constituted the bulk of Paul's work that, according to the author, was specifically undertaken to eliminate "the possibility of obtrusiveness and reactivity" (2018, p. 163). Furthermore, Paul went to great pains in quantitatively collecting and interpreting his own data by using a variety of techniques, including constant-comparative methods and axial coding strategies (2018, p. 164).

After many hours of sifting through and interpreting data, Paul discovered that most secondary school teachers, who were ostensibly using DL practices, were initially limiting themselves to only intermediate techniques. They did so with the intent of bridging cognitive gaps between what their students were taught about reading in elementary school and what they needed to learn in middle and secondary school (Paul, 2018, p. 165). Some of these teachers considered their students underprepared or incapable of using DL and close reading whereas others were simply unfamiliar with DL practices (Paul, 2018, pp. 165-166).

Following targeted PD courses, most of the above teachers began effectively incorporating DL and close reading practices into their own reading strategies. That is to say, teachers became more adept at using DL in lesson planning and selecting model texts for use in instruction (Paul, 2018, pp. 165-166). On the other hand, most teachers continued to exhibit great difficulty in sharing and teaching these practices with their students, primarily out of inexperience but sometimes due to ambivalence (Paul, 2018, pp. 165-166).

Paul attributed the above issues to teachers, and those training educators during PD events, not realizing the full potential of DL, as compared to scholarly professionals working within their respective subfields (Paul, 2018, pp. 165-168). Science teachers, for example, were not teaching students to write lab reports like scientists; math teachers were not juxtaposing algorithmic thinking with real-world applications; and history teachers were not reading or critically presenting

historical material beyond what could be found in textbooks (Paul, 2018, pp. 165-168). On an encouraging note, Paul did observe that many of these problems were corrected when teachers attended regular PD seminars and courses specifically aimed at teaching educators about close reading and DL in relation to real-world applications (2018, pp. 168-169).

Paul's work is insightful and adequately substantiated. The largest fault with his study, however, was the fact that the teachers whom he researched (via archival documents sourced from the MOOC) represented a very narrow strata of the overall teacher population. The MOOC, as is the case with many elective PD programs, suffered from a high attrition rate, with only the most determined and accomplished teachers completing the course of study (Paul, 2018, p. 164). Paul therefore surmised that the group of teachers displaying the greatest improvement were also the brightest and most dedicated of the general teaching population (Paul, 2018, p. 164). On the flip side of the coin, Paul's work offers some practical insights for improving the future of DL and close reading in secondary education.

Conclusion

As stated at the outset of this review, DL is an enigmatic and sometimes inscrutable topic of debate among today's education scholars. More than mere perception, this dilemma is reflected in many of the works presented herein, from Spire's attempt at quantifying fleeting constructs to Paul's realization that even the most dedicated DL teachers often fail to achieve their stated ends. Consequently, the major challenge in proving or disproving whether DL practices are helping students achieve literacy goals in public education lies first, in making it more comprehensible and second, in promulgating its substantiality and sustainability among today's body of educators and policymakers.

From a more pragmatic standpoint, public education stakeholders must concern themselves with the challenges today's students and educators face in meeting general literacy goals and the resulting stigmatization of failing to achieve them. Given its relatively nascent nature, it is fair to argue that DL is not a panacea for all the ills that trouble America's public schools. If leveraged correctly, however, it may inoculate future generations of students against this emerging threat.

The major limitations of this review were the relatively short amount of time and resources allocated in completing it. A topic as expansive and complex as DL simply deserves a more comprehensive analysis than the modest review provided by the author of this paper. In short, this literature review only scratches the proverbial tip of the iceberg when it comes to the potential applications of DL in public education.

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