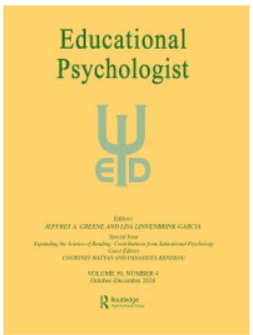

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The role of asset-based pedagogy in an interactive view of reading

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ABSTRACT

In this paper, we present an Asset-Based Interactive View of Reading that builds on the Active View of Reading, Self-Determination Theory, and Asset-Based Pedagogy to consider the role of students' individual, linguistic, and cultural resources in understanding reading processes. We begin by discussing some of the limitations with the ways Science of Reading has been narrowly conceived, which includes the (perhaps unintended) consequences of reliance on the Simple View of Reading. We then elaborate on each of the three components of our proposed framework to address assumptions of cultural neutrality and universal application in educational psychology. We conclude with implications for research, policy, and practice.

Scholars have contributed multiple perspectives and paradigms that arguably should be considered as part of the Science of Reading (SoR). Among these are the role of sociocultural and cognitivist perspectives regarding the role of knowledge in reading (Hattan & Lupo, 2020), the role of writing in reading (Graham, 2020), and reading as the interaction between an individual and the vast possibilities of written language (Alexander, 2020). The robust scholarly definitions that attempt to define SoR in ways that counter "the misrepresentation and even weaponization of that term to serve some personal, pedagogical, or political agenda" (Alexander, 2020, p.S91) contribute to a nuanced understanding of reading development. Consistent with these efforts, our central goal in this paper is to present a more expansive view of the SoR that integrates the body of scholarship on race-focused sociohistorical views of learners with reading and motivation. Specifically, we expand the Active View of Reading (AVR) with Self-Determination Theory (SDT) and asset-based pedagogy, which collectively undergird an Asset-Based Integrated View of Reading that centers students' linguistic and cultural resources in literacy practices (see Figure 1).

In the sections that follow, we begin by detailing some of the ways SoR has been narrowly conceived, which includes the (perhaps unintended) consequences of reliance on the Simple View of Reading. We then elaborate on three components of our proposed Asset-Based Integrated View of Reading framework that address assumptions of cultural neutrality and universal application in educational psychology (DeCuir-Gunby & Schutz, 2014). We conclude with implications for research and practice.

The narrow view of the simple view of reading

The Science of Reading is at times aligned with a positivist paradigm (Kuhn, 1970) of "science" that implies epistemic and ontological exclusivity, focused on direct observation and measurement as the methodological means for generating knowledge. At times, this version of science is presented as a course correction away from theory and practice associated with the cultural, critical, and discursive turns in social science research that have informed pedagogy and classroom practice over the past several decades (Gabriel, 2021). In one example, Seidenberg (2017) describes the "culture of education" as "an ideology…derived from a theoretical framework known by labels such as constructivism, sociocultural theory, and the social construction of reality, among others" (p. 251). Though not unique to Seidenberg, the frank dismissal of the explanatory roles of the social sciences in reading development has contributed to biased accounting of what counts as evidence, how reading is defined and measured, and the kind of learning opportunities students have in school settings (Gabriel, 2021).

Science of Reading studies most frequently represent typically-developing, white and monolingual populations that position all other populations as aberrations from the norm (e.g., Gabriel & Woulfin, 2017; Milner, 2020). The consequence of this population bias introduces issues in the design and interpretation of assessments that may not apply to the increasingly diverse population of learners in U.S. schools, as well as the kinds of instructional practices that are prioritized, and even the ways reading itself is defined. Indeed, several strands of diversity that are likely to impact reading instruction and development are not theorized or engaged within conceptual models that view language as a

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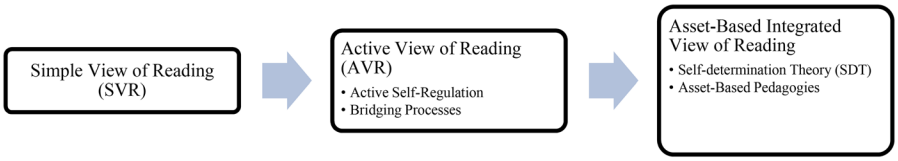

Figure 1. Theories integrated within the asset-based integrated view of reading.

monolith and language processing as uniform across readers. As explained by Noguerón-Liu (2020):

> …strands of diversity at the institutional level (e.g., program model), at the demographic, state, or regional level (e.g., patterns of migration in new and traditional destinations), and at individual and group-based levels (across and within racial/ethnic groups, home languages and writing systems, and educational opportunities prior to migration) provide a prism to understand the affordances and limitations of so-called best instructional practices, especially when these practices are designed for monolingual, nonimmigrant students. (p. 2–3)

Noguerón-Liu also explains, "For emergent bilinguals, an oral reading assessment is not just a literacy test; it is a language test, and its validity is compromised if the linguistic and bilingualism factors shaping the performance are not accounted for" (p. 6). Students whose identities and experiences are distinct from the typical focus of texts used in school struggle to find meaning and therefore to engage meaningfully with texts as a focus or resource for learning (Tatum, 2006). As explained by Milner (2020), failing to recognize the language and literacy assets students have undermines students' potential.

Taken together, there is a need to integrate the Science of Reading with linguistic and sociocultural theories of reading that contribute to the understanding of the unique contributions of vocabulary to comprehension among multilingual readers (Proctor et al., 2006). Also needed is the consideration of the differential impact of test construction and administration on these students (Solano-Flores, 2008), along with implications for students who have other identity markers (Artiles, 2019; Gabriel & Woulfin, 2017). In addition to linguistic and neurodiversity, social and cultural diversity offer explanatory value related to reading processes and reading instruction in and out of school settings. We elaborate on these points in the sections below after the contextualization of the Simple View of Reading (SVR).

The simple view of reading

The most frequently referenced conceptual model of reading within the Science of Reading is the Simple View of Reading (Gough & Tunmer, 1986), which posits that reading comprehension is the result of decoding (later referred to as "word recognition") and language comprehension, sometimes also listed as "listening comprehension" or simply "language." The SVR is explicitly focused on print as a record of oral language rather than as an independent or independently varying phenomenon. Gough and Tunmer (1986) write: "Reading equals the product of decoding and comprehension, or R = D x C, where each variable ranges from 0 (nullity) to 1 (perfection)" (p. 7). As such, the SVR is a rejection of theories that reading is fundamentally different from listening, and therefore posits that successful reading depends on the typical, successful development of listening comprehension (c.f. Wolf et al., 2019). As explained by Gough and Tunmer (1986), "The simple view presumes that, once the printed matter is decoded, the reader applies to the text exactly the same mechanisms which he or she would bring to bear on its spoken equivalent" (p. 9). Accordingly, the SVR does not account for linguistic, motivational, cultural, or other factors beyond word recognition and language as a model that describes the cognition of reading, rather than the whole reading experience.

By not explicitly accounting for views of learning that involve co-construction or for variations of language across multiple contexts and communities, SVR is at times invoked in policy and practice in ways narrowly focused on print as a phonetic representation of spoken English, rather than an orthographic representation of written English (Neuman et al., 2023). Though most scholars would suggest it is both of those things, a singular focus on phonetic representations of oral language can be used to marginalize and minimize the literacy development of students who rely primarily on orthographic knowledge to develop literacy, including those who are deaf, those working between multiple spoken languages, and those with difficulty accessing or processing auditory input. At the very least, it offers a limited account of reading for those whom monolingual, English contexts for learning do not apply.

As Gough and Tunmer (1986) note, "SVR is about the 'forest' of reading and not its 'trees'" (p. 399)[1]. In other words, SVR describes reading in general by offering three broad constructs as categories that may each contain significant variation and complexity, rather than as fixed entities (Pearson, 2023). In contrast, Gough's earlier 1972 model, "One second of reading" (Gough, 1972, p. 307), was an attempt to illustrate all the processes that had to occur between information coming in through the eyes and words coming out of the mouth of a reader. It included 13 hypothesized processes that occur within a second when reading. Still, the SVR has been referenced in policy documents and widely used to advocate for increased attention to word recognition and decreased attention to anything not listed in

[1]Although Hoover and Tunmer (2018) acknowledged that "there is much more to understand about reading than what is represented in the SVR" (p. 311), their updated Cognitive Foundations model (Hoover & Tunmer, 2020) continues to reflect the limitations we describe here, including the framing of word recognition and language comprehension as non-overlapping constructs (see Duke & Cartwright, 2021 for a review of the model).

the SVR formula (e.g., strategy instruction, approaches that emphasize syntax and semantics; Neuman et al., 2023).

SVR's more simplistic account of reading can provide clarity regarding a complex and oft-debated area of instruction, but it can also be used to perpetuate deficit views of individuals. For example, researchers have explicitly relied on SVR in their examination of sources of reading achievement disparities for African American children, which they attributed to lower oral language abilities (Gatlin et al., 2016). In such studies, researchers use the SVR framework in ways that end up perpetuating essentialized visions of students that lack nuanced cultural considerations about language variations that have been established elsewhere (e.g., Ford, 2004; Ortiz et al., 2016; Sotelo--Dynega et al., 2013; Woods et al., 2021). These interpretations of differences-as-deficits (see López, 2017) are consistent with "an essentialized vision of communities of color as damaged people" (Artiles, 2022, p. 141). The deficit views are perpetuated by the Science of Reading's "intensive focus on assessed reading proficiency as the primary goal of reading instruction" which Aukerman and Chambers Schuldt (2021) view as "a problematically narrow slice of reading" (p. S85). Moreover, SoR's narrow focus on English and alphabetic orthographies limits its scope and narrows its potential for globally diverse learners. As noted by Share (2021), "mainstream reading research remains entrenched in Anglocentrism, Eurocentrism, and another form of ethnocentrism that I call alphabetism" (p. S391). We would add that the emphasis on oral language and listening comprehension can be used to reinforce the ableist assumption that our sensory experiences of the world are all the same, rather than diverse.

As described above, in the SVR "the language practices of racialized, low-income and disabled speakers are characterized as deficient, limited, and indeed, full of gaps because they fail to meet benchmarks designed by powerful white listeners" (Cushing, 2022, p. 1). However, multilingual and multi-dialectical learners bring significant assets to the task of reading in the form of increased metalinguistic awareness (understanding of how language works), an asset that is rarely assessed, but has both direct and indirect effects on comprehension (Tighe, et al., 2019). In addition, researchers have found that for students who are developing their decoding expertise, including students who are developing English proficiency, general knowledge plays a substantive role above and beyond English proficiency (Hwang, 2020). Similarly, researchers have documented that students' cultural knowledge predicts reading outcomes beyond the explanatory power of SVR (e.g., Burns et al., 2023). This is likely because SVR simply does not account for linguistic, motivational, cultural, or other factors beyond word recognition and language as a model that describes the cognition of reading, rather than the whole reading experience.

One way that SVR is often elaborated is by pairing it with the image of a braided rope (Scarborough et al., 2001) indicating other skill areas associated with reading. This rope, originally published in a 2001 chapter focused on explanations of reading disability, named some of the components of the larger categories indexed by the SVR. In the rope, Scarborough imagined the weaving of individual strands, showing how each is included in the woven product of skilled reading. Importantly, the image represents neither a theory nor a conceptual model, but an illustration of some of the factors that might later lead to reading difficulty within the categories of language comprehension and word recognition. The rope illustration vaguely points toward a relationship between the components as they come together but does not theorize the nature of the relationship(s) or potential interdependence between each "strand."

The focus on three, five, or more components without elaborating on their relationships has the unfortunate side effect of promoting instruction that is componential rather than aimed at integration. That is, without explicit elaboration of the broad categories, the instructional implications of SVR concepts and metaphors have been that each component, strand, or pillar should be taught and assessed in isolation, rather than presuming and leveraging interdependence within and across them. The importance of integration is explored in more complex models of literacy and is evident in the relative success of multicomponent interventions when compared with interventions that focus on fewer, isolated components (e.g., Austin et al., 2022). Missing, however, are comprehensive models that leverage the body of scholarship on asset-based pedagogy, reading, and motivation, collectively. Namely, a translation of science to instruction requires a departure from deficit views that sustain white supremacy (APA, 2021; DeCuir-Gunby & Schutz, 2014; Usher, 2018) that considers the contextualization and elaboration needed to account for the diversity of students learning to read in school settings.

An expanded view of science of reading: an asset-based integrated view of reading

To advance an Asset-Based Integrated View of Reading, we build on Duke and Cartwright's (2021) Active View of Reading with Self-Determination Theory (SDT; Ryan & Deci, 2020) and Asset-Based Pedagogy (López, 2024). In doing so, we expand understandings of linguistic and cognitive processes as well as aspects of development that have more direct, equitable, and fruitful implications for instruction. In the sections that follow, we describe the Active View of Reading's major goals and contributions, then discuss the ways SDT and asset-based pedagogy complement and refine AVR to create a more inclusive reader model.

Active view of reading

SVR can be understood as a product of its era when information processing models were prevalent in cognitive science—inspired and undergirded by newly available imaging techniques like MRI and advances in computer science. Active View of Reading (Duke & Cartwright, 2021), then, can be understood as a product of an era that includes functional imaging. The elaborations of SVR that make up the AVR are built on causal research focused on instruction and validated by research focused on reading interventions (Burns et al., 2023). As such, the AVR is an expansion and update of SVR that illustrates sub-categories within word

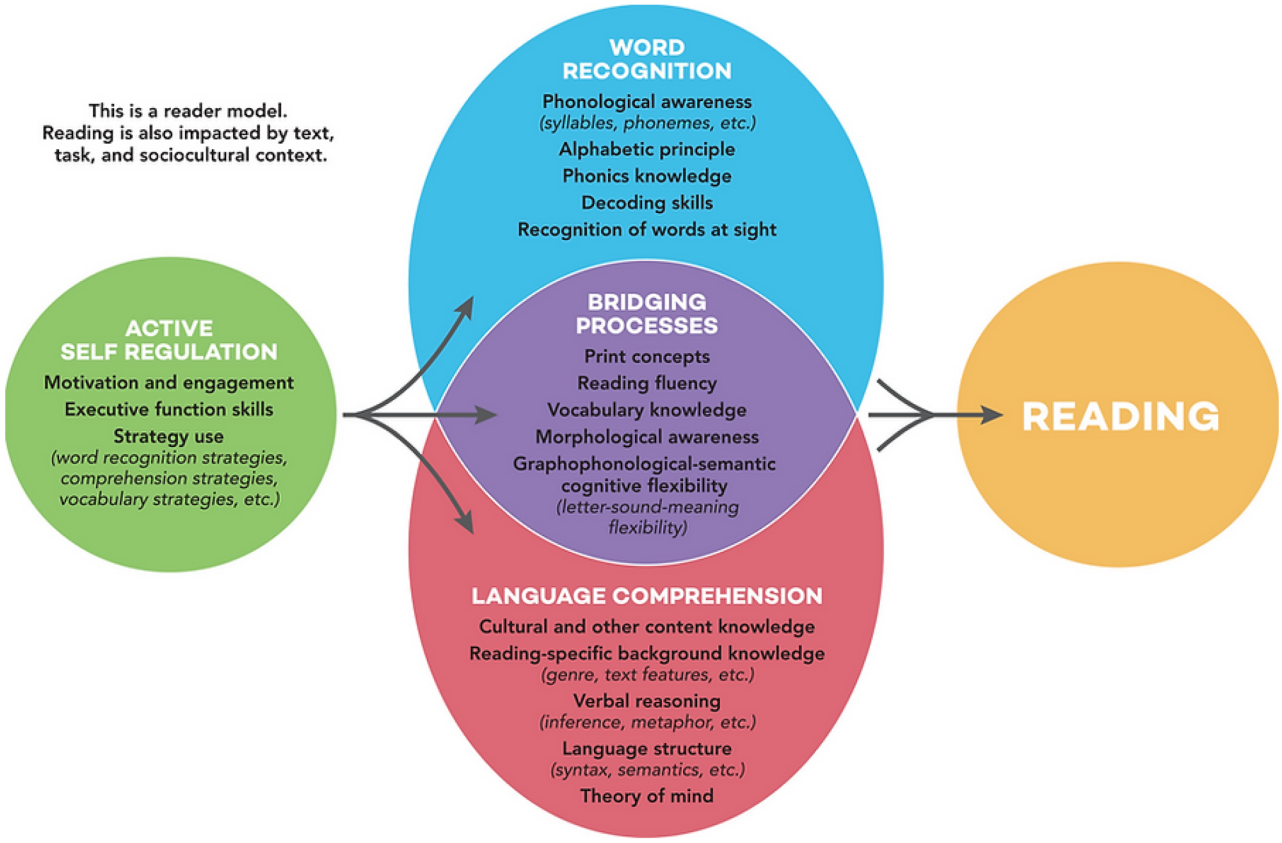

Figure 2. Active view of reading. *Note*: Source of the Active View of Reading Graphic: Duke and Cartwright (2021). The science of reading progresses: Communicating advances beyond the Simple View of Reading. Reading Research Quarterly, 56(S1), S25-S44. https://ila.onlinelibrary.wiley.com/doi/full/10.1002/rrq.411

recognition and listening comprehension, with an emphasis on how they are accomplished (see Figure 2). Importantly, AVR introduces the constructs of active self-regulation (motivation and engagement; executive function skills; and strategy use) and bridging processes, which represent the overlap between word recognition and language comprehension not included in the SVR. The bridging processes allow readers to coordinate and integrate across word recognition and language comprehension, and includes print concepts, reading fluency, vocabulary knowledge, morphological awareness, and graphophonological-semantic cognitive flexibility (i.e., letter-sound meaning flexibility). In other words, bridging processes involve both word recognition and language comprehension and allow them to be used together, in an integrative fashion, to support reading. Duke and Cartwright (2021) also articulate *how* reading behavior is accomplished, thereby providing a 21st century update to a 20th century formula.

Duke and Cartwright (2021) explain that the Active View of Reading makes three major contributions to the theoretical foundation of SVR. First, by elaborating and detailing the variables of SVR it illustrates potential causes of reading difficulty within and beyond the components of word recognition and language comprehension. Second, it reflects the significant overlap between word recognition and language comprehension by listing the skills that bridge these two components and illustrating the conceptual overlap visually. Finally, it adds the construct of active self-regulation as an important contributor to reading processes, thus describing reading as a more complex activity than SVR. These contributions better reflect research on the sources and profiles of reading difficulty, as well as the significance of self-regulation in orchestrating skills for reading. It also illustrates the reciprocal relationships[2] between skill areas (Nation, 2007) such that reading comprehension is not only the outcome of word recognition and language comprehension, but also a contributor to each of these.

Self-regulation and motivation in the active view of reading

Explaining the role of active self-regulation in the AVR, Duke and Cartwright (2021) write that: "active self-regulation is amenable to instruction. Thus, to be consistent with the current state of the science of reading, a model of reading for practitioners should explicitly address active self-regulation (p. 56S1)." Despite some variation across the conceptualizations,

[2]The notion of integration and reciprocity is also represented in Kim's (2020, 2022) interactive dynamic model of literacy, also referred to Direct and Indirect Effects Model of Reading (Kim 2017; 2023), which considers the contributions of writing to reading and vice versa. Kim's interactive dynamic model is similar to AVR in that it represents the contribution of motivational factors (e.g. self-efficacy) and background knowledge. However, the relationship highlighted in this model is the dynamic interaction between higher order and lower order skills. Knowledge and affective variables are depicted in the model within circles at the center of the model but are not connected to any other variables as they are in the Active View of Reading.

self-regulation theories all involve behaviors that lead to performance such as goal-setting and monitoring progress toward goals (Pintrich, 2000; Winne, 1995; Zimmerman & Kitsantas, 2005). Another general assumption undergirding self-regulation is that it functions as a mediator between individual and/or contextual factors and performance (Pintrich, 2000). As a result, researchers have often focused on cognitive and behavioral interventions of self-regulation strategies to address academic deficiencies; it is these interventions that are referenced by Duke and Cartwright. The research base supporting self-regulation is robust, with a recent meta-analysis exploring 50 years of self-regulation interventions pointing to large and positive effects overall on academic outcomes in literacy (reading and writing), with no differences detected across elementary and secondary grade levels (Elhusseini et al., 2022).

Duke and Cartwright's (2021) conceptualization of active self-regulation is consistent with prior motivation research. This includes research on goal orientations focused on why students engage in tasks (e.g., Kaplan et al., 2009), along with the self-efficacy and interest students have (Lee et al., 2014; Schunk & Zimmerman, 2007), as well as cognitive strategies students can use to control affect and motivation, such as positive self-talk and self-affirmation (for a review, see Pintrich, 2000). Although there are additional numerous motivation theories that have applied to reading research, including specifically to linguistically diverse learners (e.g., Taboada Barber et al., 2020), a conceptual review of motivation terminology has uncovered issues with a lack of accurate, explicit definitions in most studies (Conradi et al, 2014). Moreover, scholars have identified an absence of centering race in motivation constructs as a salient issue in educational psychology research (DeCuir-Gunby & Schutz, 2014; Usher, 2018; Jones, 2022)—one that has only recently begun to be addressed with attempts to align motivation principles with asset-based pedagogy research (Kumar et al., 2018) and explicit calls for a "race-reimaged reading motivation construct" (Jones, 2022, p. 1123).

Duke and Cartwright's (2021) update of the SVR offers an expansion of SVR categories with a particular emphasis on the addition of self-regulation and bridging processes to the model's conception of reading. In the Active View of Reading, active self-regulation in general, and executive function (EF) skills in particular, are used to explain how reading skills are integrated into proficient reading and continuous subsequent development in reading. Despite their robust explanatory power (Follmer, 2018; Nejadihassan & Arabmofrad, 2016), these constructs have most often been explored with universal worldviews (DeCuir-Gunby & Schutz, 2014), with an abundance of intervention research focused on the valued and normative perspectives of whiteness (APA, 2021). As such, they often also perpetuate an "essentialized vision of communities of color as damaged people" (Artiles, 2022, p. 141). Moreover, though The Active View of Reading represents a much more detailed account of reading than the SVR, a text box that accompanies the AVR infographic states, "this is a reader model. Reading is also impacted by text, task, and sociocultural context." The text box references the RAND model of reading comprehension (2002) that posited comprehension occurs at the intersection of the reader, task, and activity within a sociocultural context. Just as the RAND model of reading comprehension included macro-level factors such as text, activity, and sociocultural context alongside reader factors, research that can inform reading instruction requires situating cognition, motivation, and language in social, cultural, and affective contexts (Aukerman & Chambers Schuldt, 2021; Bryant, 2020; Milner, 2020; Noguerón-Liu, 2020). That is, we argue that additional elaboration for self-regulation and motivation is not only necessary to more explicitly guide policy and practice but is also most salient for students who use dialects or registers of English that are not considered "standard English," students who use languages other than English as a primary language (Share, 2021; Wheeler et al., 2012), and/or students who are deaf or hard of hearing that do not have full access to spoken English (Holcomb, 2023; Scott and Dostal, 2019).

Self-determination theory

Self-Determination Theory is not only one of the most comprehensive motivation theories with an exhaustive evidence base detailing its utility in education and other domains (Ryan et al., 2022), but also provides an entry point to Asset-Based Integrated View of Reading given its focus on sociocultural contexts. As described by Ryan and Deci (2020)

> SDT shares with many constructivist and post-modern approaches to education a concern with cultural internalizations and impositions, and a recognition of layered forms of hegemony. It stands as an example of theory that can be both empirically grounded and critical, and thus merits consideration alongside other critical educational theories. (p. 9)

Despite this call, there is limited research using SDT as a theoretical framework to understand reading outcomes in general, and with an asset-based view of historically minoritized students in particular. SDT is premised on three basic psychological needs that must be met to promote and sustain students' intrinsic motivation. One of the psychological needs is autonomy, which is the extent to which regulation is autonomous or "The need to self-regulate one's experiences and actions" (Ryan & Deci, 2017, p. 10). Another is competence, which reflects the extent to which someone believes they can master a given undertaking (Ryan & Deci, 2020). The third psychological need is relatedness, which Ryan and Deci (2020) explain as "a sense of belonging and connection" (p. 1). The three psychological needs "are manifestations of being intrinsically motivated and internalizing values and regulatory processes" (Deci et al., 1991, p. 325).

Consistent with evidence focused on other outcomes (e.g., academic outcomes; Howard et al., 2021; Ryan & Deci, 2020), researchers have found the three SDT components to be predictive of students' reading achievement (Marshik et al., 2017). Researchers have also contributed to a more nuanced understanding of the role of each of the SDT components on reading outcomes. This research includes evidence of the predictive roles of autonomy and reading competence on reading comprehension (De Naeghel et al., 2012), as well as the predictive role of teacher relatedness on intrinsic motivation for reading, which in turn was related to reading self-concept

(Guay et al., 2019). Intrinsic motivation has also been found to be related to the amount of reading students engage in, which predicted reading comprehension, vocabulary, and decoding for third grade students (Becker et al., 2010). Despite these findings, researchers have provided evidence that minoritized students are not likely to be in contexts that promote each of the basic needs (e.g., Golann, 2015; Gray et al., 2018; López, 2010). Emerging research using SDT has also demonstrated that there are differences in the predictive role of intrinsic motivation for different populations of minoritized students (Sutter & Campbell, 2022). To integrate Self-Determination Theory into our Asset-Based Integrated View of Reading, we discuss race-reimaged perspectives (DeCuir-Gunby & Schutz, 2014) of each of the basic needs as applied to reading in the sections below prior to turning to a discussion of Asset-Based Pedagogy.

Autonomy. Teacher behaviors that support students' autonomy contribute to students' engagement and autonomous motivation (Patall et al., 2018). These behaviors include providing rationales that communicate the personal utility of engaging in specific instruction (Reeve et al., 2022), encouraging students' intrinsic motivation through instruction that considered students' interests (Schraw & Lehman, 2001), and the provision of choice (Patall, 2013). Although there is evidence that cultural considerations applied to reading passages promotes interest (Cartledge et al., 2016), minoritized students are especially vulnerable to contexts where teachers engage in practices that undermine autonomy (Reeve, 2009) because teachers rarely have opportunities to develop the knowledge and skills to consider students' interests. As such, many teachers rely on commercially-produced, unaltered materials that fail to reflect students' culture (Gutierrez et al., 1997), provide little to no choice (Golann, 2015), and rely on external incentives (Reeve, 2009). The overreliance on pre-sequenced, direct instruction and the trends toward curriculum-adoption as Science of Reading-aligned reform conflict with culturally-informed understandings of autonomy and its role in both self-regulation and motivation. In addition to these issues, there is evidence that teachers themselves lack autonomy, which is related to practices that further limit opportunities for students to foster autonomy (Marshik et al., 2017).

Competence. Self-Determination Theory reflects a need for mastery experiences that promote the belief that one can succeed and grow with an internal locus of control (Ryan & Deci, 2020). Minoritized students, however, have long experienced contexts devoid of mastery experiences (Tatum, 2006; Ladson-Billings, 2006) that reflect a deficit view of their cultural and linguistic repertoires (Gutierrez et al., 1997). Researchers have demonstrated that asset-based views of students' culture and language lead to higher levels of academic self-competence among students, which is a significant predictor of reading achievement (López, 2010, 2016, 2017). In consideration of this evidence, Science of Reading-informed instruction that deliberately withholds some skills and knowledge based on assessments that do not reflect students' cultural and linguistic assets translates into reduced opportunities for rigorous educational experiences, which create threats to minoritized students' competence in the long-term.

Relatedness. Student relatedness involves feelings of acceptance, respect, and being part of a group and plays an important role in both nonacademic and academic outcomes (Allen et al., 2018). Unfortunately, minoritized students often have experiences that thwart relatedness due to assimilative pressures via curriculum and instructional practices that ignore and/or debase the assets minoritized students bring to school (Gray et al., 2018; Papageorge et al., 2020; Valenzuela, 1999). Accordingly, student belonging requires a nuanced understanding of the ways the experiences of youth who are discriminated against and devalued in society are internalized.

The evidence of the protective effect fostered by high levels of ethnic identity (i.e., sense of belonging to one's ethnic group) and awareness of racism (Altschul et al., 2006) suggest a need for a race-focused (DeCuir-Gunby & Schutz, 2014) conceptualization of relatedness that explicitly considers ethnic identity and critical consciousness (e.g., Gray et al., 2018; López, 2022). This is consistent with Ladson-Billings' (1995) assertion that youth who are aware of racism are developing the "critical perspectives" that allow them to understand discrimination as a systemic issue they can challenge instead of experiencing and internalizing discrimination as an erroneous belief about their perceived deficiencies. Indeed, there is evidence that literacy experiences that focus on materials written about and by members of minoritized groups and include discussions of race, racism, and ways to address systemic forms of oppression lead to higher reading achievement due in part to increased levels of ethnic identity (López, 2017; López et al., 2022).

Taken together, to create contexts that address Self-Determination Theory needs, teachers provide "meaningful tasks that can engage their interests," as well as meaningful, relevant choices within well-organized learning environments (Ryan & Deci, 2006, p. 3–4). Teachers also "listen more, [are] more responsive to student questions, bring more attention to student interest, resist given answers, voice fewer directives, show more support for student initiatives, and convey more understanding of students' perspectives" (Ryan & Deci, 2006, p. 4). These aims, when applied with the race-focused considerations above, overlap substantively with Gutierrez et al.'s (1997) description of *third space* wherein teachers and students are part of communities that co-construct knowledge as "linguistic and cultural brokers" (p. 376). Put another way, the co-construction of knowledge that considers students' contributions as assets that are incorporated into teachers' knowledge (which can inform future teaching), and teachers' contributions that add to what students already know, can foster relatedness not only for students, but also for teachers.

In summary, whereas the Active View of Reading describes engagement as well as strategy-use as aspects of self-regulation, we argue Self-Determination Theory (Ryan & Deci, 2020) acknowledges these components while also providing for a more nuanced and comprehensive framework

that explicitly considers culture. We now turn to a summary of the body of scholarship focused on Asset-Based Pedagogy that can further enhance AVR and SDT.

Asset-based pedagogy

Persistent disparities in reading achievement for youth living in poverty, most of whom are students of color, are well documented (Seidenberg, 2013). Attempts to identify remedies that are rooted in deficit perspectives, however, are also well documented. Included among the numerous deficit perspectives are reading interventions focused on direct, explicit instruction in areas assessed as deficient in which the sequence of skills and methods of measurement are the same for all learners. Such instruction and interventions not only reflect minoritized youth as lacking and deficient, but also exclude perspectives from their communities (Jones, 2022; López, 2017; Milner, 2020). Accordingly, deficit views reflect a conviction wherein "children succeed in school only if their many deficiencies are corrected and if they are taught to behave in more traditionally mainstream ways in specially designed intervention programs (see Valdes, 1997, p. 398).

Scholars have generated a substantial body of asset-based pedagogy research that share a focus on eliminating deficit framing and racism in the curriculum by centering instruction on the perspectives and lived experiences of minoritized communities. Asset-based pedagogy is known by the terms culturally relevant pedagogy (Ladson-Billings 1995a, 1995b), culturally responsive teaching (Gay, 2010), funds of knowledge (González et al., 2005), and many others (see López, 2017). Scholarship that reflects asset-based orientations to literacy instruction specifically (e.g., Gutierrez, et al., 1997; Keehne et al., 2018; Ladson-Billings, 1995a, 1995b; Lee, 1991, 1995) has often focused on different populations of historically minoritized students but shares the importance of making "connections between language use in the community and language use in a tradition of literary texts" (Lee, 1995, p. 612).

Collectively, studies of asset-based pedagogy have demonstrated that students who are provided with instruction that attends to issues of race, culture, language, and sociohistorical contexts generally have better reading achievement outcomes (Aronson & Laughter, 2016; López, 2017; Sleeter & Zavala, 2020). In reviews of this research, scholars have documented higher reading achievement in elementary grades, as well as secondary contexts (Aronson & Laughter, 2016; Sleeter & Zavala, 2020). Despite the aforementioned exceptions, the vast majority of asset-based pedagogy studies have used qualitative methods, although we do not believe this translates into a lack of evidence. As noted by Milner (2020), "Qualitative research tells the story behind the numbers" (p. S250). In the case of asset-based pedagogy, research directly addresses the unequivocal existence of disparate educational outcomes that have been established by quantitative research but focuses on the root of the cause of disparities (i.e., deficiency views of minoritized students and their communities) rather than on interventions that assume cultural neutrality and universal application (see DeCuir-Gunby & Schutz, 2014). That said, in a meta-analysis of studies that used Active View of Reading components, Burns et al. (2023) found that cultural knowledge was positively associated with reading comprehension, although only five studies were identified to meet inclusion criteria. The researchers raise concerns regarding the paucity of studies focused on cultural knowledge as well as interventions focused on marginalized populations. These concerns echo earlier critiques raised by the National Reading Panel that included the finding that there was inconsistency in conceptual grounding (Goldenberg et al., 2008), along with concerns that asset-based pedagogy research lacked explicit links to outcomes (Sleeter, 2012). The paucity of research focused on the role of asset-based pedagogy on reading comprehension does not imply there is no research base in support of asset-based pedagogy, but rather, that there is a need to attend to the lack of evidence.

Requisite understanding: critical consciousness

Asset-based pedagogy reflects a central principle that teachers must develop an understanding of sociohistorical, legal, and other contextual influences on minoritized students' trajectories (critical consciousness) to become effective in leveraging students' cultural knowledge and affirming students' experiences through cultural content integration in the pursuit of accessing the curriculum. Asset-based pedagogy also considers evidence on the myriad ways minoritized students lack access to cognitively demanding, rigorous work (Anyon, 1981; Moll, 1988, 1990; Oakes, 1986) and underscores both that access to rigor is non-negotiable and must be respectful of students' cultural backgrounds (Gutierrez et al., 1997; Ladson-Billings, 1995a, 1995b; Delpit, 1988). As such, critical consciousness counters pervasive views that inordinate achievement disparities stem from deficiencies in the child and/or child's language or culture.

Enacting complex understandings of learning in general and reading in particular requires significant intellectual work on the part of teachers. Despite the attention teacher expectations have received in research and practice, stubborn achievement disparities reveal that high expectations cannot simply be "willed" into existence (López, 2017; Marx & Larson, 2012). This is because deficiency-based biases that are shaped by society (Marx & Larson, 2012; Moradi et al., 2020; Starck, et al., 2020) impede expectations (López, 2017) that in turn contribute to disparate student outcomes (Papageorge et al., 2020). To upend deficit beliefs rooted in biases so all students receive rigorous opportunities requires educators to develop critical consciousness (Banks, 1993; Darder, 2012; Gay, 2010; Freire, 1970; Ladson-Billings, 1995a, 1995b; Valenzuela, 2016). Critical consciousness includes an understanding of the role of white supremacy in creating and sustaining systems of marginalization and oppression that reflect superiority of practices, expectations, and experiences and as such, consider anomalies as deficient (see López, 2022, 2024). By understanding white supremacy, educators can identify systems that promote the subjugation of minoritized students, including what is typically validated as knowledge in classrooms through the curriculum, which serves to reproduce inequities in society (e.g., Apple, 2004; Banks, 1993; Bowles & Gintis, 1976; Darder, 2012; Freire, 1970; Giroux, 1985;

Ladson-Billings, 1995a, 1995b). That is, any curriculum, even a scientific reading or skill program, can be ineffective and oppressive if not interrogated and adjusted through a sociocultural and sociohistorical lens. This is largely because teachers who have not developed critical consciousness are likely to perpetuate racist notions even if their intentions are the opposite (Borsheim-Black, 2018). Thus, even though explicit discussions of race and racism are supported by empirical evidence (Sleeter & Zavala, 2020), teachers must have the requisite skills to do so in ways that validate rather than undermine students' identities.

There is a growing body of research focused on understanding the development, role, and mitigation of implicit biases among teachers (see DeCuir-Gunby & Bindra, 2021; Denessen et al., 2020). This scholarship extends findings from previous studies that suggest the most effective ways to ameliorate biases among teachers is to address the very sources of deficit beliefs and biases (e.g., de Boer et al., 2018). Some researchers have found that a commitment to working toward being unprejudiced is important (Kumar, et al., 2021), which includes the kind of learning that can alter deficit-based beliefs (de Boer et al., 2018). Consistent with the body of scholarship on asset-based pedagogy (e.g., Banks, 1993; Darder, 2012; Freire, 1970; Ladson-Billings, 1995a, 1995b), this includes exposure to course content for preservice teachers that is focused on social justice (e.g., Kumar & Hamer, 2013; Stephens et al., 2022). This knowledge has been shown to promote pedagogical practices that honor students' cultural knowledge and language (Gutierrez et al., 1997; López, 2017).

There is empirical evidence that asset-based pedagogy promotes reading achievement outcomes in elementary classrooms (López, 2017; McCarty, 1993; Portes et al., 2018) as well as secondary classrooms (Cherfas et al., 2021; Tyson, 2002). Collectively, the asset-based pedagogy literature points to the critical consciousness as the mechanism that promotes pedagogical practices such as *cultural knowledge* and *cultural content integration* that enhance academic experiences and opportunities for minoritized students (López, 2017). We describe each of these in more detail below.

Cultural knowledge

Cultural knowledge is grounded in *constructivist views of learning* wherein educators and students construct knowledge from prior knowledge that may not typically be validated in classroom contexts. This includes teachers' understanding of the various ways to access knowledge about their students as they also share knowledge, and strategies to incorporate students' various repertoires (e.g., language, home experiences) into formal classroom instruction (González et al., 2005, p. 10). This includes, but is not limited to, "[using] student culture as a vehicle for learning" (Ladson-Billings, 1995b, p. 161) and making "connections between language use in the community and language use in a tradition of literary texts" (Lee, 1995, p. 612). Cultural knowledge is also reflected in *third space* (Gutiérrez et al., 1995) referenced earlier:

> …contexts in which various cultures, discourses, and knowledges are made available to all classroom participants, and thus become resources for mediating learning. It is within this third space that students and teachers can bridge the various social spaces within the classrooms. (p. 467)

To illustrate an approach that leverages cultural knowledge from the community in the classroom, Pacheco (2010) describes a teacher's use of weekly *story previews* where essential information that would facilitate meaning-making for students is provided prior to a reading activity, in addition to prioritizing students' sharing of their prior knowledge through discussion about their wonderings, predictions, and other discussions. The teachers also supervised and stimulated students' comprehension of various genres by promoting knowledge activation during reading through small- and whole-group discussions. In other words, cultural knowledge involves teachers finding opportunities where students can freely express what they know, using linguistic practices they engage in outside of school, as a legitimate contribution to knowledge in classroom activities.

As both a "tool for learning" and "the target of instruction," language is the basis of literacy instruction; however, what *counts* as language (Gutierrez et al., 1997, p. 369) is often framed in oppositional ways that value certain discourses while devaluing others. Moving away from this view is one that embraces "the linguistic resources and conventions of both the individual student and the repertoires of the larger community" (p. 372). Teachers who use language as a resource elicit and incorporate students' discourse in the discussion of concepts, as well as make explicit connections between students' discourse and other linguistic descriptions (Gutierrez et al.).

Although asset-based pedagogy scholarship and the role of cultural knowledge is not new, scholarship that relies on deficit views of culture and language persist. One example is the widely held view that linguistic demands (i.e., vocabulary) of school are more sophisticated and complex than linguistic demands in the home environment (MacSwan, 2020). In part, this is an artifact of research that implies "that school language alone can be used for argumentation, concision, or with complex grammar" (MacSwan, p. 34). These deficit framings contribute to biased beliefs among teachers about students' linguistic assets.

Another example is a focus on dialect differences in learning to read among African American English (AAE) speakers because "reading depends on spoken language" (Washington & Seidenberg, 2021, p. 26). They therefore argue that "Many AAE-speaking children are less ready than their peers to benefit from reading instruction on the first day of kindergarten because they are not familiar with the school dialect" (p. 30). Washington and Seidenberg provide an example of a practice aimed to correct AAE that is meant to avoid negative connotations. They explain:

> With very young children, in preschool through first grade, simply providing full-form models of classroom language is helpful. For example, if a child is deleting the copula, a teacher can cheerfully produce the same utterance, making the copula salient and lengthening the child's production slightly. Child: "This my backpack." Teacher: "Yes, this IS your backpack. Let's put it away." (p. 32–33)

However, the encouraged practice stands in stark contrast to an asset-based pedagogy practice as described by Ladson-Billings (1995a):

> In her sixth-grade classroom, Lewis encouraged the students to use their home language while they acquired the secondary discourse of "standard" English. Thus, her students were permitted to express themselves in language (in speaking and writing) with which they were knowledgeable and comfortable. They were then required to "translate" to the standard form. By the end of the year, the students were not only facile at this "code-switching" but could better use both languages. (p. 161)

In other words, difference orientations that sustain the superiority of practices can easily become deficit-approaches. Needed are intentional practices that elevate the status of culture and language of minoritized students within classrooms.

Cultural knowledge is described by Gutierrez et al. (1997) where the role of collaborative co-construction of knowledge between teachers and students so that "their knowledge and literacies become available to one another" is emphasized (p. 369–370). They further explain:

> Co-participation in a variety of literacy practices provides students opportunities to jointly construct new ways of using language and participating. Co-participation in everyday routines or activities provides opportunities for learning the language(s) of the classroom, as well as the social and linguistic goals of the larger community…[it] requires learning both linguistic and grammatical forms (language skills) and sociocultural forms and functions (when and how to use these language skills) of the learner's various discourse communities. p. 370

Accordingly, Gutiérrez et al. elaborate on the cognitive and sociocultural aspects of literacy missing from a narrow view of the Science of Reading. The emphasis on systematic, sequential, and direct instruction makes conflict with and/or crowds out opportunities for shared and interactive forms of reading and writing that are conducive to honoring students' cultural and linguistic assets. The conflict is the need for flexible and individualized integration of learning targets when engaging in shared or interactive reading and writing, which does not allow for a prescribed sequence of skill instruction and assessment. Even in settings where both possibilities are honored, the time required to implement prescriptive skill-focused instruction to all children often crowds out opportunities that allow for: teacher- and student- choice of text, topic, audience; shared, interactive, or reciprocal approaches to reading and writing; and project- or performance-based tasks and measures of growth.

Cultural content integration. Cultural knowledge provides teachers with an understanding of students' cultural and linguistic assets that should be used to inform teachers' decisions about the ways they incorporate this knowledge into the curriculum (Banks, 1993). In doing so, teachers reject the hegemonic curriculum and elevate "the legitimacy of cultural heritages of different ethnic groups, both as legacies that affect students' dispositions, attitudes, and approaches to learning and as worthy content to be taught in the formal curriculum" (Gay, 2000, p. 29).

Gutierrez et al. (1997) warn against an "eclectic" or "mix-and-match" approach to cultural content integration that is not strategic and theory-informed. Instead, they emphasize that instruction must "draw strategically from the lived experiences and linguistic, social, and intellectual resources of the participants," creating cohesive, normative literacy practices that reflect students' larger social milieu (p. 371). Many texts that honor students' cultural backgrounds are currently being contested by state policies (Young et al., 2023). Book bans notwithstanding, Science of Reading-inspired state policies tend to require or incentivize the adoption of commercial curricular materials where texts are pre-selected for use, and often fall short of the bar for representations of cultural, ethnic and linguistic diversity (Khan et al., 2023).

Although there is an abundance of scholarship focused on asset-based pedagogy literacy instructional practices, few studies specifically attend to reading achievement or other literacy outcomes (Kelly et al., 2021). Despite this limitation in the literature, there is evidence that asset-based pedagogy promotes not only reading achievement in general, but also various literacy outcomes for minoritized students such as literacy behaviors that include "intertextual connections between the texts and their lived experiences" (Tyson, 2002 p. 61) and improved comprehension and vocabulary (McCarty, 1993). Undergirding these outcomes is the belief that "Students' sense of identity, particularly their ability to claim their ethnic identity and link it with an academic identity, is crucial" (Sleeter & Zavala, 2020, p. 45). We now turn to a discussion of an Asset-Based Integrated View of Reading that integrates Active View of Reading, Self-Determination Theory, and Asset-Based Pedagogy.

Asset-based integrated view of reading

Some of the discourse surrounding Science of Reading is currently animated by conceptual models of reading that are not explicitly connected to social theories of culture, language, or cognition. As we discuss above, a narrow focus cannot fully account for reading or reading development among diverse populations. More importantly, if a body of research on reading is to result in fruitful implications for instruction, it must be situated within understandings of the social, cultural and linguistic processes and contexts of schooling. These include the texts used, the tasks assigned, the tests and measures, and the positioning of students as learners who co-construct meaning with teachers. The common reliance on Structured Literacy (Spear-Swerling, 2019) as the model of SoR instruction excludes these considerations and as such, may promote an overreliance on modes of instruction that disadvantage minoritized learners. Likewise, the trend toward requiring or incentivizing curriculum adoption to demonstrate SoR alignment fails to align with the research on teaching and learning in school settings (Woulfin & Gabriel, 2022, 2020).

A robust theory of reading would require two major shifts in the conceptualization and discussion of the evidence undergirding it. First, it would situate self-regulation, motivation, and engagement within a broader view that captures the role of autonomy, competence, and a race-reimaged consideration of relatedness. Second, it would theorize the interdependence of cognitive, social, cultural, and linguistic processes such that every skill and/or strategy—from

phonemic awareness to comprehension—is understood as culturally-informed and socially-situated. This would require actively working to embed materials and pedagogies that minimize access barriers as well as unresponsive, inequitable introduction, practice, and assessment of specific components of reading. For example, assessment that includes a focus on the integration of skills or strategies, languages, and mediums for expression would reduce bias against minoritized students and encourage practices that acknowledge and leverage the interdependence of skills and strategies often taught in isolation. Matching students with tasks and texts that offer diverse, respectful and culturally-sustaining representations of people and ideas would also reduce bias and encourage practices that leverage students' individual and collective resources for learning.

The resulting framework might be roughly visualized (see Figure 3) as an amplified Active View of Reading with self-regulation and interdependence envisioned as context for a reading process in which language itself plays a central role as both the target and tool. By failing to adequately theorize the sociocultural contributions to reading development, models of reading become vulnerable to a narrowing of what counts as appropriate cognition, appropriate or usable language for literacy learning, and appropriate focal points of motivation and engagement. In this section we propose a set of ways to amplify the AVR to increase the likelihood that what Duke and Cartwright (2021) refer to as a "reader model" can begin accounting for the social and linguistic contexts of reading. These proposed amplifications are informed by Self-Determination Theory and Asset-Based Pedagogy frameworks, each of which will be examined in greater detail in the sections to come:

1. the social and linguistic contexts for reading instruction supports or thwarts self-regulation;
2. word recognition is not only influenced by differential practice, autonomy, and competence, but also the full linguistic repertoires of all students as language learners;
3. the double empathy problem (e.g., breakdown in mutual understanding between people wherein those with the dominant experience, understanding or expression presume the nondominant is incorrect or absent; Milton, 2018) supports or thwarts students' application of cultural and content knowledge, verbal reasoning and theory of mind (intercultural competence bridges this); and
4. the relevance of linguistic and cultural repertoires to literacy activities in schools either supports or thwarts the development and use of bridging processes (i.e., meta-discursive awareness, or awareness of discourse, is a bridge).

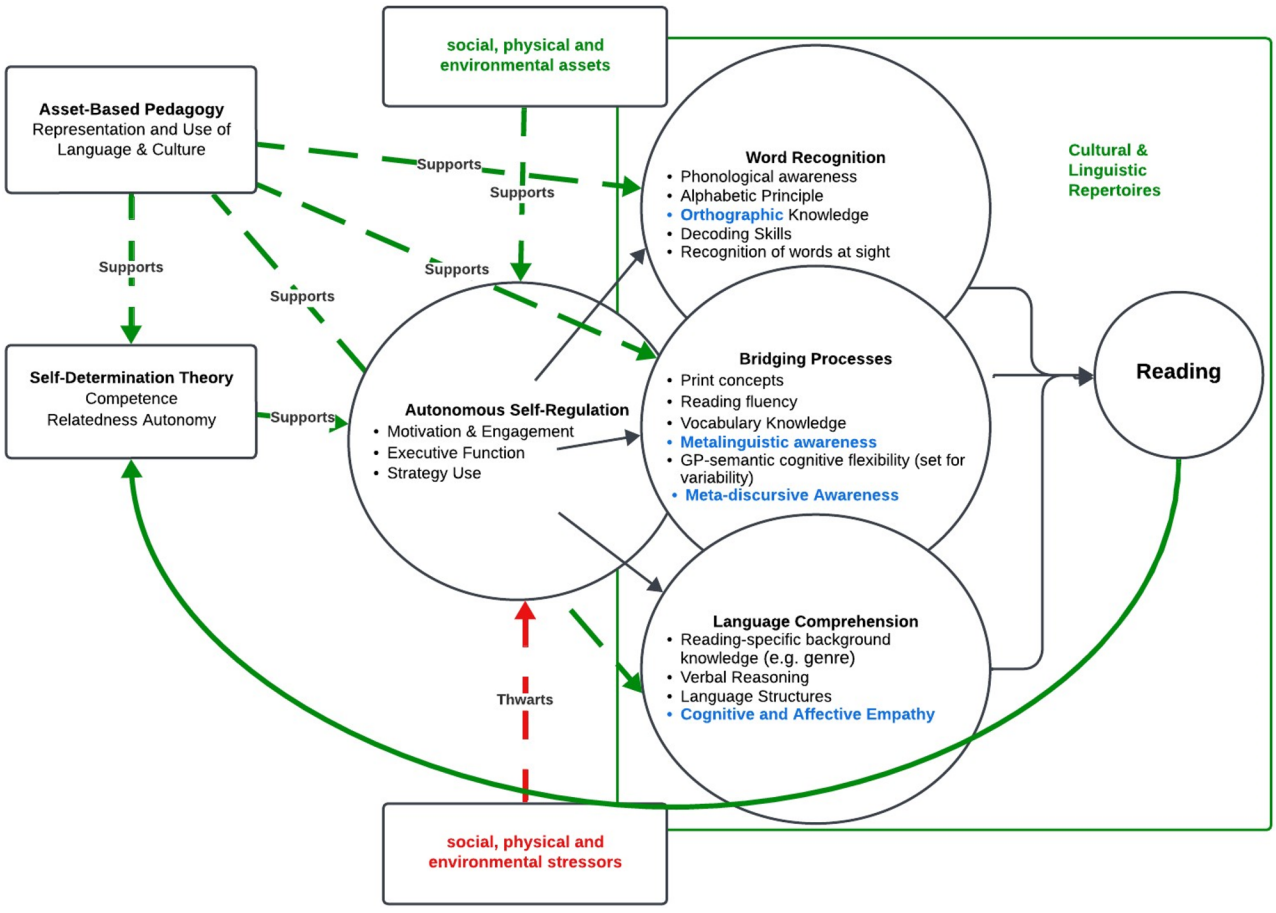

Figure 3. Asset-based integrated view of reading. *Note:* The figure represents an amplified Active View of Reading that is influenced by asset-based pedagogy and self-determination theory, and as such, accounts for some of the influence of social and linguistic contexts that include autonomous self-regulation, word recognition, bridging processes, and language comprehension.

Figure 3 above represents an amplified Active View of Reading that accounts for some of the influence of social and linguistic contexts. We describe our proposals for each major component of the Duke and Cartright's 2021 model below.

Autonomous self-regulation

Although Active View of Reading considers active self-regulation, central to Self-Determination Theory is "understanding the nature and consequences of autonomy… in detailing how autonomy develops, and how it can be either diminished or facilitated by specific biological and social conditions" (Ryan & Deci, 2006, p. 1562). As such, SDT distinguishes the sources and contexts of self-regulation along a continuum wherein heteronomy reflects regulation from external pressures and autonomy reflects regulation that has become internalized and/or integrated to the self (Ryan & Deci, 2006). Both autonomous and heteronomous regulation can be primed and influence behavior without conscious awareness (Levesque & Pelletier, 2003), but autonomous regulation that is attributed to "what one finds interesting or important and would be inclined to do more freely" (Moller et al., 2006, p. 1025) is predictive of superior outcomes (Legault & Inzlicht, 2013). As such, a view of reading that considers evidence provided by SDT reflects the importance of autonomous regulation, as well as competence, and relatedness. This does not imply goal-setting should not be taught, especially in consideration of the empirical evidence supporting these practices (e.g., Elhusseini et al., 2022). Instead, it underscores the importance of "I want to do this" as a primary consideration to promote students' overall reading experiences.

In Figure 3, the sphere of "autonomous self-regulation" includes two figures that depict how the development of self-regulation is influenced by social and environmental factors. Both social and environmental factors support or thwart self-regulation processes given that Self-Determination Theory posits that any time any of the three basic needs is thwarted, there will be distinct functional costs. Therefore, when autonomy, competence, and/or relatedness are compromised, one can expect to see a difference in function. On the other hand, contexts that enhance autonomy, competence, and relatedness support self-regulation and associated processes. In Figure 3, this is illustrated by the arrows from autonomous self-regulation to other cognitive processes for reading (word recognition, bridging processes, and language comprehension)—all of which are enhanced by affirmation of cultural and linguistic repertoires.

In addition to the immediate context, autonomy, competence and relatedness are influenced by past experiences with literacy learning and performance in school, as well as the alignment between expectations and values for literacy practices in the classroom and those available as resources outside of school. For example, students whose cultural literacy practices vary from those valued in school may not have the same sense of autonomy in participating in literacy instruction, competence for the particular literacy practices they are asked to demonstrate, or relatedness to support their full participation in classroom contexts, regardless of underlying proficiency. In a setting where there is strong alignment between the expected standard and the student's cultural or home background, their participation may be buoyed and fueled by autonomy, competence, and relatedness. This has been demonstrated in studies that follow students labeled "at-risk" for reading difficulty in school settings, who are considered standout leaders in reading, speaking, and writing activities in church settings that provide social support and cultural alignment between the reader and the task (Willis et al., 2022).

More generally, if educators, authors, and themes fail to represent both mirrors and windows for all students (Bishop, 1990), some students will have fewer opportunities to fuel their sense of belonging by engaging with literacy practices. This disconnection to a community of people who engage in the literacy practices valued in school settings may begin as a social issue but can have a cumulative effect if it compromises self-regulation and performance. Differential practice can delay the cognitive development which underlies skill and strategy development over time (Northrop, 2017; Stanovich, 1986).

Even when cultural expectations are similar across school and home, students that have been identified as requiring additional support in the area of literacy are at particular risk for disconnection from classroom instruction both because their exposure to a wide range of text is often limited compared to peers (Allington, 2009), and because of the cumulative impact of poor performance on their sense of competence (Northrop, 2023).

Word recognition

The AVR explains word recognition as influenced by active self-regulation, and includes phonological awareness, the alphabetic principle, phonics knowledge, decoding skills, and the recognition of words at sight. We argue that these skills are developed and applied in the context of diverse linguistic repertoires. Asset-Based Pedagogy suggests that all students have existing cultural and linguistic repertoires that they can draw from when constructing new learning. When it comes to word recognition, it is knowledge of the orthographic system, not only sound-symbol relationships, but spelling patterns and the reciprocal relationship between decoding and encoding, that allows those who are deaf and hard of hearing, and those with auditory processing disorders or different experiences of sound, to use and expand their existing knowledge for word recognition (Dostal & Wolbers, 2014). Orthographic patterns may also facilitate cross-linguistic transfer as well as engaging reciprocally with morphological knowledge.

Bridging processes

Duke and Cartwright (2001) expand the SVR by introducing the concept of bridging processes, which explain that some processes, such as fluency, are shared between the areas of word recognition and language comprehension and facilitate the coordination and integration of these skill areas. We note that the same student can perform significantly better

across contexts when expected standards and conventions are aligned with their linguistic and cultural repertoires, and/or when they have the metalinguistic and meta-discursive awareness, or awareness of discourse conventions across communities (Sfard, 2008), to bridge those differences. For this reason, we propose the substitution of metalinguistic awareness (of which morphological awareness is one part) and the addition of meta-discursive awareness to the set of bridging processes. For multilingual learners, metalinguistic awareness determines the extent to they are able to use proficiency developed in one linguistic context (e.g., where Spanish, American Sign Language or Arabic is used) to a classroom context where English is the medium and target of instruction.

Similarly, monolingual students whose out-of-school literacy practices are different or disconnected from those expected in school need meta-discursive awareness to bridge proficiency from one context to another (Jalilifar & Shooshtari, 2011). Consistent with Asset-Based Pedagogy, we posit every student's linguistic and cultural repertoires can support literacy learning. However, we recognize that differences and disconnections in understandings about language and culture can thwart students' abilities to draw on their existing repertoires when developing and demonstrating proficiency as readers. For example, students who are allowed to engage in translanguaging—the use of multiple language repertoires that are not bound by strict adherence to separating language, dialect, or other markers of difference—not only perform better in the target language, but also develop metalinguistic awareness that can continuously facilitate their use of existing linguistic knowledge (García & Kleifgen, 2020). Translanguaging pedagogies are also associated with more positive emotions in classrooms and stronger performance on social-emotional learning targets (Back et al., 2020). In other research, students working across languages and modalities develop language, literacy, and metalinguistic knowledge simultaneously when pedagogies invite and explicitly discuss the connections and bridges between American Sign Language and English (e.g., Dostal & Wolbers, 2014). These are both examples of how each student's cultural and linguistic repertoire can contribute to and facilitate learning when it is connected to the task either by default (as in the case of monolingual speakers of the target language) or by design.

Language comprehension

Language comprehension in the AVR relies on a conventional reading of the thoughts, meanings and emotions of others, operationalized as, among other things: theory of mind, verbal reasoning, cultural knowledge, and content knowledge. We propose a shift in this area to indicate how "cultural and content knowledge" may lead to understandings and interpretations that draw on existing cultural knowledge, but produce unexpected meanings, and are therefore assessed as incorrect. Milton (2018) has explained that the concept of correct comprehension, and specifically theory of mind, is bound within a set of cultural norms and expectations that majority groups take for granted and often cannot see. Milton writes: "when people with very different experiences of the world interact with one another, they will struggle to empathize with each other. This is likely to be exacerbated through differences in language use and comprehension" (n.p.) People with autism have long been assumed to *lack* theory of mind, but empirical studies show that people who are non-autistic have similar difficulty imagining the thoughts and feelings of autistic people, and autistic people do not have the same difficulty imagining the thoughts and feelings of one another. Milton has described this as a "double-empathy problem." Others have described it as the absence of cross-neurological theory of mind or "A breakdown in reciprocity and mutual understanding that can happen between people with very differing ways of experiencing the world" (n.p.). Theory of mind may therefore not be a neutral or objective category across cultures, neurological makeup, and experience. We propose replacing theory of mind with "cognitive and affective empathy" to more precisely indicate the cognitive process and the ways that match or align between the student's language, culture and experience, and those expected in school settings.

Implications

Although it is useful to understand the limitations of a narrow, basics-only approach to reading (e.g., Bowers, 2020), a body of research that builds on the Active View of Reading, Self-Determination Theory, and Asset-Based Pedagogy can provide guidance on evidence-based pedagogical approaches to reading (that also happen to have positive implications for other domains). Here, we have detailed the evidence favoring SDT and asset-based pedagogy both in terms of achievement outcomes in general and reading achievement specifically, which can be integrated with the existing evidence in AVR for a more robust theoretical framework for reading. Notably, all three frameworks consider motivation as foundational to desired outcomes, but when integrated, provide a comprehensive approach to the various components that are integral to literacy.

The Active View of Reading model has not been tested in its entirety, but evidence from Burns et al. (2023) suggests that the components in the AVR predict reading comprehension. Burns et al. also raised concerns, however, about the paucity of research focused on minoritized groups. Moreover, on its own, AVR does not explicitly consider the importance of cultural relevance in promoting the interest necessary to support early literacy (e.g., Cartledge et al., 2016), as well as the role of autonomous regulation ("I want to do this") in promoting engagement over time. At the same time, both Asset-Based Pedagogy and SDT are overarching theories that attempt to explain the factors that promote better outcomes across numerous domains but do not consider the specific mechanisms needed to develop literacy in ways described by AVR. As such, we argue that while each of the frameworks is sound on its own for many purposes, they each fail to consider the minimum "non-negotiables" in reading to meet the needs of all students. The integration of SDT, AVR, and asset-based pedagogy in future research can provide a more

inclusive understanding of reading for the diverse students in schools, and address limitations that currently exist in each of the domains (e.g., paucity of studies focused on minoritized students in AVR; limited quantitative studies in asset-based pedagogy).

Current state reading policies often mandate the use of universal screening to identify students with difficulties, and sometimes specify curricular materials (Neuman et al., 2023). Under the SVR, both assessment and curricular materials are sufficient if they test and develop word recognition and language comprehension. If the Active View of Reading were more frequently used as the model for policy, mandates would require testing and teaching additional factors, including bridging skills and active self-regulation. The Asset-Based Integrated View of Reading, however, would require a policy response to the evidence for culturally and linguistically-relevant instruction. It would inform assessments that consider language histories and multilingualism, as well as instruction that activates and builds on multiple forms of cultural knowledge. Programs on approved lists would support and encourage translanguaging pedagogies so that students could draw upon their full linguistic repertoires. Materials would include a wider array of authors, topics, and respectful representations of cultures than are currently included in the most frequently approved programs (Khan et al., 2023) so that students could draw on more of their funds of knowledge for learning.

Notably, in 2024, 42 states require the selection of assessments, programs, materials, and training to align with "science and evidence." Eighteen states specifically use the phrase "Science of Reading" in the text of their legislation. However, Utah is the only example we found of a K-12 literacy framework that requires that instructional materials are "culturally and academically relevant." Similarly, Arizona's state law includes motivation and background knowledge in its definition of literacy, but, as Neuman et al. (2023) point out, most states fail to list anything other than basic cognitive abilities when defining the scope of reading instruction. The Asset-Based Integrated View of Reading integrates Active View of Reading, Self-Determination Theory, and Asset-Based Pedagogy theories to provide a more expansive, inclusive, and complete framework for understanding reading, which stands to inform more inclusive policy and practice.

One example of the ways research questions and empirical investigations might be enhanced by using Asset-Based Integrated View of Reading can be discerned in the explicit representation of Asset-Based Pedagogy domains applied to classroom dynamics research (López, 2017). This may include examining teachers' critical consciousness, as well as their beliefs and behaviors as they pertain to affirming their students' cultural knowledge and linguistic practices. Research may also incorporate the use of texts and literacy materials that are relevant and affirming, as well as rigorous. This research can be enhanced by considering race-focused/race-reimaged versions of SDT (e.g., López et al., 2022) that examine intrinsic motivation and basic psychological needs and their role in predicting word recognition, bridging processes, comprehension, and how these inform reading achievement. In other words, future research that uses the domains represented in Figure 3 can provide a more robust and nuanced understanding of the contexts and instructional practices that promote literacy for all students.

The potential outcomes of more expansive and inclusive state policies and classroom practices are hard to overstate. At minimum, it stands to create a policy environment that is more conducive for equitable school experiences among those who have historically been minoritized as learners in U.S. public schools. In embracing the expanded, inclusive view that we present here, research that considers language, culture, and other nuances introduced by the lived experiences of students can inform classroom instruction in ways that move us away from deficit framing of minoritized students, toward a more equitable and representative body of research on literacy.

Conclusion

In this paper, we began with critiques of the ways Science of Reading has been narrowly conceived, and detail some of the consequences of a reliance on the Simple View of Reading. We then elaborate on the central goal of this paper, which was to present a more expansive view of the SoR that integrates the body of scholarship on race-focused sociohistorical views of learners with reading and motivation. To that end, we present an Asset-Based Integrated View of Reading that centers students' linguistic and cultural resources in literacy practices by expanding the Active View of Reading with Self-Determination Theory and asset-based pedagogy. We present evidence that suggests that integration of the three components of our proposed framework not only more fully capture views of reading that address limitations with assumptions of cultural neutrality and universal application (DeCuir-Gunby & Schutz, 2014), but also suggest a more complete picture of what reading and literacy entail. It is our hope that these considerations can move the discourse surrounding reading away from simplistic views that fail to consider the myriad of components that play a role in reading.

Disclosure statement

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