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The Simple View of Reading: Advancements and False Impressions

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Abstract

In this article, I highlight the impact that the simple view of reading (SVR) has had on the field of reading over the last 30 years. I argue that the SVR has led to many significant advancements in our understanding of reading comprehension. I also contend that it has contributed to some false impressions concerning comprehension that impact research and practice in important ways.

Keywords

simple view of reading, reading comprehension, language skills

The simple view of reading (SVR) was introduced by Gough and Tunmer over 30 years ago in a short paper in this journal (Gough & Tunmer, 1986). At the time, it was unlikely that the authors had any appreciation of the impact their rather simple but insightful conceptualization would have on the field of reading. Most of this impact has been positive and has led to significant advancements in our understanding of reading comprehension (RC). In this commentary, I will highlight these advancements as well as the contributions of the other research papers in this issue. I will also raise the possibility that the impact of the SVR has not been completely positive. I will argue that the simplicity of its presentation has unintentionally contributed to some false impressions about comprehension, and in doing so, has led us astray in important ways.

A Framework for Reading Comprehension

Since the introduction of the SVR, hundreds of studies have used this model to guide their investigation and/or interpret their results. Many investigations have directly examined the main premise of the model; that is, RC is the product of decoding and language comprehension.[1] This work has confirmed that much of the variance in RC can be accounted for by individual differences in decoding and language comprehension (Catts, Hogan, & Adlof, 2005; de Jong & van der Leij, 2002; Hoover & Gough, 1990). This has been shown to be the case in English readers as well as readers of other alphabetic orthographies including Greek (Protopapas, Simos, Sideridis, & Mouzaki, 2012), Hebrew (Joshi, Ji, Breznitz, Amiel, & Yulia, 2015), and Italian (Tobia & Bonifacci, 2015) as well as nonalphabetic writing systems like Chinese (Ho, Chow, Wong, Waye, & Bishop, 2012; see Florit & Cain, 2011 for review). The SVR has also been used to account for individual differences in RC of second-language learners (Hoover & Gough, 1990; Verhoeven & van Leeuwe, 2012) and dual-language users (Bonifacci & Tobia, 2017).

Whereas decoding and language comprehension account for much of the variance in RC, the relative relationship of these components to comprehension appears to vary across the school grades (Catts et al., 2005; Language and Reading Research Consortium, 2015; Tilstra, McMaster, Van den Broek, Kendeou, & Rapp, 2009). In the initial school grades, decoding abilities explain a majority of the variance in RC, whereas in later grades, it is the language comprehension component that accounts for most of the variability. It is not surprising that for children just learning to read that decoding skill has the greatest impact on comprehension. The shift to the dominance of language comprehension appears to occur once decoding has become faster and more automatic, and the vocabulary, grammar, and discourse demands of reading materials have increased. This occurs somewhere around third or fourth grade for typically developing readers in English (Catts et al., 2005; Language and Reading Research Consortium, 2015). However, this may occur later in more opaque orthographies (Joshi et al., 2015) and perhaps even earlier in transparent orthographies. For example, in a cross-sectional study involving Italian speaking children, Tobia and Bonifacci (2015) found that

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language comprehension was the primary contributor to RC right from the beginning of the primary grades (also see Florit & Cain, 2011).

The changing relationship between factors in the SVR was also investigated by Lonigan, Burgess, and Schatschneider (**In this issue**). Using a latent variable approach, they showed that decoding and language comprehension accounted for nearly all of the variance in RC among a sample of children in Grades 3 through 5. Like the studies above, they observed that decoding played a larger role in RC in earlier grades and language comprehension played a greater role in later grades. Such a finding may indicate that language comprehension is more important for more skilled readers than it is for less skilled readers. Lonigan and colleagues further provided some limited support for this inference using quantile regression analyses to look at relationships across comprehension ability independent of grade. Finally, the authors highlight an important finding that is often overlooked. That is, the variance shared by decoding and language comprehension typically accounts for as much, if not more, variance in RC than does the unique variance of either variable. They speculate that this shared variance may be related to general cognitive-linguistic ability, and as such, may limit how easy it will be to substantially improve RC.

The SVR has also contributed to our understanding of the cognitive prerequisites of RC and to the early identification of comprehension problems. Gough and Tunmer's original paper paid particular attention to decoding. It was written at the height of the whole language movement, and the authors wanted to highlight the importance of decoding to comprehension. Their paper as well as others led to the consideration of decoding-related prerequisites such as phonological awareness, rapid naming, and letter knowledge for the early identification of reading problems. More recently, proponents of the SVR have turned their attention to language comprehension and its corresponding prerequisites. This work has focused on the language basis of RC and on early language abilities as important prerequisites and predictors of later comprehension (Catts, Herrara, Nielsen, & Bridges, 2015; Kendeou, van den Broek, White, & Lynch, 2009; Storch & Whitehurst, 2002). Language and Reading Research Consortium and Chiu (**In this issue**) extend this work by documenting the pathway of prekindergarten language abilities though language comprehension to third grade RC. They found that measures of vocabulary, grammar, and discourse in preschool children predicted third grade language comprehension, which in turn was related to third grade RC. The implications of this line of research is that if we are going to adequately identify children at risk for the full range of reading disabilities, early screening protocols need to include measures of oral language as well as decoding-related predictors (also see Catts, Nielsen, Bridges, & Liu, 2016; Foorman, Torgesen, Crawford, & Petscher, 2009).

The SVR has also proven to be useful in the classification of reading disabilities. Gough and Tunmer (1986) introduced the SVR in part to illustrate how poor readers might be classified into three types: those with problems in decoding, language comprehension, or both. The first was dyslexia, the second hyperlexia, and the third was referred to as garden variety reading disability. Subsequent studies using the SVR framework have identified each of these types of problems among children with comprehension deficits (Aaron, Joshi, & Williams, 1999; Elbert & Scott, 2016). There is also some indication that the percentage of each group among poor readers may change across grades (Catts et al., 2005), which is in keeping with the previously mentioned finding that the contribution of decoding and language comprehension to RC changes across grades.

The SVR has drawn particular attention to poor readers with the second type of reading problem (Cain & Oakhill, 1999; Nation, Cocksey, Taylor, & Bishop, 2010). This group is more often referred to as poor comprehenders or children with a specific comprehension deficit rather than Gough and Tunmer's original designation of hyperlexia. These children have poor RC but adequate or better decoding. The SVR assumes that these children have a primary problem in language comprehension. Indeed, research has shown that poor comprehenders have oral language deficits (Catts, Adlof, & Ellis Weismer, 2006; Nation et al., 2010). However, poor comprehenders' problems go beyond oral language and include difficulties in working memory, inferencing, and world knowledge (Cain, 2006; Cain & Oakhill, 1999; Compton, Miller, Gilbert, & Steacy, 2013). These factors, however, may still be considered to be part of language comprehension, and variability in them may be partitioned into this component along with variability due to oral language. Nonetheless, to effectively address the problems of poor comprehenders, we need to know specifically what comprises this component and what aspects are malleable. By its nature, the SVR partitions the variance of RC into decoding and language comprehension, but does not specify subcomponents. There have been some attempts to further delineate language comprehension (Language and Reading Research Consortium & Logan, 2017; Lervag, Hulme, & Melby-Lervag, 2017), but additional work is needed to more fully understand this construct and its influence on RC. This is particularly the case since the SVR is being used to set standards and guide educational practice in the schools (Rose, 2006).

Expanding the Simple View

Research on the SVR has also considered whether or not additional factors are needed in the model. One such line of work has focused on the question of whether reading fluency needs to be added or if word reading accuracy is

sufficient to capture the variance due to decoding (Adlof, Catts, & Little, 2006; Kershaw & Schatschneider, 2012; Language and Reading Research Consortium, 2015; Protopapas et al., 2012; Tilstra et al., 2009). In related studies, researchers have also sought to determine if naming speed adds to the prediction of RC (Johnston & Kirby, 2006; Joshi & Aaron, 2000). The results of this line of investigation are not entirely consistent; some studies indicate a need to include fluency (or naming speed) and others do not. One factor that may help explain the inconsistency of the findings is the grade at which reading is examined. For example, a recent investigation found that in first and second grade, word reading accuracy was the best predictor of RC (beyond language comprehension), but in third grade it was word reading fluency that was the best predictor (Language and Reading Research Consortium, 2015). This may indicate that once children become more accurate in their word reading, fluency may be a more sensitive indicator of word reading ability and the variance it explains in RC. Furthermore, in more transparent orthographies, fluency may be a more powerful predictor of word reading ability than accuracy from the beginning of school (Florit & Cain, 2011). Thus, the components of SVR may need to be qualified based on the grade and the transparency of the orthography.

Another line of research has proposed that vocabulary may account for variance in RC over and above decoding and language comprehension (Braze, Tabor, Shankweiler, & Mencl, 2007; Ouellette & Beers, 2010). This finding is difficult to reconcile with the SVR because vocabulary is typically considered to be part of the language comprehension component. One explanation for the observance of the unique contribution of vocabulary in some studies is that measures of vocabulary are more reliable or more central to the construct of language comprehension than are other language measures used in these studies. Support for the latter hypothesis comes from latent variable approaches that have found that when language comprehension is assessed by multiple indicators and modeled accordingly, a vocabulary factor is no longer needed within a simple view model (Braze et al., 2016; Protopapas, Mouzaki, Sideridis, Kotsolakou, & Simos, 2013; Tunmer & Chapman, 2012).

There have been further expansions on the SVR that have added variables that have not typically been considered to be part of the model. For example, Aaron, Joshi, Gooden, and Bentum (2008) proposed the component model of reading, in which psychological (motivation, interest, learned helplessness) and ecological (classroom environment, peer influence) components were added to the cognitive components of the SVR. There is some initial support for this model (Chiu, McBride-Chang, & Lin, 2012; Ortiz et al., 2012), but a full test of its validity is yet to be shown. In another line of work, Francis, Kulesz, and Benoit (**In this issue**) further expand, or as they say, alter the SVR to include other factors not typically included in this model. In what they call the Complete View of Reading, they add text-level variables to the components of the SVR. As I also make reference to in the next section, Francis and colleagues argue that it is not just individual differences in cognitive abilities between readers that influence comprehension but also how individual readers make use of these abilities to comprehend different texts for different purposes. They note that another well-known framework of RC, the Text and Discourse Framework (e.g., McNamara, Graesser, & Louwerse, 2012), has been especially concerned with how texts and features of linguistic discourse impact comprehension, However, seldom have investigators examined how reader and text characteristics impact RC in the same model. In fact, most studies involving the SVR have treated text features as nuisance variables and have averaged across texts or text activities to control these variables. In this issue, Francis and colleagues employ cross-classified random effects models to test their view of RC. They find evidence for text-level as well as person-level effects on RC that vary across readers. In addition, they add a developmental perspective by looking at how these effects vary across sixth to eighth grades.

False Impressions

Whereas the SVR has significantly advanced our understanding of RC, the simplicity of its presentation has also contributed to some false impressions about comprehension. The SVR highlights decoding and comprehension in a comparable manner and typically displays them graphically in the same sized fonts and/or boxes (Kirby & Savage, 2008; Language and Reading Research Consortium, 2015; Protopapas et al., 2012; van Wingerden, Segers, van Balkom, & Verhoeven, 2017). In addition, in many of the studies of the SVR that use statistical modeling, the constructs representing decoding and comprehension are displayed graphically in similar ways and often have a similar number of indicators (Tobia & Bonifacci, 2015; Tunmer & Chapman, 2012; van Wingerden et al., 2017). As such, these presentations have often led to the impression that comprehension is not all that different from decoding in terms of its complexity and malleability. At a rational level, we know this is not the case, and Gough and Tunmer (1986) surely did not intend us to have this impression. However, the way things are presented matters and can lead us to think in illogical ways. For example, we somehow have the impression that something that costs $9.99 is much less expensive than something that costs $10 or that a house with a higher listing price is really worth more than the same house with a lower listing. Nobel Laureate, Daniel Kahneman (2011) refers to the latter as the "anchoring effect," and he and his colleague Amos Tversky have

uncovered many ways in which the mind is tricked by the presentation of the variables involved. Our false impressions, derived in part from the SVR and models like it, may be another example of such trickery.

One false impression that I believe the SVR has contributed to is the notion that comprehension, both language comprehension and RC, is unidimensional and not nearly as complex as it really is. By displaying comprehension alongside decoding in a comparable fashion, we have often been led to think that comprehension, like decoding, is a "single thing." Again at a rational level, we know that this is not true. However, we generally give the complexity of comprehension "a nod" and go on to measure it with a single test (or construct) and talk about it as if it were a single entity. In reality, comprehension is a multidimensional cognitive activity and one of the most complex behaviors that we engage in on a regular basis. The extent of the complexity has been recognized in the literature for many years (e.g., Kintsch & van Dijk, 1978; Lipson & Wixson, 1986) and was summarized over 15 years ago by the RAND Corporation Reading Study Group (Snow, 2002). This group conceptualized RC as a multidimensional ability that is influenced by reader, text, and task variables. According to this model, comprehension is much more variable than the SVR model would lead us to believe. In fact, any one individual may have many different levels of RC depending on what they are reading and why they are reading it. Thus, despite what is sometimes implied by the SVR, we cannot reduce comprehension to a single entity or score. To adequately understand the processes involved in comprehension and the individual differences in these processes, we need to examine it from a multidimensional perspective. Pearson, Valencia, and Wixson (2014) argue quite convincingly that we can only adequately measure RC by considering how well students comprehend specific texts for specific purposes. Gough, Hoover, and Peterson (1996) actually acknowledged this in describing their original model. They noted that while decoding was a general factor, comprehension was quite variable and specific to what was being read. Unfortunately, this notion has been overlooked in many applications of the SVR.

Another way I believe the SVR has played a part in leading us astray is in our expectations about the malleability of comprehension. In recent years, we have made great strides in teaching children to decode and read words. In the United States, No Child Left Behind (NCLB; 2002) and its related initiatives of Reading First and Early Reading First have led to the implementation of research-based practices for teaching children to read and spell words. Other countries have experienced similar advancements in their early reading instruction (e.g., Rose, 2006). Although changes in instructional practices have not always translated into improvements in reading, research has documented that well-designed interventions directed at decoding abilities can significantly impact these abilities in struggling readers (Denton et al., 2013; Lovett et al., 2017).

Given our successes in decoding, I think our false impressions about the comparability of decoding and comprehension led us to expect that the successes with decoding could be replicated with comprehension. For example, the recent Reading for Understanding Initiative (RFU), funded by the Institute of Education Sciences, began with rather high expectations of our ability to better understand and instruct comprehension (Douglas & Albro, 2014). Indeed, this initiative has led to important new knowledge concerning comprehension (Language and Reading Research Consortium, 2015; and other papers in this volume), but this knowledge has not readily translated into significant instructional gains in RC. RFU studies have found that instruction on the component skills of comprehension have led to improvements in these component skills, but for the most part, have not significantly impacted performance on standardized tests of listening comprehension or RC (Phillips, Kim, Lonigan, & Connor, 2015; Piasta, Language and Reading Research Consortium, & Jiang, 2016; Wanzek, Swanson, Vaughn, Roberts, & Fall, 2016). Other research programs have reported similar findings (Elleman, Lindo, Morphy, & Compton, 2009; Fuchs et al., in press; Lesaux, Kieffer, Faller, & Kelley, 2010). Furthermore, in a meta-analysis of intervention studies for struggling readers over the last 30 years, Scammacca, Roberts, Vaughn, and Stuebing (2015) reported that the average effect size of interventions on standardized measures of RC was .19, which is a small effect. In addition, comparable or lower effect sizes were found by Boulay, Goodson, Frye, Blocklin, and Prize (2015) for RC in a review of intervention studies funded by the Department of Education Striving Readers Initiative.

One reason for the difficulty in improving RC may be that a large portion of the variance in comprehension is related to general cognitive-linguistic abilities that are rather stable in nature. Lonigan et al. (**In this Issue**) found that a considerable amount of the variance in RC (40%–70%) was shared by decoding and language comprehension and suggested that this shared variance was the result of one or more general cognitive-linguistic factors. Other studies have also found that the common variance between decoding and language comprehension accounts for as much, if not more, variance in RC than does the unique variance of either (e.g., Catts et al., 2005). It is still possible that the cognitive-linguistic factors that underlie this common variance are malleable, but it is not clear at this point what they are and how they might be changed.

Beyond its relationship to general cognitive-linguistic abilities, RC is far more complex than decoding. As noted above, comprehension is not a single thing but a multidimensional cognitive activity. Because of this, significant and widespread improvements in comprehension are

unlikely to result from general instructional approaches such as teaching children to use reading strategies. Research does show that we can make some positive changes by teaching children to be more strategic readers (Swanson et al., 2014). However, strategy instruction is likely to work best when strategies are specific to the purpose of reading, and when they are combined with adequate content knowledge (Willingham, 2006). More generally, the multidimensional nature of comprehension lends itself better to instruction that is tailored to students' abilities with specific texts and tasks. This instruction would entail identifying educationally relevant RC activities and directly teaching the component skills/knowledge bases involved in these activities. For example, in science curricula, students are often asked to evaluate an argument such as the benefits of solar power or the effects of climate change. Instruction for such a comprehension activity might best begin with a review of the content knowledge associated with solar power or climate change. Adequate content knowledge is critical for comprehension and should be central to any instruction directed at improving it (Willingham, 2006). Given the centrality of content knowledge, it is always surprising how little attention has been devoted to it in comprehension intervention. Gough et al. (1996) clearly recognized this, but again the role of content knowledge in the SVR has typically been neglected. Following a review of the content knowledge related to the argument, students would be provided with specific strategy instruction in how to identify a claim, evaluate the evidence, and consider the bias of both the author and the reader. They would also be given instruction and practice in how to best communicate this evaluation in the required task format (written essay, graphic presentation, oral report, etc.). As noted above, comprehension is typically associated with a task, and as such, instruction in task demands should lead to better outcomes. A comparable scenario could be devised to evaluate the effectiveness of this intervention. Such assessment would be much more informative than a standardized measure of comprehension. If an assessment is not matched well with the intervention and a theory of change related directly to the intervention, it would not be surprising that one would find proximal gains but no significant gains on distal standardized measures. This probably explains in part why most reported intervention gains on standardized instruments are so small.

In summary, the SVR has, in many ways, been a useful framework for our understanding of comprehension. It has helped us conceptualize the processes involved in comprehension and how these might contribute to individual differences. The SVR has also led to insights into ways to classify and identify children with reading disabilities. Despite these advancements, the SVR has also contributed to false impressions about the complexity and malleability of comprehension. I have argued that we need to more fully recognize the multidimensional nature of comprehension and take a more specific approach to intervention (and assessment). I have suggested one scenario for intervention, but there are numerous other educationally relevant comprehension activities that could be the target of similar intervention. By taking a less than simple view of comprehension we should be better able to design specific interventions that can impact students' performances in relevant ways.

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Note

1. The term "language comprehension" is used to refer to language and related processes that play an important role in understanding words, sentences, and discourses regardless of the modality (reading or listening). It is analogous to Gough and Tunmer's (1986) notion of linguistic comprehension.

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