

Reviewer 1's comments:

I am sorry to say that I am **NOT recommending** this submission for publication in *Encyclopedia*.

The paper outlines a very simple idea: that good reading depends on readers having good lexical entries for words in their mental lexicons. The paper describes these good entries as “precise and flexible” arguing that they should cover a range of features: orthography, phonetics, morphology and semantics. These features are lumped together under the general term *Lexical Quality*. The text argues that good reading occurs when lexical Quality is high. It supports this conclusion by briefly discussing some empirical data, including some references to experimental work with L2 learners.

A new reading model, the Reading Systems Framework, is discussed. This framework relies heavily on the Lexical Quality Hypothesis.

Authors' Response: We appreciate the reviewer's feedback and understand that the central contribution of our paper may not have been made fully clear in its original version. We have therefore revised the text to reduce redundancy both within and across sections. We wish to clarify that our entry does not simply restate the importance of lexical quality for word-level reading. Rather, it advances an integrated account of reading comprehension that bridges lexical-level precision with higher-order cognitive processes. Specifically, the paper situates the Lexical Quality Hypothesis (LQH) within the broader Reading Systems Framework (RSF) to illustrate how lexical representations interact dynamically with processes such as inference generation, comprehension monitoring, and situation model construction.

We also would like to emphasize that the LQH is not a 'simple idea', but a theoretically rich and empirically supported hypothesis that systematically specifies how multiple constituents of lexical representation—orthographic, phonological, semantic, and morpho-syntactic—along with their binding mechanisms, jointly determine reading efficiency and comprehension. The RSF, in turn, extends this micro-level account to the macro-level cognitive architecture of reading, providing a mechanistic explanation of word-to-text integration (WTI) as the process that connects word identification to text-level understanding.

To improve clarity and make the significance of our paper more explicit, we have strengthened the framing and transitions across sections. These revisions clarified that the RSF incorporates but does not rely solely on the LQH, and highlight the novel contribution of this integrative perspective. We hope these revisions make the theoretical scope and contribution of the paper more explicit.

I have a number of problems with the text. Firstly, the basic idea seems so obvious that it doesn't really need an article to explain it. In addition, the Lexical Quality Hypothesis is not technically a hypothesis, and it is extremely difficult to determine what testable claims it leads to. Secondly, most of the main terms are used without a

proper discussion of what they actually mean. The key terms here are “precise and flexible”: these terms are not defined, and the way they interact with knowledge about words is not properly illustrated. The main example provided (*chased*) is not developed in any detail, so for example it’s not obvious what precise and flexible knowledge of the orthography of this word looks like, and how (whether?) this knowledge interacts with a speaker’s precise and flexible knowledge of the morphological features of *chased*. Thirdly, the paper attempts to integrate the Lexical Quality idea and the Reading Systems Framework into a new Integrated Model, but again, no details are provided about how the two parts are “integrated” so that “good reading” emerges as an outcome.

Authors’ Response: We did our best to define and explain what ‘precise and flexible’ means. Our revision is as follows, and we used an example to help illustrate, see Page 4: “The LQH attributes differences in reading skill to the quality of word representations, characterized by their precision and flexibility. Precision refers to the specificity and accuracy of encoded linguistic features, while flexibility denotes the adaptability of these representations to contextual constraints. Considering the word ‘chased’, precision is evidenced when a reader automatically retrieves its exact, correct spelling (C-H-A-S-E-D), sound (/tʃeɪst/), and grammatical status as a past-tense verb; flexibility is demonstrated when the same reader seamlessly adapts its meaning across contexts, either literally in ‘the cat chased the dog’ or metaphorically in ‘the journalist chased the story’”.

We further elaborated our explanation to clarify how lexical quality is integrated into the reading systems to achieve successful reading, see Page 4: “Lexical quality is thus an individual property reflecting how efficiently readers encode, store, and access a word’s forms and meanings. High-quality representations enable automatic activation of orthographic, phonological, and semantic information during reading, which reduces processing demands and frees cognitive resources for higher-order comprehension, such as inference generation and situation model construction.”

In addition, the manuscript is very difficult to read for stylistic reasons. The text makes extensive use of acronyms (which will be unfamiliar to the general reader). It also uses subjectless gerunds, leaving unspecified who exactly we are talking about. I have provided some examples of these issues in the detailed comments below.

Authors’ Response:

We appreciate the reviewer’s valuable feedback regarding the manuscript’s readability and stylistic clarity. In response, we have thoroughly revised the text to improve accessibility for a general readership. Specifically, we have:

- 1. Reduced the use of acronyms throughout the manuscript and provided full terms upon first mention (e.g., ‘Reading Systems Framework (RSF)’) to ensure clarity for readers who may not be familiar with these abbreviations.*

2. *Revised sentence structures to minimize subjectless gerunds and ensure that each clause explicitly specifies the subject or agent (e.g., replacing ‘highlighting the role of lexical quality’ with ‘this framework highlights the role of lexical quality’).*
3. *Smoothed transitions and simplified phrasing where appropriate to enhance readability while maintaining scientific rigor.*

Detailed comments:

Ln 23-25

By embedding the LQH within the RSF, this entry advances a comprehensive account of reading that highlights the role of LQ in reading comprehension.

Too many acronyms in one sentence, and what does “advancing a comprehensive account of reading” mean?

Authors’ Response: We appreciate the reviewer’s observation regarding the use of multiple acronyms and the potential ambiguity of the phrase ‘advancing a comprehensive account of reading’. To improve clarity and readability, we have removed this sentence entirely from the revised version to avoid promotional language and ensure a more neutral and straightforward tone.

Ln 94-95

The same criticism could be made of the model developed here. It is very short on detail.

Authors’ Response: We thank the reviewer for this important observation. We have provided more details on the model developed here. ‘The integrated model addresses this specific shortcoming of the C-I model by explicitly defining Word-to-Text Integration (WTI) as the central dynamic mechanism that bridges lower- and higher-level processes. While the C-I model leaves this interaction unspecified, the RSF framework details how high-quality lexical representations (the lower-level) are incrementally incorporated into the evolving situation model (the higher-level) through the real-time cognitive operations of WTI. Thus, the RSF model provides the details that we argue are lacking in the C-I framework.

Ln 107

What is a binding in this context?

Authors’ Response: We thank the reviewer for raising this clarification point. In the context of the Lexical Quality Hypothesis (LQH), see Page 4, ‘binding’ refers to the integration mechanism that links the different constituents of a word’s representation—orthographic, phonological, morpho-syntactic, and semantic—into a unified lexical identity. This mechanism ensures that when a word is recognized, all of its lexical features are co-activated and accessed as a coherent unit rather than as separate pieces of information.

We can illustrate this with the example from our paper (Table 1, see Page 5): the word ‘chased’. Its orthographic form is C-H-A-S-E-D. Its phonological form is /tʃeɪst/. Its morpho-syntactic property marks it as a past-tense verb. Its semantic meaning is ‘to have pursued’. The binding is the cognitive ‘glue’ that ensures all these features are strongly linked. For a skilled reader, seeing the letters in ‘chased’ automatically and simultaneously activates the correct sound (/tʃeɪst/), the grammatical knowledge that it is a past-tense verb, and the meaning of ‘pursued’. This integrated, high-quality representation allows for immediate and accurate understanding within a sentence, such as ‘The cat chased the dog’. In contrast, weak binding would result in slow or incomplete activation. For instance, a reader might access the meaning but fail to instantly retrieve the past-tense information. This would specifically hinder sentence integration by preventing the immediate connection between ‘chased’ and preceding temporal cues (e.g., ‘yesterday...’), causing confusion about event sequencing and disrupting the development of a coherent mental timeline of the narrative. Thus, binding ensures all constituents are co-activated as a coherent unit, which is fundamental to efficient word identification and, consequently, reading comprehension.

Ln146

how does this definition work in practice? This sentence needs unpacking.

Authors’ Response: To make the definition of lexical quality (LQ) more concrete, we have revised the text to unpack how this concept operates in practice. Specifically, we now clarify that high LQ is reflected in a reader’s ability to rapidly and accurately access a word’s form (spelling, sound, and grammatical structure) and meaning in context, thereby enabling fluent comprehension. For example, a high-LQ representation of the word ‘bank’ allows a reader to efficiently select the appropriate meaning (‘financial institution’ vs. ‘river edge’) based on contextual cues. This revision illustrates how the precision of lexical representations directly supports comprehension.

Ln147

LQ isn’t a feature of an individual word. It might be a feature of an individual’s representation of a specific word

Authors’ Response: We thank the reviewer for this helpful clarification. We agree that lexical quality (LQ) is not a property of the word itself but a feature of the reader’s mental representation of that word. In the revised manuscript, see Page 4, we have modified the relevant section to explicitly state that LQ reflects the completeness, precision, and efficiency of an individual’s representation of a specific word in their mental lexicon, rather than being an inherent feature of the word. This clarification has been incorporated in the definition paragraph of the LQH section to ensure conceptual accuracy and avoid ambiguity.

In154

This sentence is a good example of the use of undefined terms:

what is the “identity of a word”?

How is the quality of each constituent feature assessed?

How do the features interact?

What happens when the features are activated?

How does LQ “fundamentally shape how seamlessly and efficiently words are activated during reading” (Ln 168)

Authors' Response: We thank the reviewer for these insightful questions. To clarify, we revised the writing and tried to use examples to help illustrate the concepts and explanation. In this manuscript, see Page 4, the 'identity of a word' refers to the unified lexical identity that results from the integration of its orthographic, phonological, morpho-syntactic, and semantic features. For example, for a developing reader, the identity of the word 'chased' comprises its spelling (C-H-A-S-E-D), pronunciation (/tʃeɪst/), grammatical role as a past-tense verb, and core meaning of 'pursued'.

The quality of each constituent can be assessed empirically in processing. For 'chased', high quality means the developing reader consistently retrieves its precise spelling (not confusing it with 'chaste'), accurate pronunciation, and recognizes it as a past-tense verb indicating a previous action. These features interact dynamically through a binding mechanism, ensuring that activation of one constituent (e.g., orthography) rapidly co-activates the others (e.g., pronunciation) to form a coherent lexical entry. When this system is well-specified and efficiently connected, word activation occurs automatically with minimal cognitive effort; when representations are underspecified, activation becomes slower and less reliable. This explains how lexical quality fundamentally shapes the seamlessness and efficiency of word activation during reading. For instance, a developing reader might correctly decode 'chased' but fail to instantly activate its past-tense status, which hinders their ability to establish the temporal relationship in sentences like 'Yesterday the cat chased the bird all morning'. This delay forces them to consume cognitive resources that would otherwise support comprehension of the text as a whole.

Ln176

how does constituent binding work to generate a unified lexical representation?

Authors' Response: To clarify, constituent binding refers to the integrative mechanism through which the different components of a word's representation—orthographic, phonological, morpho-syntactic, and semantic—are linked into a unified lexical representation within the reader's mental lexicon. This process allows activation in one domain (e.g., orthography) to automatically trigger related information in the others (e.g., phonology and meaning), ensuring that words are processed as coherent units rather than as disconnected features. See the example provided for the above comment.

Ln191

I really struggled with this section. I think it means:

a **high-quality** word representation means all its features (spelling, sound, grammar, and meaning) are **clear, stable, consistent, and strongly linked**. A **low-quality** representation means these features are **unclear, unstable, or poorly connected**.

Isn't this obvious already?

Authors' Response: We thank the reviewer for this observation. We understand that the distinction between high- and low-quality lexical representations may appear straightforward at first glance. Our purpose in including this section, however, was not to restate an obvious point, but to establish a clear operational framework for subsequent theoretical and empirical discussions. The distinction provides the foundation for explaining how specific dimensions of lexical quality—orthographic, phonological, morpho-syntactic, or semantic integration—can be systematically analyzed and empirically tested.

Ln217

how is this “a compelling framework”?

Who is doing the elucidating?

Authors' Response: We agree with the reviewer that the phrasing was overly evaluative and vague. To improve specificity and create a neutral tone, we removed the promotional wording ‘a compelling framework’. We now describe more concretely what the Lexical Quality Hypothesis (LQH) does—namely, how it specifies mechanisms through which the precision and integration of lexical representations support reading comprehension.

Ln243

true, but is this new?

Authors' Response: We clarified that this model provides a specific and mechanistic account of how the connection is achieved. While previous models acknowledge the importance of integration in broad terms, this integrated framework uniquely posits Word-to-Text Integration (WTI) as the central and dynamic mechanism and explicitly details how the efficiency of the WTI process is governed by the lexical quality of representations. Thus, the contribution of this synthesized model lies in embedding the detailed and constituent-based LQH within the cognitive architecture of the RSF to specify the pathway from micro-level lexical precision to macro-level comprehension success.

Ln 269

what is a wide-angle and multiple systems perspective?

Authors' Response: The phrase ‘wide-angle and multiple systems perspective’ means that the RSF adopts a broad and macro-level view of reading (‘wide-angle’) that considers it as a product of several specialized but interacting cognitive subsystems (‘multiple systems’). Rather than focusing on a single process in isolation, the framework simultaneously considers how distinct systems, such as the word identification system, the comprehension system, and various knowledge sources (linguistic, orthographic, general), interact in a coordinated way to enable successful reading.

Ln275

how does a coherent and evolving mental, model of the text emerge? What does it look like?

Authors' Response: We used an example to help illustrate: A coherent and evolving mental model is a dynamic and non-linguistic representation of the situation described by the text, not the text itself. It emerges through Word-to-Text Integration (WTI) as readers continuously link new words to existing knowledge. For example, upon reading 'The cat chased the dog', the model isn't just a record of the words; it is a mental simulation that might include spatial relationships (the cat running after the dog), causal inferences (the dog may have provoked the chase), potential outcomes (the dog might bark or run away), and even emotional states (a playful or aggressive intention). This model is 'evolving' because each new word or sentence, such as 'across the busy yard,' updates and enriches this simulation with new spatial and contextual details, creating a coherent 'movie' in the mind about the narrated events.

Ln304

how does this work in practice?

Authors' Response: The process works through rapid and cascading activation. For example, when a skilled reader sees the word 'chased', the visual input first activates its orthographic form (C-H-A-S-E-D). This automatically triggers its phonological form (/tʃeɪst/), its morphological identity (past tense of 'chase'), and its syntactic role as a verb. This integrated lexical information is then immediately used by the comprehension system to build a proposition (e.g., [Agent: cat, Action: chased, Patient: dog]) and update the situation model. This entire process, from seeing the word to integrating its meaning, occurs automatically and nearly instantaneously, demonstrating how lexical identification directly drives comprehension.

Figure 2

This model doesn't appear to have any outputs.

Authors' Response: The primary output of the model is the situation model (the coherent mental representation of the text's meaning), which is continuously updated and serves as the final product of the comprehension process. Additionally, the entire process enables behavioral outputs such as answering questions, summarizing, or making inferences about the text. While these specific behaviors are not depicted in the figure to maintain a focus on the internal cognitive architecture, the situation model is the critical cognitive output of the model.

Ln347

The description of WTI specifies a number of problematical procedures, but it doesn't tell me how these problems are resolved.

Authors' Response: We used an example to clarify that the problems related to linking or updating are resolved through a cognitive process of parallel activation. When encountering a word, multiple potential referents or meanings in the mental model are activated in parallel. The correct link is established when one interpretation best satisfies the constraints from the co-activated lexical information (e.g., semantic features, morpho-syntax) and the current context. For instance, in the sentence 'The dog chased the cat when it saw the cat.' The word 'it' strongly activates recent nouns; its link is resolved when one candidate (e.g., 'the dog') is a better semantic fit for the surrounding context (e.g., 'chased the cat') than others. Updating occurs similarly when no existing referent adequately satisfies these constraints, triggering the creation of a new entity in the model. For example, when reading the sentence 'The dog chased the cat. Suddenly, a squirrel appeared.' The word 'squirrel' cannot be linked to any existing entity in the mental model, requiring the reader to update the model by adding this new entity to the scene.

Figure 3

This model has no outputs.

Authors' Response: In this depiction, the situation model is the primary output of the reading process. It represents the final coherent mental understanding of the text that the reader constructs.

Ln402

LQH **asserts** the importance of high quality lexical knowledge, but it doesn;t explain how this knowledge facilitates the integration of word meanings into coherent text representations.

Authors' Response: The Lexical Quality Hypothesis (LQH) identifies the source of efficiency (high-quality representations), but it is the process of Word-to-Text Integration (WTI) that serves as the specific cognitive mechanism through which the facilitation occurs. To improve the clarity, we revised the sentence to clearly articulate this relationship.

Our revised version: 'These processes are fundamentally supported by high-quality lexical knowledge, as specified by the LQH. The LQH explains that high-quality representations facilitate WTI by enabling fast and accurate meaning retrieval and flexible context-sensitive integration into the evolving text representation'.

Ln408

precision and flexibility have still not been defined.

Authors' Response: We've addressed this comment in our previous response.

Ln426

ERP methods probably won't be familiar to the readership.

Authors' Response: We revised the writing to ensure that the ERP methodology is clearly introduced and explained for a broad readership who may not be familiar with this method by providing a specific description of how ERP data is collected and clearly explaining the functional significance of key ERP components (e.g., the N400 as an indicator of semantic processing load and the P300 of mental model updating) to aid readers' comprehension, see Pages 14.

Ln476

These short summaries work if you are familiar with the papers already, but a reader unfamiliar with them would have some difficulty working out what was done.

Authors' Response: We thank the reviewer for this thoughtful comment regarding the level of methodological detail. In crafting this section, we aimed to provide a conceptual summary of the empirical landscape to support the theoretical framework, rather than a detailed methodological review of individual studies. We strived to balance specificity with conciseness across the entry. We feel that adding specific methodological details for each cited finding would disrupt the flow of the synthesis of the number of studies relevant to the particular statement. We provided all references for the interested readers to readily access the full experimental details.

Ln481

How does RSF predict individual differences?

Authors' Response: The RSF predicts individual differences by proposing a specific causal chain: the quality of an individual's lexical representations (i.e., lexical quality) serves as the foundational source of variation, which in turn determines the processing efficiency of Word-to-Text Integration (WTI). Skilled readers, with high-quality lexical representations, achieve rapid and automatic WTI, freeing up cognitive resources for higher-order comprehension processes. In contrast, less-skilled readers, with lower-quality representations, experience effortful WTI that consumes significant cognitive resources, resulting in slower processing and poorer comprehension. Thus, the RSF attributes differences in reading outcomes directly to the efficiency of the WTI mechanism, which is fundamentally constrained by the reader's underlying lexical quality.

Ln487

See comment 426.

Authors' Response: We've addressed this comment in our previous response, please refer to comment 426.

Ln498

N400 amplitudes may not be familiar for readers.

Authors' Response: To ensure the term is clear for all readers, we have explicitly defined the N400 in the manuscript as 'an ERP component associated with semantic activation'. This description concisely captures its functional significance and provides the necessary context for those less familiar with cognitive neuroscience methods.

Table 2

Why do we get detailed methodology here but not for the other studies reported?

Authors' Response: The reason why we provided Table 2 to give a detailed methodological illustration for the study by Perfetti, Yang, and Schmalhofer (2008) is that their study serves as a paradigmatic example of the Word-to-Text Integration (WTI) paradigm. Its experimental conditions (Repetition, Paraphrase, Inference, Baseline) are fundamental to defining and operationalizing the WTI construct.

We think that making these specific conditions clear is essential for the readers to understand the core evidence for the integrated model. For other cited studies, which test and confirm various predictions of this framework, a summary of their findings is appropriate for an entry paper.

Ln517

see comment 498.

Authors' Response: We've addressed this comment in our previous response. Please refer to comment 498.

Ln533

Personally, I would not include these brief references to L2 research.

Authors' Response: We removed these references to L2 research per the reviewer's suggestion. This also helped to address the other reviewer's comment to reduce the length and scope of this entry paper.

Ln610

too many acronyms in one sentence.

Authors' Response: We separated this sentence into two shorter sentences to avoid too many acronyms in one sentence. The revised text now reads: 'In addition to the RSF, two other influential models offer valuable insights that share conceptual grounds with it. These are the Simple View of Reading (SVR) [9,10] and the Construction-Integration (C-I) model [12].'

Ln616

Why is it a product?

Authors' Response: In the Simple View of Reading (SVR) model, reading comprehension is a product of D (decoding) × C (listening comprehension). This means that if either component is deficient, overall reading comprehension will be severely constrained, regardless of the strength of the other component. This contrasts with an additive model, where one strong component could offset weakness in the other.

Ln621

The rope model isn't a model. It's a metaphor.

Authors' Response: We agree that the rope model is best characterized as a heuristic metaphor rather than a formal model. We decided to remove the discussion of the rope model from the manuscript to make our paper more focused. We are now focused on the theoretical constructs of the Simple View of Reading (SVR) and comparison with the Reading Systems Framework (RSF).

Ln723

Differences in the LQ across words lead to differences in the precision and efficiency with which words' form-meaning mappings are integrated into readers' mental representations.

Isn't this tautologous?

Authors' Response: We removed this sentence to make the writing more concise.

Ln732

I think this overstates what the RSF does.

Authors' Response: We agree that the original statement may overstate the case. We revised the text to better reflect the contribution of the RSF: 'The RSF offers a perspective by integrating insights from both word-level and text-level processing. It addresses limitations of classical frameworks like the SVR and C-I models by specifying the cognitive mechanisms that connect lexical quality to comprehension outcomes through WTI.'

Ln756

In short: The better the mental file you have for a word (High LQ**), the easier and faster you can plug that word's meaning into your overall understanding of the text (**Efficient WTI**), leading to better reading comprehension.**

But the text doesn't explain how this works in practice.

Authors' Response: We illustrated the practical mechanism of how high LQ facilitates WTI using 'the cat chased the dog' example. Specifically, we demonstrated how skilled readers automatically activate and integrate the orthographic, phonological, morpho-syntactic, and semantic features of 'chased' to construct a coherent situation model. Please also refer to our responses regarding Lns 107, 154, 275, 304, 347.