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Cognitive Efficiency and Perceived Text Quality in Children: how Concreteness and Specificity shape Clarity and Informativeness

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Abstract

Readability is often conceived in terms of processing efficiency, assuming that texts that are easier to process are also more effective communicatively. However, lexical choices may support different aspects of textual quality. This study investigates how concreteness and specificity shape children's subjective evaluations of textual quality, focusing on perceived clarity and informativeness. Children aged 9–12 read short texts manipulated for concreteness and specificity and rated them on four dimensions: ease of understanding, confusion, quantity of information, and relevance of information. Mixed-effects analyses reveal that concreteness increases perceived clarity across age groups, whereas specificity primarily tends to enhance perceived informativeness, with effects varying across development. These findings suggest that different lexical properties contribute in distinct ways to clarity and informativeness, and that their relationship is not fully captured by processing ease alone. Overall, the results support a multidimensional view of communicative efficiency and highlight developmental changes in how children evaluate informational content.

Keywords: text clarity; text informativeness; communicative efficiency; concreteness; specificity

Introduction

Comprehension is a prerequisite for effective communication and a fundamental condition for successful learning (Dahl et al., 2021). In educational contexts, written texts are expected not only to be understandable, but also to convey relevant and accurate information (Kennedy & Romig, 2024; McNamara et al., 1996; Sweller, 2020). This dual requirement creates a central challenge: texts that are easy to process are not necessarily sufficiently informative, while texts that are highly informative are not always easy to understand (Paas et al., 2016; Sweller, 1988). This tension (Bischof & Eppler, 2010) is particularly salient in child-directed materials, where readers' linguistic and cognitive resources are still developing.

This challenge is commonly addressed within research on text *readability*, broadly defined as the ease with which a reader can understand a written text (Weiss & Meurers, 2019). Traditional readability approaches typically operationalize ease of understanding through surface-level linguistic features, such as word length or sentence complexity (Dale & Chall, 1949; DuBay, 2004; Klare et al., 1963). While these measures provide useful approximations of processing demands, they capture only one dimension of communicative success, as they rarely incorporate readers' subjective evaluations of clarity and informativeness, which are central to communicative effectiveness.

To account for both dimensions, clarity and informativeness, we adopt a communicative perspective in which texts are evaluated in terms of their efficiency, defined here as the balance between clarity and informativeness. This definition is consistent with prior accounts that conceptualize communicative efficiency as the relationship between cognitive effort and communicative or learning outcomes (Hoffman, 2012; Levshina, 2022; Roelcke, 2002; Van Gog & Paas, 2008). Importantly, greater processing efficiency does not necessarily coincide with greater communicative effectiveness or deeper learning (Nagel et al., 2025). Clarity refers to the extent to which a text supports ease of understanding and minimizes confusion, whereas informativeness concerns the amount, relevance, and precision of the information conveyed. In this study, clarity is treated as a subjective proxy for processing ease, rather than a direct measure of cognitive effort. Within this framework, communicative efficiency emerges from the interplay between these two dimensions, rather than from either one taken in isolation.

Related works

From a cognitive perspective, clarity is constrained by limitations in working memory and attentional resources (Arrington et al., 2014; Daneman & Merikle, 1996; Faria & Júnior, 2013). Capacity-based models posit that readers must allocate finite cognitive resources across multiple processes, including lexical access, syntactic parsing, semantic integration, and discourse-level inference (Baddeley, 1998; Just & Carpenter, 1992). When lower-level processes such as lexical access and semantic retrieval are demanding, fewer resources remain available for higher-level integration, potentially affecting comprehension (Perfetti, 1985). When word meanings are readily accessible, readers can allocate working memory resources to constructing coherent mental representations of the text, supporting retention and learning (Linderholm & van den Broek, 2002; Walczyk & Griffith-Ross, 2007). Therefore, texts that facilitate rapid and reliable access to meaning are more likely to be experienced as clear and easy to understand.

Informativeness depends on the degree to which a text constrains interpretation and reduces ambiguity, providing sufficient specific and relevant information to support accurate mental representations (Grice, 1975). However, increasing informativeness may require more detailed or less familiar lexical content, potentially increasing processing demands. For

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this reason, clarity and informativeness should be considered distinct, though interrelated, dimensions of communicative efficiency.

A key factor that, we argue, influences both dimensions is the degree of abstraction at which information is conveyed, namely: the concreteness and the specificity of lexical choices (M. Bolognesi et al., 2020). In particular, concreteness refers to the extent to which a word is grounded in perceptual experience (e.g., *table* vs. *freedom*), whereas specificity concerns the granularity of reference, ranging from general categories (e.g., *animal*) to more specific instances (e.g., *dog*, *golden retriever*). These two lexical variables afford different processing mechanisms (Kintsch & Van Dijk, 1978; Lamarra et al., 2025; Montefinese et al., 2025; Paivio, 1990).

High concreteness supports a more direct semantic access, which can facilitate comprehension and reduce perceived difficulty (Paivio, 1990). Specificity, on one hand increases semantic precision and reduces referential ambiguity, thereby enhancing the amount and potentially the relevance of the conveyed information (M. M. Bolognesi & Caselli, 2023; Murphy, 2010). On the other hand, more specific expressions may also impose greater processing demands due to their semantic richness or lower familiarity. Therefore, the contribution of concreteness and specificity to communicative efficiency may not be identical, and that their effects on clarity and informativeness may be dissociable.

This issue becomes especially salient during formal education, when children transition from "learning to read" to "reading to learn" (Chall, 1983), and written texts become a primary vehicle for knowledge acquisition. At this stage, readers do not simply decode linguistic input; they actively evaluate its clarity and informational value, engaging in metacognitive judgments about their own understanding (Flavell, 1979; Nippold & Tomblin, 2014). These evaluative criteria are not static. Younger readers tend to privilege explicitness and the sheer amount of information, whereas older readers increasingly weight relevance and informativeness in a more selective, efficiency-oriented sense (Cain et al., 2004; Sperber & Wilson, 1986). Understanding how children construe clarity and informativeness is therefore crucial for designing educational materials that are not only accessible, but cognitively effective within formal learning environments (Hoffman & Schraw, 2010).

In the present study, we examine how lexical concreteness and specificity shape children's subjective evaluations of text clarity and informativeness. Children aged 9 to 12 read short texts systematically manipulated along these two dimensions and evaluated them in terms of ease of understanding, confusion, quantity of information, and relevance of information. Building on psycholinguistic and cognitive accounts, we derive the following hypotheses.

First, we predict that higher lexical concreteness will enhance perceived clarity. Compared to abstract texts, concrete texts should be judged as easier to understand and less confusing, as they facilitate access to referents and reduce processing demands (**HP1**). By contrast, we hypothesize that higher lexical specificity will primarily enhance perceived informativeness. More specific texts should increase semantic differentiation and referential precision, leading to higher ratings of informational quantity and relevance, rather than to greater ease of processing (**HP2**). Accordingly, specificity is not expected to be a primary driver of perceived clarity, although secondary effects remain possible. Crucially, these predictions concern dominant tendencies rather than exclusive mappings: both concreteness and specificity may contribute, to varying degrees, to both clarity and informativeness.

Finally, we examine how these effects vary across development (**HP3**). Consistent with accounts of metacognitive development and relevance-based evaluation (Cain et al., 2004; Flavell, 1979; Nippold & Tomblin, 2014; Sperber & Wilson, 1986), we expect younger children to rely more on the explicitness and amount of information when evaluating informativeness, whereas older children may adopt more selective criteria, differentiating more clearly between quantity and relevance.

By focusing on children's subjective evaluations, the present study provides a cognitively grounded account of communicative efficiency in text comprehension, highlighting how different lexical properties contribute to the perceived clarity and informativeness of written materials. This approach extends traditional readability research by incorporating both processing-related and informational dimensions, offering a more comprehensive perspective on how texts support understanding and learning.

The present study

To investigate how students perceive the clarity and informativeness of written texts, we systematically manipulated lexical concreteness and specificity within a series of short narrative texts. Participants evaluated each text along the following four dimensions.

Clarity was operationalized in terms of:

1. **easiness,** reflecting perceived processing effort required to understand the text;
2. **confusion**, capturing the level of difficulty in interpreting the text content.

Informativeness was operationalized as:

1. **quantity** of information, referring to how much information the text was perceived to convey;
2. **relevance** or prominence of information, reflecting how important the text content was perceived to be for understanding the text.

The aim of the study is to test how lexical concreteness and specificity impact children's subjective evaluations of text clarity and informativeness. In addition, we investigate how these effects vary across development.

Participants The study involved 103 children aged 9–12 years, recruited from one primary and one secondary school

in Imola (BO), Italy. Participants were grouped based on their school classes (corresponding to ages 9–10, 10–11, and 11–12). The sample comprised two fifth-grade primary school classes (n = 33, 17 female), two sixth-grade first-year secondary school classes (n = 32, 16 female), and two seventh-grade second-year secondary school classes (n = 38, 20 female), resulting in a balanced distribution across age and gender. All children were native Italian speakers. Data collection took place during regular school hours; participation was voluntary, with parental informed consent obtained prior to testing.

Materials The stimuli consisted of 40 short texts varying in the concreteness and specificity of a target sentence. Sentences were selected from a previous study (Lamarra et al., in prep) which was built on Mazzuca et al. (2025) and included 16 abstract-general, 16 abstract-specific, 16 concrete-general, and 16 concrete-specific concepts, with an additional set of 8 basic-level sentences (4 abstract and 4 concrete) as a baseline. Sentences were matched for morphological complexity and controlled for naturalness, familiarity, and abstractness.

Each target sentence was embedded in a three-sentence text generated with ChatGPT-3, following constraints to ensure simplicity and age-appropriate readability (neutral tone, max 10 words per sentence, no subordinate clauses). Notably, the same text frame was used for specificity conditions, varying only the target concept. This design ensured that observed effects could be attributed to lexical manipulations rather than to differences in contextual content. Representative examples of the experimental texts are provided in Table 1. Full stimulus lists and descriptive characteristics are available in the OSF repository https://osf.io/3hvjn/overview?view_only=1726dd808ab44d4aadc9f5e4f8a2d6fd.

Procedure The experimenter introduced the task verbally, explaining that children would evaluate the clarity and informativeness of short texts, framed as a "judging game." Clarity was defined as ease of understanding and absence of ambiguity, while informativeness was defined as the richness and relevance of information. Texts were projected on an interactive board and read aloud collectively, following teachers' advice to ensure engagement and reliable data. After each text, children responded individually on a paper questionnaire with four 5-point Likert-scale items: two assessing clarity (ease of understanding, confusion) and two assessing informativeness (quantity, relevance). Responses were coded so that higher values consistently indicate better performance (i.e., greater clarity or informativeness). In particular, the confusion item was reverse-coded for analysis, such that higher scores reflect lower perceived confusion. Data collection was conducted over two consecutive days in six classes, with each session lasting approximately 90 minutes.

Data Analysis Data were analyzed in (R Core Team, 2019) and RStudio (v4.4.3) using linear mixed-effects models. Spearman correlations assessed relationships among the four rating dimensions, and Variance Inflation Factors (VIFs) were computed to check multicollinearity. Three separate models predicted each rating dimension (clarity1, clarity2, informativeness1, informativeness2) from text concreteness (two levels: abstract, concrete), text specificity (three levels: basic, general, specific), or combined text type (six levels: abstract-general, abstract-specific, abstract-basic, concrete-general, concrete-specific-concrete-basic), with Age (9-10, 10-11, 11–12 years) as an interacting factor. Participants and items were included as random effects. Significance of main effects and interactions was tested with Wald Chi-Square tests, and post-hoc tests using pairwise comparisons were conducted with Tukey-adjusted contrasts (emmeans). Correlations and model results are presented below.

Results

Correlations

The two clarity measures were moderately correlated with each other (ρ = .67), as were the two informativeness measures (ρ = .57), suggesting internal consistency within each construct. Cross-construct correlations were weaker: both clarity measures showed low correlations with the informativeness measures (ρs ranging from .33 to .40), indicating that clarity and informativeness, while related, likely capture distinct aspects of text quality. Consistently, the VIF values were all below 2 (ranging from 1.16 to 1.97), indicating low collinearity and suggesting that the predictors are relatively independent of each other.

Concreteness models

Clarity 1 (easiness) We found a main effect of concreteness ($F(1, 37.52) = 7.16$, $p = .001$), showing that concrete texts were judged as easier to understand ($EMM = 4.24$, $SE = 0.9$) than abstract texts ($EMM = 3.95$, $SE = 0.09$). There was no significant main effect of age ($p = .192$) nor a significant interaction between concreteness and age ($p = 0.33$).

Clarity 2 (confusion) We found a main effect of concreteness ($F(1, 37.94) = 5.70$, $p = .022$), showing that concrete texts yielded less confusion ($EMM = 3.90$, $SE = 0.09$) than abstract texts ($EMM = 3.62$, $SE = 0.09$). There was no significant main effect of age ($p = .108$) nor a significant interaction between concreteness and age ($p = .49$).

Informativeness 1 (quantity) We found a significant main effect of age ($F(2, 99.39) = 8.84$, $p < .001$), no significant main effect of concreteness ($p = .686$), nor a significant interaction between concreteness and age ($p = .174$). Post-hoc comparisons revealed that overall children aged 11-12 scored significantly lower in quantity of information than both 9–10 ($EMM = 0.39$, SE = 0.12, $p = .003$) and 10–11 ($EMM = 0.44$, $SE = 0.12$, $p < .001$), while no difference was found between 9–10 and 10–11 ($EMM = –0.05$, $SE = 0.12$, $p = .918$).

Informativeness 2 (relevance) We found a significant main effect of age ($F(2, 99.74) = 6.9018$, $p < .001$), no significant main effect of concreteness ($p = .746$), nor a significant interaction between concreteness and age ($p = .183$). Post-hoc

Table 1: Examples of experimental texts with English translations. Target sentences (bold) and target concepts (underlined) are shown.

Category	General text	Specific text
Concrete	Ho partecipato a una festa di compleanno. **Ho preparato un dolce delizioso**. Gli amici hanno apprezzato e ne hanno chiesto ancora! *I attended a birthday party.* ***I made a delicious dessert****. My friends liked it and asked for more!*	Ho partecipato a una festa di compleanno. **Ho preparato una crostata deliziosa**. Gli amici hanno apprezzato e ne hanno chiesta ancora! *I attended a birthday party.* ***I made a delicious tart****. My friends liked it and asked for more!*
Abstract	Sono stato coinvolto in un mistero al campo estivo. **Ho risolto un problema per trovare il colpevole**. Abbiamo festeggiato con una bevanda fresca. *I was involved in a mystery at summer camp.* ***I solved a problem*** *to find the culprit. We celebrated with a cool drink.*	Sono stato coinvolto in un mistero al campo estivo. **Ho risolto un indovinello per trovare il colpevole**. Abbiamo festeggiato con una bevanda fresca. *I was involved in a mystery at summer camp.* ***I solved a riddle*** *to find the culprit. We celebrated with a cool drink.*

comparisons showed that children aged 11–12 scored significantly higher in the dimension relevance of information than both 9–10 (*EMM* = 0.38, SE = 0.11, p = .001) and 10–11 (EMM = 0.26, *SE* = 0.11, p = .042), while no significant difference emerged between 9–10 and 10–11 (*EMM* = 0.12, *SE* = 0.11, p = .521).

Discussion of Concreteness models Lexical concreteness primarily supports the clarity dimension of communicative efficiency. As expected, concrete texts were judged as easier to understand and less confusing than abstract texts, and this pattern was consistent across age group, suggesting that grounding language in perceptual experience supports more accessible interpretation for young readers. In contrast, concreteness did not significantly affect ratings of informativeness. This indicates that, while concrete language is associated with higher perceived clarity, it does not necessarily increase the perceived amount or relevance of information conveyed. Overall, these results suggest that concreteness contributes more strongly to perceived clarity than to informativeness, pointing to a differentiated role of lexical properties in children's evaluations of text quality.

Specificity models

Clarity 1 (easiness) No significant main effects or interactions were found for lexical specificity or age (Specificity, p = .22; Age, p = .19; Specificity × Age, p = .23).

Clarity 2 (confusion) No significant main effects of specificity or age emerged (Specificity, p = .08; Age, p = .114). However, we found a significant interaction between specificity and age, (F(4, 1911.66) = 2.98, p = .018). Post-hoc comparisons revealed that children aged 9-10 judged general texts to be significantly more confusing than specific texts (*EMM* = 3.54, *SE* = 0.130 vs *EMM* = 4.02, *SE* = 0.130), t(54.6) = -3.28, p = .005. No other comparisons reached significance (*ps* > .05), and no reliable differences between age groups emerged within the three specificity levels (*ps* > .05).

Informativeness 1 (quantity) We found significant main effects of specificity, (F(2, 36.32) = 4.03, p = .026), and age, (F(2, 103.04) = 8.06, p < .001), as well as a significant interaction between specificity and age, (F(4, 1912.10) = 3.89, p = .004). Overall, specific texts (*EMM* = 3.35, *SE* = 0.09) were rated as more informative than general texts (*EMM* = 3.05, *SE* = 0.09), p = .02, while no significant differences emerged between basic-level texts and either specific or general texts (*ps* > .41). Within age groups, children aged 9-10 found general texts (*EMM* = 3.05, *SE* = 0.118) as less informative than specific texts (*EMM* = 3.52, *SE* = 0.118), p < .001. No other contrasts reached significance (*ps* >. 06). Children's ratings of informativeness differed significantly between age groups across all text levels. Basic texts were rated as more informative by children aged 9-10 (*EMM* = 3.40, *SE* = 0.147) than those aged 11-12 (*EMM* = 2.96, *SE* = .142), p = .009. General texts were judged as more informative by children aged 10-11 (*EMM* = 3.29, *SE* = 0.12) than 11-12 (*EMM* = 2.96, *SE* = 0.14), p < .001. Finally, specific texts were rated as less informative by children aged 11-12 (*EMM* = 3.02, *SE* = 0.11) compared to both 9–10-year-olds (*EMM* = 3.52, *SE* = 0.12), p < .001, and 10-11-year-olds (*EMM* = 3.51, *SE* = 0.12), p < .001.

Informativeness 2 (relevance) We found significant main effects of specificity, (F(2, 36.71) = 3.26, p = .049), and age, (F(2, 103.98) = 6.41, p = .002), while the interaction between specificity and age was not significant (p = .64). Post-hoc comparisons indicated that specific texts (*EMM* = 3.65, SE = 0.07) tended to be rated as conveying more relevant information than general texts (*EMM* = 3.43, *SE* = 0.07), with this difference approaching significance, t(36.4) = 2.39, p = .056. No other comparisons were significant (*ps* > .18).

Discussion of Specificity models Lexical specificity did not show consistent effects on perceived clarity. No reliable differences emerged for easiness judgments, and effects on confusion were limited and primarily observed in the youngest age group. In contrast, specificity was associated with higher ratings of informativeness, with texts containing more specific

lexical items tending to be judged as more informative, particularly in terms of perceived quantity of information. Effects on relevance were weaker and less consistent. These patterns varied across age groups: younger children appeared more sensitive to differences in specificity, whereas older children provided generally lower and more uniform informativeness ratings across conditions. Overall, these findings suggest that lexical specificity is more strongly related to perceived informativeness than to clarity, although its effects are not uniform across measures or age groups.

Combined Effects of Concreteness and Specificity models

Clarity 1 (easiness) We found no significant main effects of text type ($F(5, 1905.76) = 1.88$, $p = .06$) or age ($p = .188$). However, we found a significant interaction between text type and age ($F(10, 1905.76) = 1.88$, $p = .044$). Post-hoc contrasts revealed that abstract-generic texts were significantly less easy to understand compared to concrete-specific texts for children aged 9-10 ($EMM = 3.84$, $SE = 0.154$; $EMM = 4.49$, $SE = 0.154$, respectively), $t(49.4) = -3.44$, $p = 0.0141$, and for children aged 11-12, ($EMM = 3.65$, $SE = 0.150$; $EMM = 4.26$, $SE = 0.150$, respectively), $t(46.3) = -3.26$, $p = 0.0239$ (see Table 1). No other contrasts were significant, all $ps > .09$. Post-hoc contrast between age groups showed that children aged 10-11 rated abstract-generic texts as easier to understand than those aged 11-12, $t(240) = 2.870$, $p = 0.0124$. No other contrasts reached significance, all $ps > .09$.

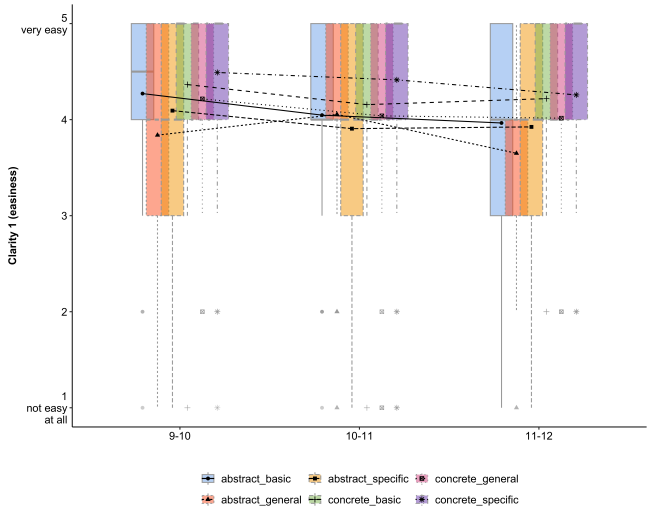

Figure 1: Mean ratings for *Clarity 1 (easiness)* as a function of text type (combining concreteness and specificity) and age group. Points represent estimated marginal means from the mixed-effects model; error bars indicate standard errors.

Clarity 2 (confusion) We found only a marginally significant effect of text type, ($F(5, 33.98) = 2.48$, $p = .051$). No other main effect or interactions reach significance (Age, $p = .011$; Text type x Age, $p = .14$).

Informativeness 1 (quantity) We found significant main effects of text type ($F(5, 33.27) = 4.35$, $p = .0037$) and age ($F(2, 103.05) = 8.03$, $p < .001$), as well as a significant interaction between text type and age ($F(10, 1960.42) = 2.49$, $p = .0057$). Overall, concrete-specific texts ($EMM = 3.47$, $SE = .106$) were rated as significantly more informative than concrete-general texts ($EMM = 2.85$, $SE = .106$), $t(33.3) = -4.55$, $p = .0009$. Age-specific comparisons showed that children aged 9-10 judged concrete-general texts ($EMM = 2.73$, $SE = .14$) as significantly less informative than concrete-specific ($EMM = 3.66$, $SE = .14$), $t(67.2) = -5.64$, $p < .0001$, as well as abstract texts at all levels of specificity ($ps \geq .0245$). A similar, though more selective, pattern emerged in the 10-11 age group, where concrete-general texts ($EMM = 3.10$, $SE = .14$) were rated as less informative than concrete-specific texts ($EMM = 3.63$, $SE = .14$), $t(122.5) = -3.23$, $p = .0224$.

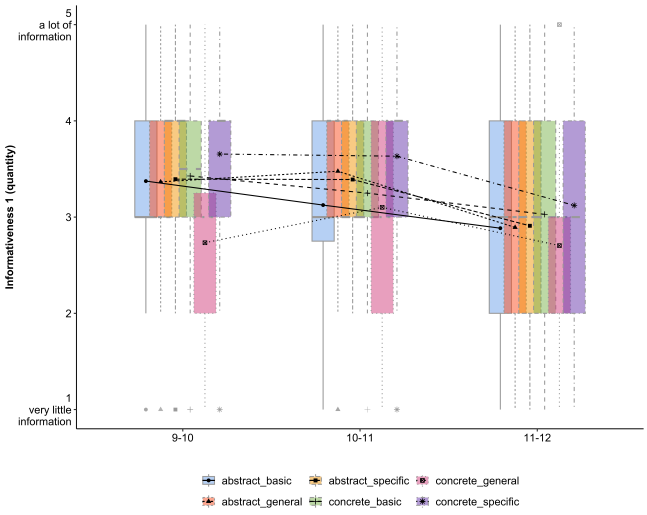

Figure 2: Mean ratings for *Informativeness 1 (quantity)* as a function of text type (combining concreteness and specificity) and age group. Points represent estimated marginal means from the mixed-effects model; error bars indicate standard errors.

Across text types, older children (11-12 years) provided lower informativeness ratings overall. In particular, abstract-basic, abstract-general, and abstract-specific texts were judged as significantly more informative by both 9-10 and 10-11 years-old than by 11-12 years-old (all $ps \leq .0205$). A similar pattern emerged for concrete-specific texts, which were rated as more informative by younger children (9-11 years) than by older children, $ps \leq .0023$. No significant age differences were found for concrete-basic texts ($ps > .07$).

Informativeness 2 (relevance) We found significant main effects for text type ($F(5, 33.69) = 2.79$, $p = .03$) and age ($F(2, 104) = 6.40$, $p = .002$), but the interaction was not significant ($p = .71$). Post-hoc comparisons between the types of types showed that concrete-general texts ($EMM = 3.32$, $SE = 0.09$) were perceived to contain less relevant information compared

to concrete-specific texts (*EMM* = 3.75, *SE* = 0.0) $t(33.3)$ = -3.468, p = 0.01. No other comparisons reach significance, all *ps* >. 13.

Discussion of Concreteness and Specificity models Communicative efficiency does not appear to depend on a single lexical dimension, but rather on the combined contribution of concreteness and specificity to different aspects of text evaluation. Texts combining high concreteness and high specificity were generally rated as both clearer and more informative than texts lacking one or both properties, particularly among younger readers. This pattern suggests that concreteness is associated with higher perceived clarity, whereas specificity contributes to higher perceived informativeness. When both properties are present, texts tend to be evaluated more positively across both dimensions, indicating that clarity and informativeness are not necessarily in opposition in children's judgments. In contrast, abstract-general texts were rated as less clear and less informative overall. These texts may provide less support for interpretation and convey less precise information, which is reflected in lower subjective evaluations.

General Discussion and Conclusion

This study investigated how children evaluate the communicative efficiency of texts, focusing on how lexical concreteness and specificity shape perceived clarity and informativeness. Our findings suggest that clarity and informativeness constitute distinct, though interrelated, dimensions of textual quality, supported by partially independent mechanisms. In line with our hypotheses, lexical concreteness and specificity showed different patterns of association with these two dimensions.

Lexical concreteness emerged as a robust and age-independent predictor of textual clarity. Concrete texts were judged as easier to understand and less confusing than abstract ones, and this pattern was stable across age groups. This pattern aligns with theories of grounded and dual-coded representations (Barsalou, 2008; Paivio, 1991), according to which concrete words benefit from richer perceptual and experiential associations, facilitating semantic access and reducing processing demands. Importantly, this effect was observed in subjective evaluations of clarity, rather than in direct measures of processing effort. Concreteness did not significantly influence informativeness ratings, suggesting that its contribution is more closely related to perceived ease of understanding than to the perceived amount or relevance of information conveyed.

Lexical specificity showed a different pattern. Specificity did not show consistent effects on perceived clarity, although some effects emerged in confusion judgments for younger children. In contrast, specificity was associated with higher ratings of informativeness, particularly in terms of perceived quantity of information, while effects on relevance were weaker and less consistent. These findings are broadly in line with pragmatic accounts of informativeness, according to which more specific expressions increase semantic differentiation and constrain interpretation (Grice, 1975; Rosch, 1978). However, these effects were not uniform across measures or age groups, suggesting a more nuanced relationship between specificity and text evaluation.

Taken together, these results indicate that concreteness and specificity contribute in different ways to children's evaluations of text quality. Texts combining higher levels of both properties were generally rated as both clearer and more informative, suggesting that clarity and informativeness are not necessarily in opposition in subjective judgments. Rather than reflecting a strict trade-off, the relationship between these dimensions may depend on how different lexical properties jointly support interpretation and information content.

Developmental differences further qualify this picture. Younger children appeared more sensitive to variations in specificity when evaluating informativeness, whereas older children provided more uniform and generally lower ratings, particularly for informational quantity. This pattern is consistent with accounts of metacognitive development (Flavell, 1979), and may reflect a shift from quantity-based to more relevance-based evaluation criteria (Cain et al., 2004; Sperber & Wilson, 1986). However, these interpretations remain tentative and should be further investigated using more direct measures of comprehension and evaluation. From a broader perspective, these findings support a multidimensional view of communicative efficiency. Rather than being determined solely by ease of processing, communicative success appears to depend on how texts balance clarity and informativeness, which may be supported by different lexical properties.

To conclude, the present study highlights the importance of going beyond traditional readability approaches that focus primarily on processing-related factors. By showing that concreteness and specificity contribute differently to perceived clarity and informativeness, our results provide a more nuanced account of how lexical choices shape children's evaluation of texts and how these evaluations develop over time.

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