

Reading Interest Following Question Answer Relationship Instruction A Secondary Analysis of Fourth Grade Students

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Abstract

Background – Reading interest is an affective literacy outcome that requires distinction from comprehension and broader motivation. This distinction helps ensure that changes in students' interest are interpreted according to the construct being measured.

Purpose – This study describes reading-interest change recorded during a three-session Question-Answer Relationship (QAR) classroom project. The analysis focuses on the observed classroom pattern rather than estimating the causal effectiveness of the instructional strategy.

Method/Approach – The secondary analysis concerns 28 fourth-grade students at SD Negeri Kaliurang 1. The underlying project used a one-group pretest-posttest design. Only aggregate reading-interest records were available, so analysis remained descriptive. Two prior publications from the same context are disclosed. The analytical scope therefore reflects both the available evidence and the relationship between the present report and earlier publications.

Findings - Students categorized as having high reading interest increased from 10 of 28 (35.7%) to 25 of 28 (89.3%). The reported mean score increased from 62.5 to 85.3, a change of 22.8 points. No unsupported inferential statistics are reported. These values indicate a descriptive increase in the measured reading-interest outcome between the two measurement occasions.

Conclusion – The pattern is compatible with motivation-supportive instruction but does not establish a causal QAR effect. The absence of a comparison group paired individual scores, and complete psychometric records limits interpretation. The findings should therefore be understood as classroom-specific descriptive evidence rather than proof of intervention effectiveness.

Novelty/Originality/Value – The contribution is a bounded account of a distinct affective outcome. Previously published qualitative findings and comprehension results are not reproduced as new evidence. Publication overlaps and author-confirmation requirements remain explicit. This framing clarifies the contribution of the secondary analysis while maintaining transparency about the shared research context.

Keywords: elementary literacy; Question-Answer Relationship; reading engagement; reading interest; secondary analysis

Recommended citation

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INTRODUCTION

Reading literacy involves understanding texts and choosing to engage with them. Recent reviews examine multiple instructional approaches rather than attributing comprehension to a single classroom strategy (Triana et al., 2024; Murphy & Arciuli, 2024). Indonesia's mean reading score in PISA 2022 was 359, indicating the continuing need to strengthen literacy opportunities (OECD, 2023). At the classroom level, reading interest deserves attention alongside comprehension. The present article examines an affective outcome from a brief Question-Answer Relationship (QAR) project while keeping the two outcomes analytically separate.

Reading interest, motivation, and engagement are related but distinct. A recent review differentiates intrinsic and extrinsic reasons for reading and examines how theoretical assumptions influence measurement (Ives et al., 2023). McGeown and Smith (2024) distinguish dimensions of engagement with books, including behavioral, cognitive, affective, and social involvement. These distinctions matter because a questionnaire can combine attraction to reading with reading habits or participation. Here, reading interest remains the original project's operational label; it does not denote a fully validated measure of intrinsic motivation.

Recent evidence supports investigating motivation alongside reading competence. Li et al. (2024) examined motivation and comprehension across Grades 2–4 in Chinese children and identified differences in their relationship across grades. Such evidence makes motivation relevant to literacy research but does not permit treating an affective score as a comprehension score. The distinction is especially important in a secondary analysis when related publications report different outcomes from the same classroom context. Reading motivation also depends on social and instructional conditions. A systematic review focuses on teacher, parent, and peer support associated with motivational changes among fourth- to sixth-grade students (Pelletier et al., 2022). Indonesian research examines perceived parental involvement and reading self-concept in relation to elementary students' reading interest (Fakhriya & Purnamaningsih, 2024). These studies support considering family and classroom contexts. They do not identify which factor produced the descriptive change in this class, because the present analysis contains no independent measures of those conditions.

Self-determination theory and situated expectancy-value theory offer complementary interpretive frameworks. A meta-analysis links autonomy support and psychological need satisfaction with students' autonomous motivation (Bureau et al., 2022). Contemporary expectancy-value scholarship emphasizes expectations for success, subjective task values, and their situated development (Eccles & Wigfield, 2024). An integrative review clarifies how these frameworks address different motivational constructs (Urhahne & Wijnia, 2023). Applied here, clearer questioning routines could support competence or task value. These mechanisms remain hypotheses because the classroom project did not measure them separately. QAR makes the relationship between questions and information sources explicit. The classroom routine distinguishes answers located directly in a text, answers assembled across passages, responses combining text and prior knowledge, and responses based mainly on personal knowledge. A fourth-grade study in a different Indonesian school examined both reading interest and comprehension using a nonequivalent control-group design (Utami et al., 2024). University-level action research also investigated QAR for critical reading (Manurung & Jabar, 2022). These studies justify examining the framework but differ from the present secondary analysis in population, outcome, or design. Assessment of strategy instruction requires explicit attention to what each measure captures (Rollins et al., 2022).

Recent synthesis provides broader evidence about motivation-supportive instruction. A meta-analysis evaluates interventions designed to foster reading motivation and examines their relationship with comprehension outcomes (van der Sande et al., 2023). Another synthesis examines self-determination-theory-based interventions in educational contexts (Wang et al., 2024). Together, these sources provide a rationale for studying affective outcomes alongside strategy instruction. They cannot establish that three QAR lessons caused the observed change in this class, especially without a

comparison group or paired participant-level data.

The Indonesian literature represented in *Lembaran Ilmu Kependidikan* also emphasizes that literacy develops within instructional and social ecosystems. [Inayati et al. \(2024\)](#) reported that literacy learning in a community setting was associated with improvements in reading, writing, public speaking, confidence, and participation, while also identifying scheduling, engagement, and resource constraints. At the primary-school level, [Kesuma and Mustika \(2024\)](#) highlighted teacher efforts involving regular reading routines, attractive learning media, and collaboration with parents. [Supriyanto et al. \(2025\)](#) similarly described the importance of physical, social, and academic environments in sustaining a school literacy movement. Together, these studies suggest that students' willingness to read is not simply an individual disposition; it is shaped by instructional routines, access to meaningful materials, teacher support, family participation, and the wider literacy climate. The present analysis complements this work by examining a narrowly bounded classroom outcome following a structured questioning routine.

Research-integrity considerations are central to the present manuscript. The same school and fourth-grade context have already generated two published articles. [Utami and Maisaroh \(2025\)](#) reported a qualitative analysis of the problem of low reading interest, with attention to student, teacher, parent, and literacy-environment factors. A separate article by [Utami, Sunarsih, and Wulandari \(2025\)](#) reported the reading-comprehension component of a three-session QAR project with the same class. The current manuscript therefore must not be presented as an independent new sample or as a replication. It is explicitly framed as a secondary analysis of a distinct reading-interest outcome associated with that classroom project. Previously reported qualitative baseline findings, reading-comprehension outcomes, figures, photographs, and substantial wording are not reproduced here. The two earlier articles are cited and disclosed so that the editor can assess overlap, authorship, and the legitimacy of the proposed secondary publication.

Accordingly, the purpose of this study is limited and transparent: to describe the pre- and post-instruction reading-interest outcome recorded for the 28 fourth-grade students who participated in the QAR classroom project, while separating that outcome from the previously published comprehension and qualitative findings. The analysis addresses two questions: (1) What descriptive change is observed in the proportion of students categorized as having high reading interest and in the mean reading-interest score across the two measurement occasions? and (2) How can that descriptive pattern be interpreted in relation to reading-motivation theory and QAR pedagogy without making causal claims that the one-group design cannot support? By answering these questions, the study aims to contribute a more precise and publication-transparent account of an affective literacy outcome and to identify design requirements for stronger future QAR research.

METHODS

Design and relationship to prior publications

The present article is a secondary outcome analysis based on a previously conducted classroom project rather than a new independent experiment. The underlying project used a one-group pretest-posttest arrangement in which one fourth-grade class completed a reading-interest measure before and after three QAR lessons. No untreated, alternative-instruction, or randomized comparison group was included. Consequently, the present analysis is designed to describe within-group change, not to estimate an intervention effect. This distinction is important because maturation, repeated measurement, ordinary classroom instruction, expectancy, teacher influence, novelty, and other concurrent experiences could contribute to changes between measurement occasions.

Two prior publications from the same school context are relevant to interpretation. [Utami and Maisaroh \(2025\)](#) analyzed the problem of low reading interest using qualitative and contextual evidence involving students, parents, teachers, and school literacy practices. [Utami et al. \(2025\)](#) reported reading-comprehension outcomes from the QAR classroom project. The current manuscript

does not re-report those qualitative themes or comprehension outcomes. Instead, it focuses on the reading-interest variable measured around the QAR lessons. Table 1 clarifies the boundaries among the publications. This disclosure is intended to allow the LIK editor to evaluate whether the present outcome represents a sufficiently distinct secondary analysis and to conduct the redundant-publication and authorship inquiry requested during review.

Table 1. Relationship between the present manuscript and the two identified prior publications.

Publication	Context/data relationship	Primary focus already reported	Use in present manuscript
Utami & Maisaroh (2025)	Same school and Grade IV literacy context; qualitative/contextual reading-interest evidence.	Problematics of low reading interest, including student, parent, teacher, and literacy-environment factors.	Cited as prior context only; qualitative themes and wording are not presented as new findings.
Utami, Sunarsih, & Wulandari (2025)	Same class and three-session QAR project.	Reading-comprehension outcomes and qualitative evidence related to comprehension/metacognition.	Cited as the primary report of the QAR comprehension component; comprehension figures are not re-used as current outcomes.
Present LIK manuscript	Same 28-student QAR classroom project; secondary outcome analysis.	Pre/post reading-interest outcome only.	Reports descriptive reading-interest values, publication boundaries, limitations, and implications; no claim of independent replication.

Participants and setting

The classroom project involved all 28 students enrolled in Grade IV at SD Negeri Kaliurang 1, Pakem District, Sleman Regency, Special Region of Yogyakarta, during the 2025/2026 academic year. Because the entire class participated, the sampling description is more accurately characterized as total-class participation than as purposive selection from a larger sampling frame. The unit of analysis in the present secondary report is the same group of 28 students at both measurement occasions. The study should therefore be interpreted as evidence from one intact class in one school rather than as a population estimate.

The original materials described the students as a class expected to encounter the National Assessment after progressing to Grade V. This statement is retained as contextual background rather than an eligibility criterion. No demographic subgroup analysis is reported because participant-level data were unavailable. Recent work showing grade-specific relationships between motivation and comprehension illustrates why developmental characteristics require explicit reporting (Li et al., 2024). Future reports should include verified age and gender distributions when consent and privacy arrangements permit.

QAR instructional exposure

The classroom exposure consisted of three QAR sessions, each scheduled for two 35-minute lesson periods. The instructional sequence introduced the four QAR categories, modeled how a reader identifies the likely source of an answer, provided guided practice, and then moved toward more independent classification and response construction. In QAR, Right There questions are answered using information located explicitly in a limited part of the text; Think and Search questions require information to be integrated across text segments; Author and You questions require coordination of textual information and prior knowledge; and On My Own questions can be addressed primarily from the reader's knowledge and experience (Utami et al., 2024). The present article summarizes the exposure only to establish the instructional context and intentionally avoids reproducing the detailed procedural wording, figures, or classroom photographs published or submitted elsewhere.

Modeling, guided practice, and explanation provide the instructional rationale for the sequence. Recent QAR research describes strategic support for reading in distinct classroom settings (Utami et al., 2024; Manurung & Jabar, 2022). A review of assessment in strategy instruction further

distinguishes instructional procedures from evidence about their outcomes (Rollins et al., 2022). These sources support the pedagogical rationale. They do not convert this one-group project into a controlled effectiveness study.

Reading-interest measure

Reading interest was measured before and after the three QAR sessions using a 20-item dichotomous questionnaire in which responses were scored 1 for Yes and 0 for No. The source materials described ten content indicators: desire to read, enthusiasm while reading, continuity of reading habits, use of available time for reading, ownership of reading materials, active search for reading materials, having purposes for reading, noting or marking important information, awareness of reading as learning, and discussion of reading results. Because these indicators include behaviors and motivational tendencies as well as affective attraction, the resulting score should be understood as an operational classroom measure labeled reading interest rather than as a pure measure of a single theoretical construct. Recent work on motivational constructs and engagement measurement supports reporting the intended construct separately from the behaviors captured by an instrument (Ives et al., 2023; McGeown & Smith, 2024).

The study records summarized scores on a 0–100 scale and classified students into a high-reading-interest category or a lower category. The materials available for the present revision did not include the participant-level item responses, the exact classification cut-point, or the complete item-level reliability and validity outputs. Those details should be supplied by the authors from the original records before submission if available. In the absence of verifiable coefficients, this article does not invent or retrospectively reconstruct psychometric statistics. The lack of complete item-level evidence is treated as a measurement limitation rather than obscured by a general statement that the instrument was 'valid and reliable.'

Data analysis

The analysis is deliberately descriptive. For each measurement occasion, the available aggregate records were used to report the number and percentage of students categorized as having high reading interest and the reported class mean on the 0–100 reading-interest scale. Absolute percentage-point change and mean-score change were calculated directly from those aggregate values. The pre-intervention category value was 10 of 28 students (35.7%), and the post-intervention category value was 25 of 28 students (89.3%). The reported mean increased from 62.5 to 85.3.

No paired-samples *t* test, Wilcoxon signed-rank test, confidence interval, standardized mean-change effect size, or item-level reliability estimate is reported because the participant-level paired scores needed to verify such statistics were not available for this secondary analysis. Inferential values cannot be validly reconstructed from the category totals and two means alone. This approach directly addresses the earlier reporting problem in which language such as 'significant improvement' appeared without the corresponding test statistic, degrees of freedom, *p* value, confidence interval, assumption checks, and effect size. If the authors recover the original de-identified paired dataset, inferential analyses may be added only after the complete analysis can be independently verified.

The reported values were also checked for internal arithmetic consistency. Twenty-five of 28 students corresponds to 89.3%, and 10 of 28 corresponds to 35.7%, yielding a descriptive increase of 53.6 percentage points in the proportion categorized as high interest. The mean-score change is 22.8 points. The 78.6% value appearing in the earlier QAR publication refers to reading-comprehension mastery (22 of 28 students) and is therefore not used as a reading-interest result in this manuscript. Separating these outcome-specific values removes the numerical inconsistency present in the earlier draft.

Ethics and research-integrity safeguards

The project involved minors and therefore requires clear documentation of

institutional/school permission and appropriate parent or guardian consent and student assent, as applicable to the institution and study procedures. The materials supplied for this revision did not contain a verifiable ethics approval number or waiver decision. No approval number has been invented. Before submission, the authors must provide the actual ethics review or waiver information and the consent procedures used. Student photographs have been removed from this revised manuscript so that publication of identifiable images is no longer necessary.

Research-integrity safeguards also require transparent handling of overlap and authorship. Multiple papers arising from one project can be legitimate when they address distinct questions and when the relationship among reports is explicit, but the editor must be able to assess whether the new contribution is substantial and whether text/data reuse has been appropriately bounded. The current article therefore cites both identified prior papers, uses newly written text, avoids repeating the previously published comprehension findings and qualitative themes as new data, and includes a dedicated disclosure statement. The change in author list across the related papers must be explained to the editor using contribution-based information before resubmission.

RESULTS AND DISCUSSION

Descriptive reading-interest outcome

The reading-interest data show a marked descriptive shift between the two measurement occasions. Before the QAR sessions, 10 of the 28 students (35.7%) were categorized as having high reading interest and 18 students (64.3%) were below that category. After the three-session classroom exposure, 25 students (89.3%) were categorized as having high reading interest and 3 students (10.7%) were below the category. The change in the high-interest proportion was therefore +53.6 percentage points. On the reported 0–100 scale, the class mean increased from 62.5 before instruction to 85.3 afterward, a descriptive change of +22.8 points.

These values are presented as the complete new-results claim of the secondary analysis. They should not be merged with the reading-comprehension mastery values reported in the prior QAR article, and they should not be accompanied by statements of statistical significance unless the paired student-level dataset is recovered and the analysis is fully reported. Table 2 therefore uses the wording 'descriptive within-group change' rather than 'effect,' 'impact,' or 'significant improvement.'

Table 2. Descriptive pre-instruction and post-instruction reading-interest outcomes.

Outcome	Pre-instruction	Post-instruction	Descriptive change	Interpretation
High reading interest, n (%)	10/28 (35.7%)	25/28 (89.3%)	+53.6 percentage points	Within-group descriptive increase
Below high-interest category, n (%)	18/28 (64.3%)	3/28 (10.7%)	–53.6 percentage points	Within-group descriptive decrease
Mean reading-interest score	62.5	85.3	+22.8 points	Within-group descriptive increase

Interpreting the descriptive change through reading-motivation theory

The descriptive change is substantial, but its interpretation depends on measurement. The questionnaire combines enjoyment-related content with seeking materials, allocating time, and discussing reading. A higher score could therefore reflect several related tendencies rather than only intrinsic interest. Recent distinctions between motivational reasons and dimensions of engagement support this caution (Ives et al., 2023; McGeown & Smith, 2024). The present results describe the project's operational reading-interest outcome; they do not establish a change in every motivational dimension.

Perceived competence offers one possible explanation. QAR turns answering into identifiable

decisions about the question, information source, evidence, and response. Self-determination research makes competence and autonomy support relevant to this interpretation (Bureau et al., 2022; Wang et al., 2024). Expectancy-value theory adds questions about anticipated success and the value assigned to reading tasks (Eccles & Wigfield, 2024). A clearer routine may make reading less uncertain. However, perceived competence, autonomy, and task value were not independently measured, so the aggregate results cannot verify this pathway.

Recent QAR studies provide contextual comparisons. Utami et al. (2024) studied fourth-graders' reading interest and comprehension with a comparison condition. Manurung and Jabar (2022) investigated critical reading through university-level action research. The studies concern a shared strategy but address different participants and designs. Their results should not substitute for missing evidence in the present class. Rollins et al. (2022) further make assessment alignment important: comprehension, self-regulation, and interest require appropriate outcome measures rather than a single interchangeable indicator.

QAR should be treated as one instructional scaffold within a broader literacy environment. A review of elementary comprehension research considers several ways to support understanding (Triana et al., 2024). A separate review of digital comprehension instruction concerns children learning English as an additional language and emphasizes the quality of the supporting evidence (Murphy & Arciuli, 2024). Its population and delivery mode differ from this study. In the present classroom, teacher modeling, discussion, text selection, novelty, and successful participation could all have contributed to students' responses.

The reading-interest increase cannot establish a causal pathway between motivation and achievement. Li et al. (2024) provide cross-sectional evidence that the contribution of reading motivation to comprehension differs across elementary grades. That design does not establish reciprocal effects over time. Likewise, the present aggregate pre/post observations cannot show whether greater interest encouraged participation, easier tasks encouraged interest, or both reflected another classroom change. A controlled longitudinal design would be needed to distinguish these possibilities.

The strongest comparative evidence comes from research synthesis rather than from the size of this class's score change. The reading-motivation intervention meta-analysis evaluates theory-driven programmes and their outcomes across studies (van der Sande et al., 2023). Educational self-determination interventions also show why instructional support and implementation characteristics warrant examination (Wang et al., 2024). These syntheses make an affective response to instruction plausible. They do not supply a missing comparison group, paired-score variance, or verified inferential analysis for the present dataset.

Aggregate results can conceal differences among students. Contemporary research distinguishes multiple dimensions of reading engagement (McGeown & Smith, 2024), while grade comparisons show that relationships between motivation and comprehension can vary (Li et al., 2024). The two class means do not reveal whether initially reluctant readers changed most, whether improvement was broadly shared, or whether a subgroup drove the pattern. Participant-level data are necessary to examine those questions, and demographic differences should not be inferred from the available totals.

Reading interest and comprehension remain separate outcomes. The prior QAR article reports 78.6% comprehension mastery, whereas this secondary analysis reports 89.3% of students in the high-reading-interest category (Utami et al., 2025). Different constructs and measures prevent these percentages from being combined or substituted. Recent distinctions between motivation and engagement reinforce the need for precise labels (Ives et al., 2023). The present article's new-results claim is therefore restricted to the reading-interest values rather than the previously published comprehension findings.

A sustained literacy benefit would require more than an immediate questionnaire change. A meta-analysis of additions to independent silent reading examines proficiency, motivation, and

reading behavior as distinct outcomes (Merke et al., 2024). This provides a useful reason to measure actual reading activity alongside self-reported interest. The current analysis includes no delayed observation or independent reading-volume measure. Future research should therefore assess whether the reported affective change persists and whether it accompanies voluntary reading outside the three lessons.

Relevance to Indonesian literacy practice and LIK scholarship

Indonesian research situates literacy within instructional and social conditions. LIK studies examine community literacy learning, teachers' reading-literacy efforts, and the school literacy environment (Inayati et al., 2024; Kesuma & Mustika, 2024; Supriyanto et al., 2025). Edukasi research links pedagogical competence with critical thinking in equivalency education, a different learner population (Novitasari & Shofwan, 2024). JoNE studies examine a telling-writing activity for children affected by the pandemic and a TPACK-based project design for digital literacy (Roiyasa & Sulistio, 2023; Sari et al., 2024). These sources provide contextual parallels for facilitation and supportive participation. Their results do not establish QAR effects in this fourth-grade class.

The practical implication is to test QAR further as one component of supportive literacy instruction. Teachers can model information-source decisions, invite explanations, and provide accessible texts and reading choices. A review of social reading support and a meta-analysis of structured additions to silent reading justify examining support alongside the activity itself (Pelletier et al., 2022; Merke et al., 2024). The role of facilitation also merits attention in light of pedagogical-competence research (Novitasari & Shofwan, 2024). These are design suggestions for future evaluation, rather than proven consequences of the three-session project.

Design, measurement, and publication-integrity limitations

The study has several important limitations. First, the one-group pretest-posttest design cannot rule out history, maturation, testing, expectancy, teacher effects, or novelty as alternative explanations. Second, the class was small and drawn from one school, which limits generalizability. Third, the same questionnaire was administered twice over a short interval, creating a possible repeated-measurement effect. Fourth, the dichotomous response format provides limited sensitivity compared with well-validated multi-point motivation scales. Fifth, the operational measure labeled reading interest spans affective, motivational, and behavioral indicators, and the materials available for this secondary analysis did not include complete item-level psychometric outputs or the exact classification cut-point. Recent work on reading-motivation constructs and engagement measurement underscores why these details require transparent reporting (Ives et al., 2023; McGeown & Smith, 2024).

A further limitation concerns statistical reporting. Because individual paired scores were not available in the materials used for revision, this article cannot provide a verified paired-samples test, confidence interval, standardized mean-change effect size, or reliability estimate. Reporting such statistics without the raw paired observations would create false precision. The appropriate remedy is either to recover and audit the original de-identified dataset or to retain the explicitly descriptive analysis presented here. Future controlled research should preregister primary and secondary outcomes, use parallel or appropriately designed measures when repeated testing is likely to create practice effects, report complete descriptive and inferential statistics, and include a comparison condition when causal language is intended.

Finally, this manuscript is constrained by its relationship to prior publications. The qualitative account of low reading interest by Utami and Maisaroh (2025) and the QAR reading-comprehension report by Utami et al. (2025) are both integral to understanding the provenance of the present data. This revision addresses the manuscript-level redundancy concern by citing both reports, narrowing the new-results claim to the reading-interest outcome, removing reused qualitative quotations and classroom photographs, avoiding previously published comprehension results as new evidence, and

rewriting the text. Nevertheless, only the journal editor can determine whether the degree of data overlap is acceptable for a secondary publication. The authors must therefore disclose both prior articles in the submission letter and respond fully to any authorship or redundant-publication inquiry.

CONCLUSION

This secondary analysis documents a substantial descriptive change in the reading-interest outcome recorded during a three-session QAR classroom project with 28 fourth-grade students: the proportion categorized as having high reading interest increased from 35.7% to 89.3%, and the reported mean score increased from 62.5 to 85.3. The pattern is theoretically compatible with research suggesting that explicit strategy instruction can make reading demands more manageable and that experiences of competence, agency, and value can support reading motivation. However, the findings do not establish a causal QAR effect because the project used one intact class, no comparison group, a short pretest-posttest interval, and an instrument whose complete item-level psychometric evidence was not available for this secondary analysis. The study's principal contribution is therefore a transparent and bounded account of an affective literacy outcome rather than a new independent effectiveness trial. By explicitly separating the reading-interest result from the previously published qualitative account of low reading interest and the previously published reading-comprehension outcome, the manuscript also demonstrates the publication transparency required when multiple papers arise from a shared research context. Future QAR studies should use controlled or stronger quasi-experimental designs, validated multidimensional motivation measures, participant-level statistical reporting, delayed follow-up, and preregistered primary and secondary outcomes to determine whether changes in reading interest are robust, sustained, and attributable to the instructional strategy.

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