

# Canva-Enhanced Directed Reading-Thinking Activity for Strengthening Elementary Students' Learning Motivation: Evidence from a Digital Reading-Based Learning Intervention

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## Article Information

Submitted: 09-04-2026

Revised: 14-05-2026

Accepted: 22-06-2026

## Keywords

Directed Reading-Thinking Activity; Canva; learning motivation; reading instruction; elementary school; digital learning.

## Abstract

**Background:** Elementary reading instruction requires students not only to comprehend texts but also to sustain attention, interest, persistence, and active participation during learning. The integration of Directed Reading-Thinking Activity (DRTA) with Canva offers a visually supported reading environment that may strengthen these motivational dimensions.

**Aim:** This study examined the relationship between Canva-enhanced DRTA and the learning motivation of Grade V elementary school students.

**Method:** A quantitative ex post facto correlational design was used with 154 students from Classes VA, VB, and VC at UPT SPF SD Inpres Perumnas Antang III, Makassar, Indonesia. Data were collected through a learning motivation questionnaire, classroom observation, and documentation. The DRTA sequence included prediction, guided reading, questioning, evidence verification, and reflection supported by Canva-designed visual materials. Data analysis employed descriptive procedures and Pearson Product-Moment correlation at a significance level of .05.

**Results:** The study reported a positive and statistically significant relationship between Canva-enhanced DRTA and students' learning motivation. Classroom observations also indicated more focused attention, directed prediction, active reading, sustained engagement, participation, and learning effort during the learning process. However, the retained manuscript does not provide the numerical correlation coefficient, exact p value, or confidence interval.

**Conclusion:** Canva-enhanced DRTA is positively associated with elementary students' learning motivation when visual support is embedded within a structured reading-thinking process rather than used only as decorative media.

## INTRODUCTION

Reading remains one of the most consequential foundations of elementary learning, yet the rapid expansion of digital media has not automatically produced deeper engagement with texts. Contemporary evidence shows that reading achievement depends not only on decoding and comprehension processes but also on students' motivation, self-concept, and willingness to sustain cognitive effort during reading (Jang et al., 2023; Li et al., 2024). This creates an important

educational paradox because children now encounter more visually rich digital content while many still struggle to remain attentive to purposeful academic reading. Research with young learners further indicates that reading motivation is positively related to literacy achievement and school-related well-being, making affective engagement an essential part of literacy development rather than a peripheral outcome (Vaknin-Nusbaum & Tuckwiller, 2023). Meta-analytic evidence similarly demonstrates that interventions designed to trigger interest can improve both reading motivation and comprehension, with particularly meaningful effects in primary education (van der Sande et al., 2023). Accordingly, elementary reading instruction requires designs that coordinate cognitive strategy use with motivational support instead of assuming that either textual practice or digital presentation alone will sustain learning.

The empirical challenge is especially visible when classroom reading is transferred into digital or visually mediated environments. Studies comparing screen and paper reading show that digital presentation can alter processing depth, metacognitive calibration, and comprehension, meaning that the presence of technology is not inherently beneficial (Jensen et al., 2024; Neugebauer et al., 2022). Among primary-school children, individual differences in executive functioning also shape how learners manage digital and paper text, with lower-performing readers sometimes benefiting from digital presentation while stronger readers may show the opposite pattern (Ruffini et al., 2023). Large-scale analyses further suggest that instructional quality, adaptive support, metacognitive strategies, and reading self-concept explain more of students' digital reading performance than access to technology by itself (Chen & Xiao, 2024; Hu & Wang, 2022). These findings resonate with preliminary classroom observations at UPT SPF SD Inpres Perumnas Antang III, where Grade V students were reported to show uneven enthusiasm, sustained attention, and comprehension during conventional reading activities. The instructional problem therefore concerns not simply whether digital media are used, but whether they are organized around pedagogical processes that make students think, predict, verify, and remain engaged with textual meaning.

Learning motivation is central to this problem because it regulates whether students initiate a task, persist when comprehension becomes difficult, and invest attention in the learning process. Contemporary motivation theory treats motivated learning as a dynamic interaction among the learner, the task, the perceived value of action, and the learning environment rather than as a fixed personal trait (Urhahne & Wijnia, 2023). Reading-specific evidence supports this view, as motivated readers tend to show less mind wandering, greater elaboration, and stronger comprehension monitoring during text processing (Soemer et al., 2023). Interest also matters at the level of particular texts, because elementary students' comprehension varies with how interesting and cognitively accessible they perceive reading materials to be (Lepper et al., 2022). At the same time, motivation is embedded in wider social and literacy environments, including the patterns of reading modeled and supported around children (Cubillos, 2023). These findings make motivation an urgent instructional target, especially when teachers seek to transform reading from a compliance-based activity into a sustained process of inquiry and meaning construction.

Directed Reading-Thinking Activity (DRTA) is relevant to this instructional need because its sequence requires students to anticipate content, read with a purpose, test predictions against textual evidence, ask questions, and revise interpretations. The pedagogical value of such a sequence lies in creating recurrent cognitive goals that can prevent reading from becoming passive or mechanically procedural. Recent computer-based reading research shows that explicit strategy instruction is

particularly important for deeper and inferential comprehension, whereas technology without strategic guidance does not reliably generate the same quality of processing (Serrano-Mendizábal et al., 2023). Canva can complement this structure by organizing titles, images, prompts, prediction cues, and reflection tasks into visually coherent materials, but its role should be understood as pedagogical support rather than as an independent source of motivation. This interpretation is consistent with evidence that technology-supported knowledge building and need-supportive online task design can strengthen motivation when digital affordances are tied to agency, purposeful activity, and meaningful cognitive participation (Hong & Lee, 2023; Mendoza et al., 2023). The rationale for combining DRTA and Canva therefore rests on pedagogical alignment: DRTA supplies the reading-thinking architecture, while Canva supplies a visual layer intended to make that architecture more accessible and engaging for elementary learners.

A first strand of recent literature shows that reading motivation and strategic comprehension are mutually reinforcing rather than separable domains. Technology-supported knowledge-building activities have been associated with stronger reading motivation and deeper comprehension when learners actively develop and discuss ideas instead of merely receiving digital content (Hong & Lee, 2023). Similarly, sustained literacy interventions that connect texts, knowledge, and purposeful engagement can generate transferable gains in reading comprehension, indicating that structured instructional design matters across time and contexts (Kim et al., 2023). Research on online reading motivation has also established that curiosity, perceived value, self-efficacy, and self-improvement beliefs can be measured as meaningful motivational dimensions in digital reading environments (Forzani et al., 2021). At a broader level, digital reading practices appear most productive when motivation and metacognitive strategy use operate together, rather than when students are exposed to digital texts without a clear cognitive purpose (Jang et al., 2023). The dominant conclusion from this literature is therefore that successful digital reading instruction depends on the integration of motivational, strategic, and metacognitive supports rather than on medium effects alone.

A second strand of literature, however, reveals limitations that make the present study necessary. Digital reading research has often compared screen and paper conditions or examined broad ICT use, leaving less attention to how a specific visual-design platform can be embedded within an established reading strategy at the elementary level (Jensen et al., 2024; Peng et al., 2023). Studies of digital performance also show that ICT engagement can have limited or nonlinear relationships with reading outcomes, which cautions against treating greater technology use as equivalent to better learning (Chen & Xiao, 2024; Peng et al., 2023). Meanwhile, research on strategic reading has generally prioritized comprehension outcomes, whereas motivation is frequently treated as a secondary mechanism or contextual variable rather than the principal outcome of interest (Serrano-Mendizábal et al., 2023; Soemer et al., 2023). Even studies demonstrating positive links between reading motivation and achievement do not directly explain how a prediction-verification strategy supported by visual design operates in authentic Grade V classroom reading (Li et al., 2024; Vaknin-Nusbaum & Tuckwiller, 2023). The critical research gap is therefore the limited evidence at the intersection of structured DRTA processes, Canva-supported visual organization, and elementary students' learning motivation within a naturally occurring school context; addressing this gap can clarify whether digital visual support is pedagogically meaningful when it is subordinated to a reading-thinking sequence rather than used as a decorative add-on.

This study aims to examine the relationship between Canva-enhanced Directed Reading-Thinking Activity and the learning motivation of Grade V students at UPT SPF SD Inpres Perumnas Antang III. It treats Canva-enhanced DRTA as a structured classroom configuration involving prediction, guided reading, questioning, evidence verification, reflection, and visual presentation, while learning motivation is represented through attention, interest, enthusiasm, persistence, participation, and learning effort. The study contributes theoretically by positioning motivational engagement as an affective extension of strategy-based reading research and by conceptualizing digital visual design as a support layer within, rather than a substitute for, cognitive reading processes. It contributes practically by offering elementary teachers a framework for organizing visually supported reading activities around purposeful student thinking instead of technology use for its own sake. Because the research uses an ex post facto correlational design, the analysis is intended to establish the direction and strength of association without claiming that Canva-enhanced DRTA causes higher motivation. The study therefore tests the hypothesis that stronger implementation of Canva-enhanced DRTA is positively associated with higher levels of elementary students' learning motivation

## **METHOD**

### **Research Design**

This study employed a quantitative ex post facto correlational design to examine the relationship between Canva-enhanced Directed Reading-Thinking Activity (DRTA) and elementary students' learning motivation. The design was retained from the source manuscript because the study investigated an association between variables under an existing classroom condition rather than randomly assigning students to treatment and control groups. Canva-enhanced DRTA was treated as the predictor construct and learning motivation as the outcome construct. The instructional configuration combined prediction, guided reading, questioning, evidence verification, reflection, and visually organized Canva materials. Although the article title uses the term "intervention" to describe this classroom implementation, the analytical design is correlational and therefore does not provide evidence of causal effects. All interpretations in the revised manuscript consequently distinguish statistical association from causation.

### **Research Site, Period, Population, and Participants**

The study was conducted at UPT SPF SD Inpres Perumnas Antang III in Manggala District, Makassar City, South Sulawesi, Indonesia, with Grade V students as the target population. The accessible population consisted of students enrolled in Classes VA, VB, and VC, and the source school documentation records a total of 154 participating students. Because all accessible Grade V students represented in the retained research record were included, the sampling approach is best described as total or census sampling within the selected school context rather than selection of a smaller subgroup. Inclusion was therefore defined by active Grade V enrollment in one of the three participating classes and participation in the documented data-collection procedure. The supplied manuscript does not preserve the number of students in each class or any exclusion count, so class-specific frequencies and percentages are not estimated in this revision. Exact calendar dates of fieldwork are likewise not reported in the source manuscript and must be restored from the original research log before journal submission.

## Research Instruments and Operationalization

Data were obtained through a structured learning-motivation questionnaire, classroom observation, and school documentation. Learning motivation was represented by six indicators—attention, interest, enthusiasm, persistence, participation, and willingness to invest learning effort—and the questionnaire used a Likert-type response format appropriate for Grade V students. Canva-enhanced DRTA was operationally represented by prediction, guided reading, questioning, evidence verification, reflection, and visual presentation, while observation and documentation were used to record how those elements appeared during classroom reading activities. Documentation also supplied contextual information concerning enrollment, attendance, participation, and implementation conditions. The retained source does not specify the questionnaire’s exact number of items, response anchors, score range, or the participant-level scoring algorithm used to quantify the Canva-enhanced DRTA predictor for the correlational analysis. Those item-level specifications are therefore not reconstructed and should be checked against the original questionnaire and observation sheet before the manuscript is submitted.

**Table 1.** Operational Framework of Research Variables

| Variable            | Role    | Indicators                                                                                      | Data Source                   | Measurement                                                  |
|---------------------|---------|-------------------------------------------------------------------------------------------------|-------------------------------|--------------------------------------------------------------|
| Canva-enhanced DRTA | X       | Prediction; guided reading; questioning; evidence verification; reflection; visual presentation | Observation and documentation | Observation record; scoring algorithm not retained           |
| Learning motivation | Y       | Attention; interest; enthusiasm; persistence; participation; learning effort                    | Student questionnaire         | Likert-type scale; exact item count and anchors not retained |
| Classroom context   | Context | Attendance; participation; implementation conditions                                            | Documentation and observation | Descriptive record                                           |

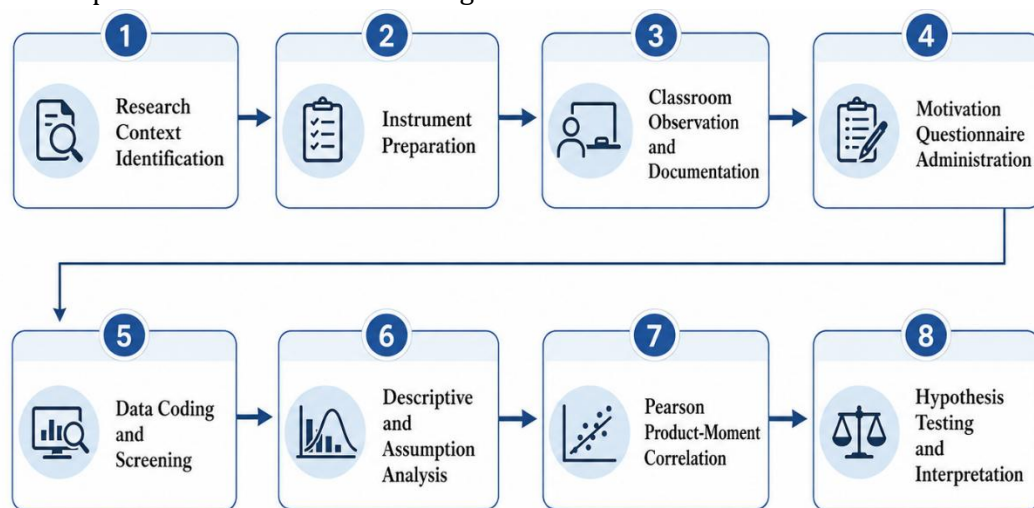
Explanation of Table 1. The table preserves the operational definitions available in the supplied manuscript. Measurement details that were absent from the source—especially the participant-level scoring rule for the predictor and the exact questionnaire specifications—are explicitly identified rather than estimated.

## Validity and Reliability

Instrument quality was addressed in the source manuscript through content-validity review, empirical item analysis, and internal-consistency assessment. Content validity was intended to establish whether the questionnaire items adequately represented the motivational indicators and were linguistically suitable for Grade V students, while item-total correlations were identified as the empirical procedure for examining item validity. Internal consistency was planned to be evaluated using Cronbach’s alpha and, where available, McDonald’s omega so that the coherence of the scale could be assessed independently of individual item performance. Items judged ambiguous, redundant, or weakly aligned with the construct were to be revised or excluded before substantive interpretation. However, the retained manuscript does not include the number or expertise of validators, item-total coefficients, decision thresholds, retained item count, Cronbach’s alpha, or omega values. To preserve research integrity, no psychometric coefficient is invented in this revision, and the actual coefficients must be recovered from the original instrument-development record or statistical output.

### Data Collection Procedure

Data collection followed a sequential process beginning with preparation of the learning-motivation questionnaire and coordination with the homeroom teachers of Classes VA, VB, and VC. School documentation was reviewed to establish the accessible Grade V population and to provide contextual information about the participating classes. Classroom observation was then used to record the implementation of the Canva-enhanced DRTA sequence, including the use of visual prompts, prediction, guided reading, questioning, evidence verification, and reflection. After the classroom activities, the printed motivation questionnaire was administered individually to participating students under researcher supervision using the same instructions across the three classes. Completed questionnaires were checked for completeness, coded, and organized for statistical analysis, while observation and documentation records were retained as complementary evidence regarding instructional implementation. The overall workflow from context identification to hypothesis interpretation is summarized in Figure 1.



**Figure 1.** Research Procedure

Explanation of Figure 1. The flowchart presents the ordered stages documented in the source manuscript, from context identification and instrument preparation through observation, questionnaire administration, statistical analysis, and hypothesis interpretation. The sequence is consistent with a correlational study because no randomized treatment allocation is introduced.

### Data Analysis

The quantitative analysis specified in the source manuscript combined descriptive data screening with Pearson Product-Moment correlation. Questionnaire records were first to be inspected for incomplete responses and potential outliers, after which frequency, percentage, mean, standard deviation, minimum, and maximum values were to summarize the distributions of the measured scores. Normality was to be examined through the Shapiro-Wilk test together with graphical inspection, while linearity was to be assessed through a scatterplot before the Pearson coefficient was interpreted. The null hypothesis was evaluated at an alpha level of .05, and the direction and magnitude of the association were to be summarized by the Pearson coefficient, with a 95% confidence interval preferred for effect interpretation. The retained manuscript does not identify the statistical software or preserve the numerical descriptive statistics, Pearson coefficient,

exact p value, or confidence interval, so none of these quantities are reconstructed here. In the final archived analysis, the coefficient should be computed from paired participant-level scores using  $r = \Sigma[(X_i - \bar{X})(Y_i - \bar{Y})] / \sqrt{\{\Sigma(X_i - \bar{X})^2 \Sigma(Y_i - \bar{Y})^2\}}$ , with the original output retained for reproducibility.

$$r = \Sigma[(X_i - \bar{X})(Y_i - \bar{Y})] / \sqrt{\{\Sigma(X_i - \bar{X})^2 \Sigma(Y_i - \bar{Y})^2\}}$$

### Ethical Considerations

The source manuscript documents coordination with the participating school and classroom teachers before data collection and indicates that questionnaire administration occurred directly in the school setting. Because the participants were elementary-school children, an international-journal submission should also report the formal ethical review or institutional permission procedure, parental or guardian consent, child assent where applicable, confidentiality protections, and the voluntary nature of participation. The retained file does not provide an ethics approval number, approving body, consent wording, or assent procedure. These details cannot be inferred safely from school coordination alone and are therefore not fabricated in the present revision. The author should restore the original ethics and consent information from the study records and insert it in this subsection before submission. This verification is particularly important because transparent reporting of protections for minor participants is part of the methodological credibility of school-based research.

## RESULTS AND DISCUSSION

### Results

The analysis covered the 154 Grade V students recorded in the source manuscript across Classes VA, VB, and VC. Classroom implementation followed the core DRTA sequence of prediction, purposeful reading, questioning, verification against textual evidence, and reflection. Canva-supported materials were used to present titles, images, prompts, and reading cues in a visually structured format. Observation records indicated that these visual entry points helped students orient their attention before reading began. During the reading stage, students were expected to return to the text to verify or revise their predictions rather than respond from memory alone. The documented pattern therefore shows an instructional sequence in which visual support was integrated with active reading processes rather than delivered as a separate activity.

Observed engagement was strongest in the aspects explicitly linked to the DRTA sequence. Visual stimuli such as images and titles were associated in the observation record with more focused attention at the beginning of the task. Prediction activities directed that attention toward anticipated text content and provided students with a concrete purpose for reading. Active reading required students to search for evidence that could confirm or challenge their initial expectations. Verification extended engagement by asking students to compare their predictions with information actually found in the text. Across these stages, the classroom record consistently described attention as becoming more directed and sustained as students moved from visual orientation to evidence-based reading.

**Table 2. Observed Engagement During Canva-Enhanced DRTA**

| Aspect    | Canva-Enhanced DRTA Activity       | Documented Result            |
|-----------|------------------------------------|------------------------------|
| Attention | Visual stimuli (images and titles) | Students became more focused |

| Aspect         | Canva-Enhanced DRTA Activity        | Documented Result              |
|----------------|-------------------------------------|--------------------------------|
| Prediction     | Predicting text content             | Attention became more directed |
| Active reading | Reading to verify predictions       | Students remained engaged      |
| Verification   | Comparing predictions with the text | Attention was sustained        |

**Explanation of Table 2.** This table reproduces the substantive observation pattern retained in the original manuscript while standardizing the wording for academic reporting. The observations show a progression from visual orientation to prediction, evidence-seeking, and sustained verification during reading.

The source manuscript reports that Canva-enhanced DRTA was positively and statistically significantly related to students' learning motivation. That reported relationship is consistent with the concurrent observation of attention, interest, enthusiasm, persistence, participation, and learning effort during the instructional process. The supplied document, however, does not retain the numerical Pearson coefficient, exact p value, confidence interval, descriptive means, or standard deviations used to support the inferential statement. Because these values cannot be recovered from the manuscript file, no numerical statistics are estimated or reconstructed in this revision. The inferential result should therefore be read as a direction-and-significance statement taken from the original research record rather than as a newly recalculated analysis. Full statistical reporting requires the original output or dataset so that r, p, N, 95% confidence intervals, and assumption checks can be inserted without compromising data integrity.

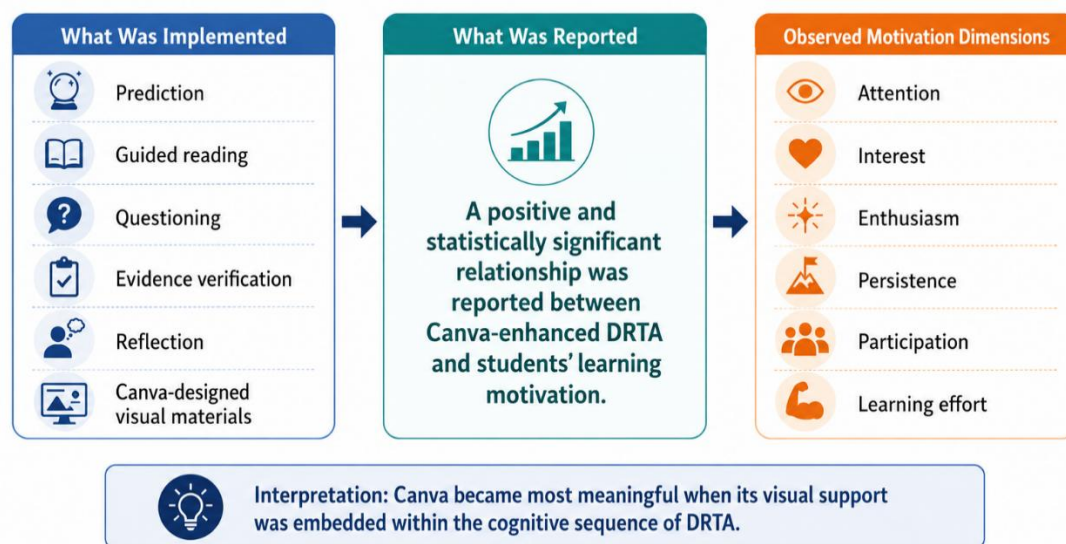
**Table 3. Statistical Evidence Retained in the Supplied Research Record**

| Reporting Element                   | Status in Retained Source                           |
|-------------------------------------|-----------------------------------------------------|
| Total participants                  | N = 154                                             |
| Direction of relationship           | Positive                                            |
| Statistical significance            | Reported as statistically significant               |
| Pearson correlation coefficient (r) | Numerical value not retained in supplied manuscript |
| Exact p value                       | Not retained in supplied manuscript                 |
| 95% confidence interval             | Not retained in supplied manuscript                 |
| Descriptive mean and SD             | Not retained in supplied manuscript                 |
| Psychometric coefficients           | Not retained in supplied manuscript                 |

The table separates empirical information explicitly preserved in the manuscript from numerical information that is absent. This prevents unverified coefficients from being introduced into the Results section and identifies the exact statistical output that must be restored from the original dataset or analysis file.

The overall result pattern suggests that the pedagogical value of Canva lay in how its visual elements were connected to DRTA tasks. Students were not only exposed to attractive displays but were repeatedly asked to predict, read, verify, question, and reflect. The classroom observations therefore describe engagement as an activity-dependent response rather than a reaction to visual novelty alone. The original research findings figure summarizes this pattern by linking Canva-supported DRTA with greater attention, interest, enthusiasm, persistence, participation, and effort. The figure should be interpreted as a conceptual summary of the reported classroom findings rather than as a substitute for the missing statistical output. Taken together, the available evidence supports

the manuscript's central claim of a positive relationship while also defining the limits of what can be reported numerically from the retained source.



**Figure 2.** Synthesis of the Reported Research Findings

The figure provides a visual synthesis of the classroom implementation, the direction and reported significance of the relationship, and the motivational dimensions described in the source manuscript. It is an interpretive summary and does not replace the missing numerical inferential statistics.

## Discussion

The first major finding is that the documented Canva-enhanced DRTA sequence was accompanied by more focused and sustained student attention across the reading process. This pattern is theoretically meaningful because motivation is not simply an internal disposition; it emerges through the interaction of the learner, the task, and the instructional situation that channels effort toward a goal (Urhahne & Wijnia, 2023). By giving students a sequence of prediction, purposeful reading, and evidence checking, DRTA may have reduced opportunities for disengagement because each stage created a proximal reason to continue reading. That interpretation is consistent with evidence that habitual reading motivation is associated with less mind wandering and stronger elaboration and comprehension monitoring during text processing (Soemer et al., 2023). It also aligns with meta-analytic evidence showing that instructional mechanisms that trigger interest can improve motivational outcomes and, under appropriate conditions, reading comprehension (van der Sande et al., 2023). The present study therefore extends this literature by suggesting that motivational attention can be supported through the architecture of the reading task itself, although the correlational design does not establish that the DRTA sequence caused the observed motivational pattern.

A second finding concerns the role of prediction and verification in directing students toward active rather than receptive reading. Conceptually, these processes create a cycle in which an initial expectation becomes a question to be tested against textual evidence, thereby converting reading into a goal-oriented problem rather than a completion exercise. Computer-based intervention research similarly indicates that explicit strategy instruction is more beneficial for inferential comprehension than digital practice that lacks a strategic framework (Serrano-Mendizábal et al., 2023). Longitudinal

literacy research also shows that sustained, purposefully organized instruction can support transfer in reading comprehension when students are repeatedly required to connect new textual information with existing knowledge structures (Kim et al., 2023). In a related elementary context, computer-supported knowledge building has been shown to strengthen reading motivation and comprehension when students actively develop, connect, and discuss ideas (Hong & Lee, 2023). The convergence of these findings supports the interpretation that the distinctive value of the present instructional configuration lies less in Canva as a platform than in how its visual prompts were embedded within a prediction-evidence-reflection cycle.

A third finding is that visual support appeared most useful when it functioned as an entry point into purposeful reading rather than as an aesthetic addition. This distinction is important because digital media do not consistently improve reading, and screen-based environments can sometimes encourage shallower processing or produce performance patterns that differ from paper reading (Jensen et al., 2024; Neugebauer et al., 2022). Research with primary students likewise demonstrates that the cognitive demands of digital and paper reading vary with executive functioning and prior performance, indicating that the same digital format may not benefit all learners equally (Ruffini et al., 2023). Large-scale evidence further shows that metacognitive strategies, reading self-concept, adaptive instruction, and instructional quality can be more consequential for digital reading than the quantity of technology use itself (Chen & Xiao, 2024; Hu & Wang, 2022). The current findings are compatible with that caution because the reported engagement occurred when Canva organized titles, images, prompts, and verification tasks around a clearly sequenced reading activity. Thus, the study modifies a simple technology-enhancement account by proposing a pedagogical-alignment account in which visual design supports motivation only insofar as it reduces ambiguity, highlights task goals, and keeps attention connected to the text.

A fourth finding is that the reported motivational pattern involved several dimensions—attention, interest, enthusiasm, persistence, participation, and effort—rather than a single generalized reaction to the lesson. This multidimensionality fits contemporary digital-reading research in which curiosity, value, self-efficacy, and self-improvement beliefs function as distinguishable motivational resources for online reading (Forzani et al., 2021). It also accords with evidence that reading motivation makes a unique contribution to elementary students' comprehension beyond established cognitive skills, with its contribution becoming increasingly visible across the primary grades (Li et al., 2024). Studies of younger readers further connect reading motivation with literacy achievement and school-related well-being, reinforcing the view that affective engagement is educationally consequential in its own right (Vaknin-Nusbaum & Tuckwiller, 2023). At the level of individual texts, interest is also associated with comprehension and can vary according to text characteristics and learner differences (Lepper et al., 2022). By foregrounding motivation as the principal outcome, this study moves DRTA-related inquiry beyond the dominant emphasis on comprehension and positions affective participation as a theoretically relevant outcome of strategy-based reading instruction.

The findings must nevertheless be interpreted within the classroom context because alternative explanations remain plausible. Students' responses may have reflected not only the DRTA sequence and Canva-supported presentation but also teacher guidance, novelty, peer interaction, prior reading motivation, or the broader literacy environment surrounding the learners. Large-scale research shows that instructional climate and adaptive support are associated with digital reading

performance (Hu & Wang, 2022), while family reading practices are also related to students' motivation to read (Cubillos, 2023). Evidence from blended learning similarly warns that ICT interest and use can show nonlinear relationships with reading performance, so greater exposure to technology should not be treated as inherently beneficial (Peng et al., 2023). Need-supportive online instructions can raise situational intrinsic motivation, but the pathway from motivation to performance may still depend on how students regulate and assess their own learning (Mendoza et al., 2023). These contextual findings strengthen the interpretation that Canva-enhanced DRTA should be understood as one component within a broader motivational ecology rather than as an isolated causal driver of students' engagement.

Taken together, the study occupies a distinctive position in the global literature by connecting three areas that are often investigated separately: strategic reading, digital visual support, and elementary learning motivation. Research on digital literacy increasingly argues that resilient reading performance emerges when motivational and metacognitive resources operate together (Jang et al., 2023), while digital learning studies show that engaging formats can support motivation when learners remain cognitively active (Vidergor, 2021). The present study adds to this landscape by conceptualizing Canva not as a replacement for reading strategy but as a visual support layer nested inside the DRTA sequence of prediction, reading, verification, questioning, and reflection. This conceptualization extends motivation theory by specifying an instructional mechanism through which the situation and task structure may help sustain goal-directed engagement, consistent with integrative models of educational motivation (Urhahne & Wijnia, 2023). Practically, it implies that teachers should judge digital materials by the quality of the thinking they elicit rather than by visual attractiveness alone. The novelty of the study therefore lies in the pedagogical integration itself and in its focus on motivational engagement, while stronger experimental and psychometric evidence is still required before the relationship can be interpreted as a causal effect.

### **Implications**

The study has practical implications for elementary teachers who wish to use digital visual tools without weakening the cognitive demands of reading instruction. Canva-based materials should be designed around explicit DRTA functions, such as activating predictions, displaying textual clues, prompting evidence checks, and organizing reflection, rather than around decoration alone. This approach can help teachers use visual structure to direct attention while preserving the learner's responsibility to interpret and justify meaning from text. At the theoretical level, the findings support a view of learning motivation as responsive to the organization of purposeful instructional activity rather than as a fixed characteristic of the student. Schools can therefore treat digital design competence and reading-strategy competence as complementary dimensions of teacher professional development.

### **Limitations**

Several limitations constrain the interpretation and generalizability of the findings. The study was conducted in one elementary school with 154 Grade V students and used an ex post facto correlational design, so neither randomization nor causal attribution is warranted. The retained manuscript does not contain the class-by-class participant distribution, the complete scoring algorithm for the Canva-enhanced DRTA predictor, the numerical validity and reliability coefficients, or the full statistical output for the reported Pearson analysis. Observation-based evidence may also be influenced by classroom context and observer judgment, while the absence of a comparison group

prevents separation of DRTA-related engagement from novelty or teacher effects. These limitations mean that the reported positive association should be interpreted as context-specific evidence that requires verification and replication rather than as a definitive estimate of intervention effectiveness.

### **Suggestions For Future Research**

Future research should evaluate Canva-enhanced DRTA through a preregistered quasi-experimental or randomized design that includes pretest, posttest, and an appropriate comparison condition. Researchers should develop and validate a transparent student-level measure of Canva-enhanced DRTA implementation or exposure so that correlational and mediation analyses are based on reproducible quantitative scores. Multi-school samples would improve external validity and allow researchers to test whether effects vary by reading proficiency, gender, prior digital experience, or classroom instructional quality. Longitudinal designs could determine whether motivational gains are sustained and whether they subsequently contribute to reading comprehension, self-regulation, or academic resilience. Replication should also report complete psychometric evidence, effect sizes, confidence intervals, assumption checks, and data-analysis code so that the instructional mechanism can be evaluated with greater precision.

### **CONCLUSION**

This study examined the relationship between Canva-enhanced Directed Reading-Thinking Activity and learning motivation among 154 Grade V students at UPT SPF SD Inpres Perumnas Antang III. The retained research record reports a positive and statistically significant relationship and describes classroom patterns of more focused attention, directed prediction, active reading, and sustained engagement during verification activities. These patterns suggest that the instructional value of Canva was most evident when visual prompts were connected to the cognitive sequence of prediction, purposeful reading, questioning, evidence checking, and reflection. The study therefore frames Canva as a visual support layer within DRTA rather than as an autonomous motivational technology. Within the limits of a correlational design, the findings support the proposition that strategically organized digital reading environments are associated with stronger motivational engagement in elementary reading.

The contribution of the study is both conceptual and practical. Conceptually, it extends strategy-based reading research by foregrounding motivation as an affective outcome and by explaining how visual organization can be subordinated to cognitive reading processes. Practically, it offers teachers a clear principle for technology integration: visual design should make students' thinking more purposeful, visible, and sustained rather than merely make learning materials more attractive. The absence of retained numerical correlation and psychometric coefficients prevents a fully quantified interpretation in the present revision, and those values must be restored from the original dataset or statistical output before formal submission. Future replications using validated measures, multisite samples, and stronger experimental designs can determine the magnitude, durability, and causal status of the relationship identified in this study.

### **AUTHOR CONTRIBUTION STATEMENT**

Satriawati contributed to the conceptualization of the study, research design, methodological development, supervision, interpretation of the findings, critical revision of the manuscript, and overall quality assurance. Dinda Claudia contributed to instrument development, data collection,

classroom observation, documentation, data curation, statistical analysis, literature review, and preparation of the original manuscript draft. Both authors participated in the interpretation and discussion of the results, reviewed and revised the manuscript for important intellectual content, approved the final version for publication, and agreed to be accountable for the accuracy and integrity of the work.

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