

FACILITATING COLLABORATIVE LEARNING IN THE DIGITAL ENVIRONMENT THROUGH GUIDED READING AMONG YOUNG SCHOOL-AGE PUPILS

Anca Manuela EGERĂU, Ph.D.,

“Aurel Vlaicu” University of Arad

anca_petroi@yahoo.com

Abstract: *The article examines how guided reading can be redesigned in a digital environment in order to facilitate collaborative learning among young school-age pupils. Starting from the premise that technology should support, not replace, pedagogical interaction, the paper presents a small-scale classroom case study conducted with 16 fourth-grade pupils. The intervention lasted six weeks and combined printed reading fragments with digital activities created through Wordwall, Kahoot!, Padlet, Book Creator, Canva for Education, StoryJumper and related tools. The activities targeted comprehension, vocabulary development, reading fluency, inferential thinking and collaborative interpretation. The results recorded in the case study indicate progress in all four assessed indicators: text comprehension, identification of the main idea, vocabulary and reading fluency. The findings also show increased motivation and participation, especially when immediate feedback, gamified quizzes and collaborative digital products were used. The paper concludes that digital guided reading can become an effective pedagogical strategy when it is carefully planned, age-appropriate, balanced with print reading and mediated by the teacher.*

Keywords: *guided reading; collaborative learning; digital tools; primary education; reading comprehension; gamification.*

Introduction

In primary education, reading is not limited to decoding written signs. It gradually becomes a complex process of understanding, interpretation, dialogue and personal response to the text. For fourth-grade pupils, this stage is particularly important because the child moves from basic reading accuracy toward deeper comprehension, vocabulary expansion and the ability to formulate opinions. The development of these skills requires systematic guidance, repeated

practice and learning contexts in which pupils can ask questions, compare interpretations and connect the text to their own experience.

The digital environment has changed the way children encounter texts. Many pupils interact daily with screens, images, sounds, games and short multimodal messages. This does not automatically make them competent readers, nor does it guarantee a lasting interest in books. On the contrary, the abundance of digital stimuli can reduce patience for linear reading if it is not pedagogically mediated. Therefore, the essential question is not whether digital tools should be used in reading activities, but how they can be integrated responsibly in order to improve comprehension, motivation and collaboration.

The article focuses on guided reading as a pedagogical strategy that can be adapted to the digital environment. Guided reading is understood here as a teacher-mediated activity in which pupils read selected texts, stop at key moments, answer comprehension and prediction questions, clarify vocabulary, reflect on characters and reconstruct meaning with the help of peers. In a digital setting, this process can be supported by interactive quizzes, collaborative boards, digital reading journals, multimedia anchors and creative storytelling applications. The teacher remains the central mediator of learning: technology offers resources, but it does not replace instructional judgement, scaffolding or classroom dialogue.

The aim of this paper is to present a coherent model for facilitating collaborative learning through digital guided reading among young school-age pupils. The analysis is based on a classroom case study carried out with 16 fourth-grade pupils over six weeks. The study investigated changes in reading comprehension, identification of the main idea, vocabulary and fluency, as well as pupils' attitudes toward digital reading activities.

Theoretical landmarks: reading, collaboration and digital mediation

Reading comprehension is an active process that involves the interaction between the reader, the text and the purpose of reading. Snow (2002) defines comprehension as a process of simultaneously extracting and constructing meaning through interaction with written language. This perspective is important for primary education because it shows that pupils do not simply "receive" meaning from the text; they build meaning by using prior knowledge, vocabulary, inference, attention and metacognitive control.

Current research on reading acquisition also emphasizes that skilled reading develops progressively from word recognition toward fluent comprehension and interpretation. Castles, Rastle and Nation (2018)

describe reading development as a continuum that begins with alphabetic and decoding skills and extends toward expert text comprehension. At the level of the fourth grade, pupils need both accuracy and higher-order strategies: identifying explicit information, recognizing causal relations, understanding unfamiliar words from context, making predictions and justifying opinions.

Guided reading responds to these needs because it organizes the reading process into manageable stages. Before reading, pupils activate expectations and prior knowledge; during reading, they monitor meaning and clarify difficulties; after reading, they evaluate characters, reconstruct events and express personal responses. In the digital environment, these stages can be translated into interactive moments: a word cloud for predictions, a quiz for comprehension checks, a shared board for character analysis or a digital story for creative response.

The collaborative dimension of guided reading is supported by socio-constructivist learning theory. Vygotsky (1978) emphasizes the social nature of learning and the importance of mediated activity. In reading lessons, collaboration allows pupils to compare interpretations, negotiate meaning and learn from peers who may formulate clearer explanations or alternative perspectives. Digital platforms can extend this interaction by making pupils' responses visible to the whole group and by allowing several learners to contribute to a common product.

However, the educational value of digital tools depends on their pedagogical integration. The TPACK framework proposed by Mishra and Koehler (2006) shows that effective technology integration requires the intersection of content knowledge, pedagogical knowledge and technological knowledge. In the case of reading, the teacher must know both the literary or informational text and the appropriate reading strategies, but also the affordances and limits of the chosen digital tools. Digital competence frameworks for educators make a similar point: technology should be selected, adapted and evaluated in relation to learning objectives, not used as an isolated novelty (Redecker, 2017).

The European Digital Education Action Plan 2021-2027 also places emphasis on high-quality, inclusive and accessible digital education. At the same time, UNESCO's 2023 Global Education Monitoring Report warns that technology should complement human interaction and be used when it is appropriate, equitable, evidence-based and sustainable. These principles are directly relevant to guided reading in primary school: digital activities should make reading clearer, more motivating and more collaborative, while preserving the depth of textual engagement.

Methodology of the classroom case study

The practical component of the article is based on a small-scale case study conducted in a fourth-grade classroom. The sample consisted of 16 pupils, 9 girls and 7 boys. The class context indicated a need for intervention because only about 30% of pupils were described as reading voluntarily, without external pressure from teachers or parents. The main educational problem identified was decreasing motivation for reading, accompanied by difficulties in making inferences and extracting essential information from texts.

The intervention had four objectives. The first objective was to evaluate the impact of digital tools on the development of reading competences. The second was to increase the attractiveness of reading through gamification techniques. The third objective targeted the development of pupils' ability to extract essential information with the help of interactive tasks. The fourth objective was to monitor progress in fluency and vocabulary through digital applications.

The intervention lasted six weeks. It was organized around three literary works selected after discussions with the pupils and the classroom teacher, in order to respect children's interests: Katherine Rundell's *Hoții cei buni*, Frauke Scheunemann's *Winston – La vânătoare de fantome* and J. I. Wagner's *Timmi Tobbson și Corsarul stelelor*. Each text was approached over approximately two weeks. Pupils received printed reading fragments at the beginning of the week, while comprehension, collaboration and creative response activities were carried out digitally.

The methodological design included an initial reading test, a six-week instructional intervention and a final assessment. The initial test contained a narrative text and exercises assessing explicit comprehension, vocabulary, fluency-related reading behaviour, inference and creative response. During the intervention, pupils completed one to three digital reading activities per week. The digital tools used included Wordwall, Kahoot!, Quizizz, Padlet, Book Creator, Canva for Education, StoryJumper, Mentimeter and Vocaroo. A short questionnaire was also used to collect pupils' perceptions regarding reading and digital learning activities.

The study has the status of a classroom case study rather than an experimental research design with a control group. Therefore, the results should not be generalized statistically. Their value is pedagogical and exploratory: they show how a coherent sequence of digital guided reading activities can influence motivation, participation and observable reading indicators in a real classroom context. (Dughi et al, 2024)

Digital guided reading activities used in the intervention

The intervention was structured around the three phases of guided reading: pre-reading, reading and monitoring, and post-reading. In the pre-reading phase, Mentimeter was used to create word clouds starting from the title of the text. For example, before reading a fragment connected with mystery or adventure, pupils wrote words they associated with the topic. This visual activity activated prior knowledge and encouraged pupils to anticipate the content of the text. It also created an immediate collaborative space because all answers appeared together and could be discussed by the class.

During the reading phase, the teacher guided pupils through fragments and inserted comprehension pauses. Questions targeted the identification of the main idea, prediction, vocabulary clarification, empathy with characters and monitoring of understanding. In digital format, these tasks can be introduced as pop-up questions, short quizzes or interactive checkpoints. Wordwall activities such as matching pairs, ordering events or identifying the intruder helped pupils reconstruct the sequence of events and check whether they understood the narrative logic.

For fluency, pupils used Vocaroo to record short reading fragments. Listening to their own recordings helped them identify inappropriate pauses, hesitant reading or inadequate intonation. This form of self-monitoring supported autonomy, because pupils could hear their performance and understand that fluency is not only speed, but also clarity, rhythm and expressive reading.

Post-reading activities emphasized collaborative interpretation and creative response. Padlet was used as a common “character wall”. Each pupil or group adopted a character and created a profile including traits, emotions, important actions and imagined thoughts. This type of task moves pupils beyond literal comprehension. They have to justify their choices by returning to the text, discussing evidence and comparing their perspective with those of classmates.

Gamified assessment was conducted through Kahoot! and Quizizz. The items were organized on several levels: explicit details, cause-effect relations, contextual vocabulary, chronological ordering and personal opinion. The competitive format reduced the tension associated with traditional tests and transformed evaluation into a dynamic activity. More importantly, immediate feedback allowed errors to be corrected while the text was still present in pupils’ working memory.

Creative digital storytelling was another important component. Through Book Creator, Canva for Education and StoryJumper, pupils created mini-books, alternative covers, comics or story continuations. These products required them to apply what they had learned about

narrative structure: introduction, conflict, development of action, climax and resolution. Digital storytelling integrated reading and writing, but also visual expression and collaboration. In group work, pupils had to divide tasks, agree on the sequence of events and maintain coherence between text and image.

Multimedia resources were used carefully, as cognitive supports rather than decorative elements. Images, short video sequences, maps or soundscapes helped pupils visualize historical, geographical or emotional contexts. For young learners, such supports can clarify abstract or unfamiliar elements. Nevertheless, the activities were designed to remain focused on the written text, because the purpose was to develop reading competences, not to replace reading with viewing or listening.

Results and interpretation

The case study recorded progress in all four evaluated indicators. The table below summarizes the initial and final results presented in the classroom material. The values are expressed as percentages of achievement for each indicator.

Indicator assessed	Initial test	Final test	Progress
Text comprehension	68%	85%	+17 percentage points
Identification of the main idea	64%	88%	+24 percentage points
Vocabulary	70%	86%	+16 percentage points
Reading fluency	72%	90%	+18 percentage points

Table 1. Progress recorded in the four reading indicators during the six-week intervention

The mean initial score for the four indicators was 68.5%, while the mean final score was 87.25%. The average gain was therefore 18.75 percentage points. The largest increase was recorded for identifying the main idea, where pupils progressed from 64% to 88%. This result is pedagogically relevant because identifying the main idea requires pupils to distinguish essential information from secondary details, a difficulty frequently observed in primary reading activities.

Vocabulary increased from 70% to 86%, a gain of 16 percentage points. This suggests that contextual vocabulary tasks, digital matching exercises and immediate feedback supported retention of new words.

Reading fluency increased from 72% to 90%, which may be connected with repeated reading, audio recording and self-correction. Text comprehension increased from 68% to 85%, indicating that the guided sequence of prediction, comprehension checks and post-reading discussion helped pupils construct meaning more effectively.

The questionnaire data also indicate a positive motivational effect. Fourteen of the sixteen pupils stated that they liked using tablets, phones or computers at school, and thirteen pupils reported feeling more motivated to read when digital applications were used. Twelve pupils considered that digital activities helped them understand the text “much” or “very much”. Fifteen pupils stated that they would like to use technology more often in reading lessons. These responses show that digital tools can increase engagement, especially for pupils who do not already have a strong habit of voluntary reading.

Qualitative observations support the same conclusion. Pupils preferred quiz-based activities and creative products, particularly Kahoot!, Book Creator and Padlet tasks. They appreciated immediate feedback, visual elements and the feeling that the lesson became more dynamic. However, the data also revealed difficulties: time pressure in quizzes, technical problems, typing long words on tablets and visual fatigue when texts were too long on screen. These difficulties confirm the need for balance between printed reading and digital extension activities.

Discussion and pedagogical implications

The findings suggest that digital guided reading can facilitate collaborative learning when each digital tool is connected with a clear reading purpose. Collaboration was not limited to working in pairs or groups; it appeared in the shared construction of meaning. Pupils predicted together, ordered events together, discussed characters on Padlet and created digital stories that required negotiation of ideas. In this sense, technology functioned as a common workspace in which individual responses became visible, comparable and open to revision.

The teacher’s role was decisive. Without guidance, the same tools could have produced superficial participation or distraction. In the intervention, the teacher selected texts, formulated questions, organized reading pauses, interpreted feedback and helped pupils connect digital tasks with the literary content. This confirms the principle that educational technology is effective only when it is pedagogically framed. The teacher is not replaced by technology; rather, the teacher becomes a facilitator who designs learning paths and regulates digital interaction.

Another implication concerns differentiation. Digital tools made it possible to offer varied tasks according to pupils’ needs. Pupils with

lower reading confidence benefited from visual support, ordering exercises and immediate feedback. More advanced pupils could receive creative tasks such as alternative endings, digital book pages or character profiles. This differentiation is important in primary classrooms, where reading development is often uneven.

The study also confirms the value of immediate feedback. In traditional written tests, pupils may receive corrections after the moment of learning has passed. Digital quizzes allow misconceptions to be addressed immediately. When a pupil misunderstands a character's motivation or confuses the chronological order of events, feedback can direct attention back to the relevant fragment. This supports learning because correction becomes part of the reading process, not a separate administrative moment.

At the same time, the results should not be interpreted as an argument for replacing printed books. The most effective model observed in the intervention was a mixed one: pupils read printed fragments and then used digital tools to discuss, verify, create and reflect. This balance protects sustained attention and reduces screen fatigue while still using the motivational and collaborative advantages of digital environments. Reading remains the core activity; technology extends, organizes and enriches it.

From a curricular perspective, digital guided reading supports several competences relevant to primary education: understanding written messages, extracting essential information, using vocabulary in context, expressing opinions, collaborating with peers and producing simple written or multimodal texts. It also develops emerging digital competences, such as using educational platforms, creating digital content and communicating responsibly in an online workspace. (Dughi et al, 2024)

Limits and future research directions

The case study has several limits. First, the sample was small and included only one fourth-grade class. The findings therefore describe a specific educational context and cannot be generalized to all primary pupils. Second, the intervention lasted six weeks, which is sufficient to observe short-term changes but not enough to evaluate long-term reading development. Third, pupils had different levels of digital familiarity. Those who used devices more often may have completed digital tasks with greater ease, while others needed additional orientation.

Access to equipment was another limitation. Not all pupils had personal devices, and the school context did not fully ensure the necessary technological resources. This aspect is important because

digital education can unintentionally amplify inequalities if access is uneven. Any implementation model should therefore include planning for devices, internet connectivity and classroom management. Family support may also influence pupils' reading habits and digital learning behaviours.

Future research should extend the sample to several schools, including both urban and rural contexts. A longer intervention would help identify whether improvements in motivation and comprehension are maintained over time. Comparative studies could also examine which categories of digital tools have the strongest impact: gamified quizzes, collaborative boards, multimedia resources or digital storytelling platforms. Another relevant direction would be to investigate teachers' digital-pedagogical competences and the type of training needed for effective guided reading in digital environments. (Dughi et al, 2024)

Conclusions

The article shows that guided reading can be effectively adapted to the digital environment in order to facilitate collaborative learning among young school-age pupils. The case study indicates visible progress in text comprehension, identification of the main idea, vocabulary and reading fluency after a six-week intervention that combined printed reading fragments with digital tasks. The average increase across the four indicators was 18.75 percentage points, and pupils' questionnaire responses showed higher motivation and interest in reading activities mediated by technology.

The pedagogical value of digital guided reading lies in the combination of structure and interaction. Guided questions help pupils approach the text step by step; digital tools provide feedback, visibility and variety; collaboration allows pupils to negotiate meaning and learn from one another. Used together, these elements can transform reading from a solitary obligation into a shared, active and reflective learning experience.

However, digital tools should be used with moderation and clear educational purpose. They should not replace the printed book, the teacher's guidance or the deep attention required by reading. Their role is to support comprehension, increase motivation, enable collaboration and create opportunities for creative response. When integrated responsibly, digital guided reading can contribute to the formation of active, autonomous and critical young readers.

References

Carretero, S., Vuorikari, R., & Punie, Y. (2017). DigComp 2.1: The Digital Competence Framework for Citizens with eight

- proficiency levels and examples of use. Publications Office of the European Union. <https://doi.org/10.2760/38842>
- Castles, A., Rastle, K., & Nation, K. (2018). Ending the reading wars: Reading acquisition from novice to expert. *Psychological Science in the Public Interest*, 19(1), 5–51. <https://doi.org/10.1177/1529100618772271>
- Deterding, S., Dixon, D., Khaled, R., & Nacke, L. (2011). From game design elements to gamefulness: Defining gamification. *Proceedings of the 15th International Academic MindTrek Conference*, 9–15. <https://doi.org/10.1145/2181037.2181040>
- Dughi, D., Torkos, H., Coșarbă, E. M., & Redeuș, A. D. (2024). Parents' perceptions about improving student's behavior through participation in non-formal activities. A qualitative analysis. *Journal Plus Education/Educația Plus*, 35(1), 155-170.
- Dughi, D. E., Cosarba, E. M., & Torkos, H. (2024). The role of dramatic pedagogy in developing transversal competence on students. *Journal Plus Education*, 35(1), 237-246.
- Dughi, D., Cosarba, E., & Petcut, D. (2024). Digital platforms and applications used in romanian language and literature classes at the high school level. *Journal Plus Education*, 36(2), 331-339.
- European Commission. (2020). *Digital Education Action Plan 2021–2027: Resetting education and training for the digital age*. Publications Office of the European Union.
- Guthrie, J. T., & Wigfield, A. (2000). Engagement and motivation in reading. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of reading research: Volume III* (pp. 403–422). Lawrence Erlbaum Associates.
- Kintsch, W. (1998). *Comprehension: A paradigm for cognition*. Cambridge University Press.
- Mayer, R. E. (2009). *Multimedia learning* (2nd ed.). Cambridge University Press.
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. *Teachers College Record*, 108(6), 1017–1054. <https://doi.org/10.1111/j.1467-9620.2006.00684.x>
- Redecker, C. (2017). *European Framework for the Digital Competence of Educators: DigCompEdu*. Publications Office of the European Union. <https://doi.org/10.2760/159770>
- Rundell, K. (2021). *Hoții cei buni*. Editura Booklet.
- Scheunemann, F. (2021). *Winston – La vânătoare de fantome*. Editura Booklet.
- Snow, C. E. (2002). *Reading for understanding: Toward an R&D program in reading comprehension*. RAND Corporation.

- UNESCO. (2023). Global Education Monitoring Report 2023: Technology in education – A tool on whose terms? UNESCO. <https://doi.org/10.54676/UZQV8501>
- Vygotsky, L. S. (1978). Mind in society: The development of higher psychological processes. Harvard University Press.
- Wagner, J. I. (2025). Timmi Tobbson și Corsarul stelelor. Editura Boo