



Promoting Sixth Graders' Credibility Evaluation Skills with Video-Based Instruction

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Purpose

Adolescent lack of sufficient online credibility evaluation skills (Coiro et al., 2015; Kiili et al., 2018).

Not all students are motivated to evaluate the credibility (List & Alexander, 2018).

Purpose I was to design engaging, explicit video-based instruction to promote students' online credibility evaluation skills.

Purpose II was to clarify whether storified video-based instruction has added value in promoting the learning of credibility evaluation skills compared to non-storified video-based instruction.

Explicit Instruction in Four 45-minute Lessons

(Hughes et al. 2017)

Component	Description
1. Sequencing the complex skills into manageable units	Learning about online credibility evaluation was sequenced into four lessons. Lessons 1–3 focused on specific strategies (one per lesson). In Lesson 4, students applied the learned strategies.
2. Modeling and explaining the strategies	The instructor(s) modeled/explained the strategies in the videos. The teacher highlighted the main points of the video with the help of the summary presented in the workbook.
3. Supports for practicing the strategies	Students practiced the strategies with the task that focused on a specific strategy. Students were prompted to consider the key aspects of the strategy.
4. Independent practice	The instructor(s) introduced the case the solving of which students applied the learned strategies.
5. Feedback	Students received feedback on the tasks from the instructor on the video the teacher reads aloud.
6. Reflection	Students reflected on their learning at the end of each lesson (passport).

Promoted skills:

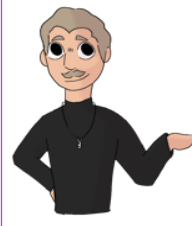
- Evaluation of the author's expertise
- Evaluation of the author's intention
- Evaluation of the quality of evidence

Storified and Non-Storified Instructional Videos



Tarkoituserät = Intentions; Johtolanka = Clue.
Actors: Iina Hautala & Aleksu Kauppinen


An Example of a Task on the Workbook



Task 1a
Who to trust?


You may have heard that the Baltic Sea is one of the most polluted seas. **What exactly is the cause of this pollution?** And what should be done about it? Among the following individuals, who do you believe has the most expertise on this matter?

Mark the number 1 for the individual you think has the most expertise. Mark the number 2 for the individual you think has the second most expertise, and so on.




Larry Bear
I am an investigative journalist and winner of the Journalist of the Year Award. Investigating environmental and conservation issues is the core of my work.

Number:



Tina Wolf
I am the Executive Director of Baltic Sea Music event. The Baltic Sea Music event donates 10% of its profits to the protection of the Baltic Sea.

Number:



Olivia Fox
I am a Baltic Sea researcher at the Nordic Environment Center. My work involves investigating how agricultural emissions impact the eutrophication of the Baltic Sea.

Number:



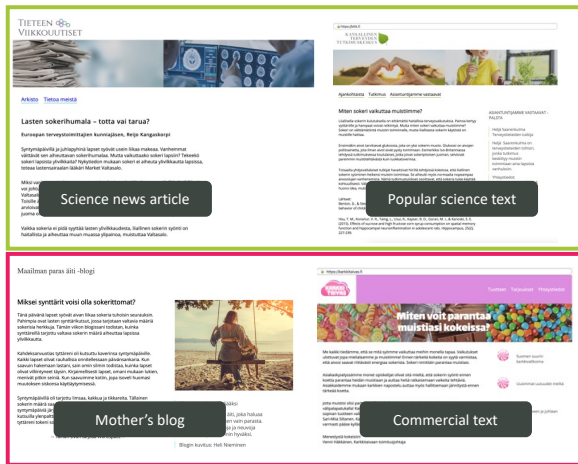
Michael Lynx
I am the president of a sailing club. I spend all summers on the Baltic Sea. I am familiar with its corners and have witnessed what pollution does to the sea.

Number:

Justify your order:

Measures

Online credibility evaluation task (Kiili et al., 2023) as pre-and post-measure



Two topics:
Effects of sugar or chocolate

Participants:

377 Finnish sixth graders (aged 12–13)

Students were asked to evaluate (each text) author's expertise, author's benevolence, and quality of evidence with a six-point scale + overall credibility and justify their evaluations (open item).

Ability to confirm more credible texts (sum mean score; Omega .76, .83)



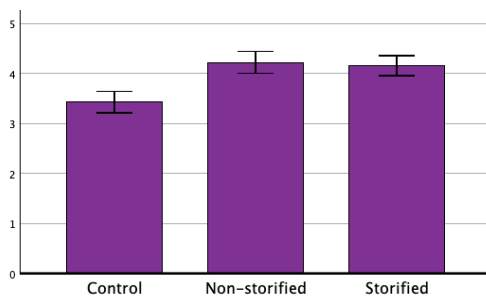
Ability to question less credible texts (sum mean score; Omega .71, .82)



Justification skills (expertise, intentions, and evidence): Students' justifications were identified and counted by online text. The justification sum score (Omega .67, .81)

Other measures: Reading fluency (Lerikkanen et al., 2018) and reading comprehension (Jensen & Elbro, 2022)

Questioning the Credibility of the Less Credible Texts (post-test)



Condition: $\eta^2 = 0.18^{***}$

Covariates: Pre-test: $\eta^2 = 0.28^{***}$

| Reading comprehension: $\eta^2 = 0.03^{**}$

Topic-order: $\eta^2 = 0.02^*$ | Home language (ns.)

The conditions did not differ in confirming the more credible texts.

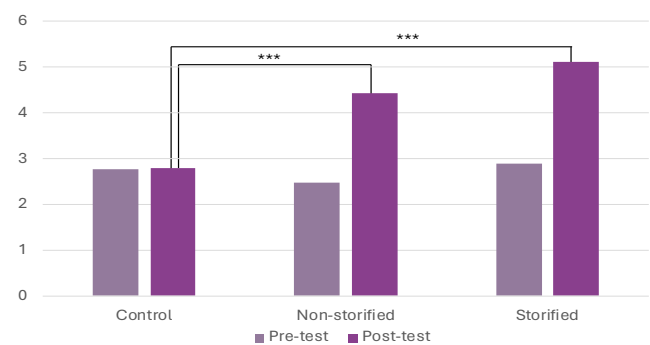
Conclusions

The comprehensive, teacher-led intervention implemented in ecologically valid conditions can inform educational practice.

Simple, professionally produced videos that are grounded in relevant multimedia principles can support learning of credibility evaluation.

Storifying multimedia materials do not necessarily provide added value for learning online credibility evaluation skills.

Justifications for Credibility Evaluations Across the Four Online Texts



Poisson regression analysis: Students in the non-storified condition presented 1.79 [CI 1.55; 2.08] and in the storified condition 1.83 [CI 1.58; 2.12] more relevant justifications than students in the control condition. Reading comprehension, topic-order, pre-test justifications, and home language were controlled for.

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