Meet ELCII and TeLCI: Personalized, Fully Automated Inference Making Training in K-2

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Background

Approximately 31% of 4th graders read below a basic proficiency level (NAEP, 2017)—they fail to make simple inferences and understand the overall meaning of texts.

Inference making is a unique, significant predictor of reading comprehension, with a possible causal link from poor inferencing to poor reading comprehension (Oakhill & Cain, 2012).

The ability to draw inferences is a general skill—it is not specific to reading (Kendeou et al, 2008; Kendeou, 2015).

Inference skills can be improved using questioning that includes scaffolding and specific feedback (McMaster et al., 2012).

Method

TeLCI and ELCII are interactive, cloud-based applications, consisting of 24 learning modules that teach inferencing in a non-reading context through the use of age-appropriate fiction and nonfiction videos.

Students respond to each of five questions, in either an online or offline condition. If a student selects the incorrect answer, they receive scaffolding to support the creation of the inference and are provided with another attempt to answer.

Measures

- Assessment modules
- Intervention modules
- CELF 5 Understanding Spoken Paragraphs
- Minnesota Executive Function Scale
- aReading (ELCII only)

Results – Year 1

Designed as a Tier 1 to improve reading comprehension by developing inference making for all students in Kindergarten.

Participants

67 kindergartners completed screening measures, 4 assessment modules, and 4 ELCII intervention modules.

We explored initial feasibility and relations between inference making skills and other language and cognitive abilities.

Results – Year 2

Designed as a Tier 2 intervention, TeLCI aims to reading comprehension by training of inference making in struggling readers in Grades 1&2

Participants

61 first graders identified as struggling comprehenders completed three TeLCI modules (both fiction and nonfiction) each week for 8 weeks.

Students were randomly assigned to the online (questioning during) or offline (questioning after) condition.

Results

- Overall average accuracy (%) for ELCII
- Overall average accuracy (%) for TeLCI

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