Fonds de recherche Société et culture Québec

Rapport de recherche

PROGRAMME ACTIONS CONCERTÉES

Promouvoir la littératie numérique auprès des élèves du secondaire : un projet de recherche-action collaborative

Chercheur.e principal.e

Julie Corrigan, Department of Education, Concordia University

Cochercheur.e.s

Kim McDonough et Heike Neumann, Concordia University

Collaboratrices ou collaborateurs

Andrea Barrios, Collège Saint-Paul; Caroline Dupuis, Commission scolaire English-Montréal

Établissement gestionnaire de la subvention

Concordia University

Numéro du projet de recherche

Inscrire 2021-0EUA-291421

Titre de l'Action concertée

Actions concertées Programme de recherche-action sur le numérique en éducation et en enseignement supérieur (volet Projet de recherche-action)

Partenaire(s) de l'Action concertée

Le ministère de l'Éducation du Québec (MEQ)

et le Fonds de recherche du Québec – Société et culture (FRQSC)

Fighting the Fake:

Using Education to Combat Online Misinformation

In an age where public trust in journalism is at an all-time low (Brennan, 2022) and where people are more likely to share fake news than credible sources (Dizikes, 2018), more education is needed to prepare students to critically evaluate online information. The purpose of our study was to design, develop, and evaluate an intervention with Quebec teachers for Quebec students aimed at improving students' ability to critically evaluate online information. The study resulted in the development of the Critical Online Resource Evaluation (or CORE) lessons, which are freely available to teachers. These lessons are aligned with the *Quebec Education Program (QEP)* at the secondary level, specifically targeting the English Language Arts (ELA) and English as a Second Language (ESL) curricula.

In this collaborative action research program, we worked with Quebec secondary teachers to understand their context, including the factors that both supported and hindered their teaching of CORE skills. In doing so, we were able to design lessons responsive to the needs of Quebec's teachers. Through semi-structured interviews with participating teachers, we learned that while teachers were aware of Quebec's *Digital Competency Framework*, they viewed the competencies and supporting elements as peripheral to the curriculum found in the *QEP*. Teachers told us that with the demands of provincial testing and implementing an already packed curriculum, CORE skills—while perceived as important by our participants—necessarily took a backseat. Teachers also told us that while they occasionally received professional development in the area of the digital competencies, either by their own initiative or with the support of

their schools, these were seen as one-off events with little opportunity for follow-up, support, reflection, or thoughtful integration into their teaching practices. This is important feedback to keep in mind as we work with the province to provide sustainable and impactful professional development for our teachers.

With a better understanding of the context of Quebec's secondary school classroom teachers, we developed our CORE intervention. This intervention targeted the entirety of the online inquiry process, from developing an inquiry question to evaluating information and communicating the results. Other interventions (e.g., Ctrl-F) have focused on more isolated skills. The intervention was evidenced based as we performed an extensive review of prior intervention studies found in peer-reviewed literature that were successful in improving students' CORE skills. We capitalized on the strengths of prior interventions (e.g., direct instruction around lateral reading), accounted for weaknesses (e.g., including strategies for evaluating not only the source of online information, but the content itself), and developed the intervention to be responsive to the Quebec context.

We used a mixed methods approach to evaluate our intervention by triangulating data from student, teacher, and researcher perspectives. We collected data using pretest/posttest measures (to determine whether the intervention actually improved students' evaluation abilities), as well as a number of other methods (e.g., focus groups, interviews, surveys, classroom observation) to gather data regarding indicators related engagement, motivation, implementation fidelity, and various demographic variables. We continue to use this data to inform improved iterations of the intervention and to provide a foundation for future research.

Our results indicated that the CORE instructional intervention that we designed did indeed improve students' ability to evaluate online information. We noted statistically significant improvements in students' results from pretest to posttest, indicating that our intervention was successful in certain contexts. Our analysis of students' assessment results also indicated qualitative improvements in students' ability to identify indicators for sources of varying levels of credibility. For example, students were better able to identify biased sources by the end of the intervention compared to their baseline results. That being said, our data revealed that some sources—what we call slippery sources, due to their use of deceptive tactics to deceive readers—remained challenging for some students to evaluate. Further strategies will need to be explored to uncover the most effective instructional practices for helping students develop critical thinking skills in this area.

Finally, we used our data to identify what factors best predict students' performance on the CORE evaluation. We found that females outperformed males, which is a finding consistent with traditional evaluations of reading and writing. Time will tell if—like performance across traditional literacy tests—males bridge the performance gap by their mid-twenties. Furthermore, we noted that prior knowledge of a given subject area predicts students' CORE abilities. These findings highlight the need for continued evidence-based literacy instruction, as well as subject matter instruction (e.g., science, history), to build the foundation for CORE and students' increased critical thinking around the information they encounter in our networked world.