From the "computer classroom" to "classrooms with computers"

The dawn of the microcomputer era in Ontario, 1982–1994

uOttawa
Department of History
Faculty of Arts

Lucas Cherkewski and Chad Gaffield

1 *Introduction*

In the 1980s, the government of Ontario launched an ambitious plan to introduce microcomputers into classrooms. Educational computing enthusiasts across the province—including teachers, administrators, and bureaucrats—formed groups such as the Educational Computing Organization of Ontario (ECOO) to discuss developments in educational computing and their implications for the classroom.

This project seeks to understand changing attitudes toward educational computing among ECOO members during the Ministry's standardized computer pilot program, from 1982 to 1994, as expressed via discussions in ECOO's newsletter, *Output*.

2 *Context*

Technology in the classroom has a long history, from the introduction of blackboards (Prentice and Laskin 1993) to computer-assisted learning and massive open online courses (Ferster 2014). Ontario is no exception to these developments. Between 1980 and 1981, the number of computers in Ontario schools increased from 649 to 3,239. Soon, the Ministry subsidized the construction of the ICON microcomputer. By 1985, two years after the prototype was constructed, 10,000 ICONs were deployed in classrooms across the province (Goodson and Mangan 1992, 265).

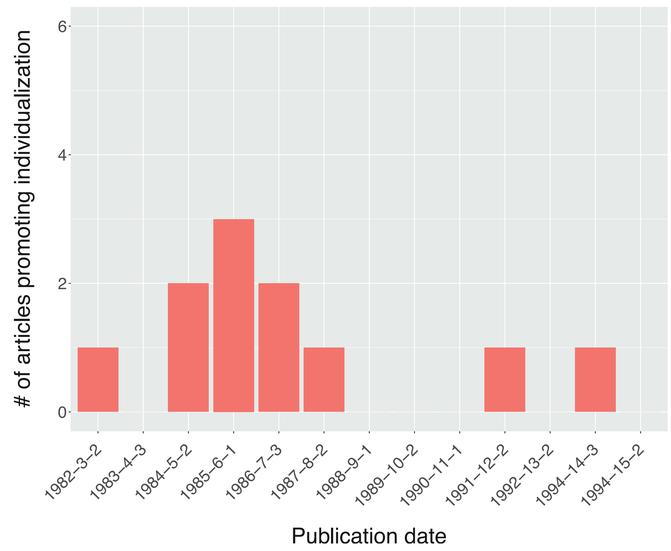
This rapid increase demanded that teachers consider adapting their pedagogy to the new technology's potential. In other fields, such as post-secondary digital scholarship, new technologies often become routine and the substance of their users' behaviour remains unchanged, despite opportunities for massive transformation (Ayers 2012). This project considers the published thoughts of Ontario educators to investigate how these educational computing enthusiasts understood the potential of microcomputer technology in relation to their own roles as educators.

3 *Methodology*

1. Sampled 13 *Output* issues published from 1982–94, using a stratified random sample.
2. Cataloguing all articles within each issue, recorded information about 266 articles in an SQL database with 20 variables, including biographical details, citation information, and subject classification.
3. Generated descriptive statistics to analyze trends and conducted a close read of select articles to detail the changing nature of the conversation.

4 *Results*

A *Computer-assisted instruction: declining interest*



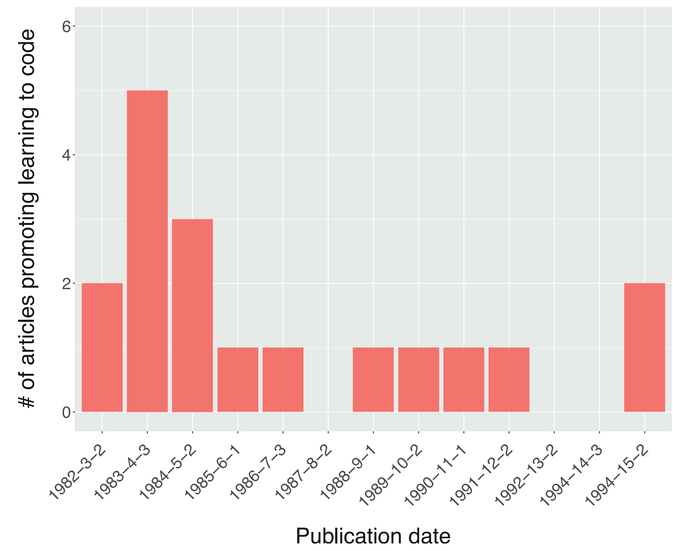
(Source: 266 articles from 13 issues of *Output*, stratified random sample.)

"A paradigm shift in the focus of public education."

—Charles W. N. Carr, "One Last Chance," *Output* 7(3) (1986): 28

- Initially, authors predict that automated computer-assisted instruction (CAI) will redefine education, creating the "computer classroom."
- Later discussions position technology as a practical tool. Educators discuss teaching word processing as an alternative to typewriting.

B *Coding: from necessary for all to niche interest*



(Source: 266 articles from 13 issues of *Output*, stratified random sample.)

"Programming has fallen from grace as a necessary skill."

—J. Dale Burnett, "Logo: A Language for Questions," *Output* 10(2) (1989): 29

- At first, code is a tool suggested for business, geography, and more. The Logo language, designed for educational settings, predominates.
- Later discussions limit learning to code to computer science classrooms. Conventional programming languages predominate.

5 *Conclusions, limitations, next steps*

Analysis of all project data suggests that the attitudes of educational computing enthusiasts toward educational computing shifted from 1982 to 1994. *Output* discussions appear to demonstrate a pattern of moving from the aspirational to the routine in the discussion of educational technology, similar to the pattern observed by Ayers in the field of digital scholarship.

To increase precision and the reliability of results, future research could study the entire corpus of *Output* newsletters. This would also allow investigating whether the aspirational-to-routine pattern holds for other educational technologies, such as the internet: in the last issues sampled, discussions of the then-nascent internet are aspirational, akin to discussions about CAI ten years before.

Though this project studies only part of broader conversations, understanding this pattern could aid further research on historical attitudes toward the introduction of technology.

6 *Acknowledgements, contact*

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For those interested in ECOO or *Output*, further information, including datasets and tables of contents, is available at lucascherkewski.com/study/urop/.

Email: lucas@lucascherkewski.com.

7 *Works cited*

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