

## Sample Educational Technology Research Over the Decades Curtis J. Bonk (1986-2024)

### **Sample of Research and Development Activity (2015-2024):**

1. **YouTubers Teaching Languages Online, including Using Generative AI:** Interviewed YouTubers about their self-directed language learning practices as well as their instructional practices with generative AI such as ChatGPT. Also conducted content analysis. This was a 4-part study. All is published.
2. **Self-Directed Language Learning Online with Duolingo:** Exploring self-directed learning practices and motivations of adults learning languages online via Duolingo.
3. **Ethics and Generative AI.** Interviewing students about ethical issues that they encounter with generative AI tools like ChatGPT.
4. **Supports, challenges, and impacts of local learning communities of adolescent MOOC learners.** Interviewing teenage youth in Nepal who primarily learned via MOOCs during the pandemic.
5. **PD and SDL Among Tango Instructors during COVID:** Interviewed tango instructors on their PD practices during COVID-19.
6. **South American MOOC instructors:** Interviewed South American MOOC instructors about their instructional design consideration; especially, in terms of designing their MOOCs to foster SDL.
7. **Massive Open Online Courses (MOOCs) Instructor Considerations and Challenges, Personalization and Cultural Sensitivity:** Researching MOOC instructor personalization and cultural sensitivity in a MOOC; also MOOC instructor PD, instructional design considerations and practices, motivation, challenges, etc, MOOC instructor career development, engagement, self-directed learning, etc.
8. **Self-Directed Online Learning and Open Education:** In a mixed methods design, we are looking at the motivations, successes, challenges and obstacles, and life changes from access to OpenCourseWare (OCW), open educational resources (OER), and massive open online courses (MOOCs). Also conducting SDL studies of online language learning with Duolingo and a study of teenagers on Nepal accessing MOOCs to learn English and much more.
9. **Open Educational Resources (OER):** Researched OER use in China and Turkey and people around the world pushing the open education movement.
10. **Social Networking Analyses of Twitter Interactions in Field of Educational Technology:** Attempting to understanding interrelationships in the job market among five disciplines, educational technology, educational design, instructional design, learning design, and instructional systems by analyzing Twitter postings.
11. **Flipped Learning Approaches:** Explored how MOOC content could be used to flip the classroom in China and also looking at the flipped classroom model in Korea and Singapore, including student engagement, self-efficacy, and social presence in large university classes.
12. **MOOC Gamification:** This study explores instructors' perceptions, interest, self-efficacy, perceived barriers, and support needs regarding the use of gamification in MOOCs
13. **Synchronous and Asynchronous Online Learning and Computer-Mediated Discourse Analysis (CMDA):** Various studies over the past 20 years on the depth of discussion, the types of online moderation and interaction, and comparing difference CMDA techniques.
14. **Informal/Nontraditional Learning:** Exploring how people learn or teach from informal learning tools and resources. What are their motivational goals, challenges, etc. Is it possible to document life change?

15. **Systematic Review of the Research on Self-directed Learning in MOOCs:** Reviewing the research on SDL in MOOCs.

### **Sample of Research and Development Activity (2005-2014):**

16. **Extreme Learning/Nontraditional Learning:** Exploring how people learn or teach with technology in unusual ways; such as from planes, trains, boats, war zones, space stations, religious missions, nursing homes, museums, zoos, etc. I currently call this “extreme learning” though some refer to it as informal learning or nontraditional learning. As part of this, I am attempting to record “empowerment moments” wherein people lives were changed due to their use of technology. In effect, it is time to collect human interest stories that proves it and is an inspiration for others.
17. **Social Network Analysis (SNA) and Blogging in Korea and China:** Used social networking analysis to study intellectual and emotional closeness of peers; also explored decentralization, augmented socialization, and the pros and cons of blogging in Asian higher education.
18. **Wikibooks and Wikibooks in K-12, Higher Ed, and Corporate Settings:** Explored cross-institutional Wikibook projects; surveyed and interviewed those who have coordinated, edited, or contributed to Wikibooks. Also, looked at how wikis are used in early childhood education; including teacher philosophy and pedagogies, activities, school support, parental involvement, satisfaction, etc.
19. **YouTube and Other Online Videos:** Investigated online motivational and collaborative factors in watching and generating YouTube videos. Also looked at participatory forms of learning and pedagogical activities.
20. **Open Education and Open Source Software:** Researched the open education movement around the world. Interviewing many people involved in creating open courseware, open educational resources, open source software. Also looking at issues of knowledge, communities of practice, and curriculum sharing in online content repositories (e.g., MERLOT, Connexions, OOPS, etc.).
21. **E-Learning and Blended Learning:** Looked at new directions in e-learning and blended learning in both higher education and corporate settings in the UK, USA, China, Taiwan, and Korea via survey research.
22. **Online MBA Program:** Explored aspects of the Kelley Direct (KD) online MBA program at IU; includes research on virtual teaming, case-based learning, student and faculty perceptions, instructor roles, technology use, and time management. Research includes student and faculty interviews, focus groups, surveys, and content analyses.

### **Sample of Research and Development Activity (1992-2004):**

23. **Exploring the Future of E-Learning:** Analyzed new directions in e-learning in both higher education and corporate settings.
24. **Exploring the Current State of E-Learning:** Previous study explored current state of online learning in higher education and corporate settings).
25. **Multiuser Online Games and Simulations:** Exploring the educational and training potential of massive multiplayer online games, including the effects of collaboration, synchronous and asynchronous gaming environments, & trends in educational game use for the Dept of Defense Advanced Distrib Learning Lab.
26. **Delayed Collaboration Tool Interaction and Mentoring:** Analyzing the learning patterns within conferencing tools and electronic discourse (e.g., FirstClass, WebCrossing, COW, V-Groups, etc.).
27. **TICKIT:** Five year investigation of the implementation of the *Teacher Institute for Curriculum Knowledge about the Integration of Technology* which annually trains 25 teachers from 5 rural

Indiana schools.

28. **Conferencing on the Web (COW) and TITLE (The Intraplanetary Teacher Learning Exchange) Project:** Fostered preservice teacher case-based conferencing on the WWW regarding early field experience observations.
29. **Usability Testing of Web Sites for the Disabled:** Evaluated the usability of commercial Web sites for individuals with various disabilities—visually impaired, hearing impaired, physically impaired, etc.
30. **Online Pedagogical Innovations:** Investigating starter-wrapper technique and other online instructional methods—looking at peer responsiveness, interactivity, mentoring, teaching assistance, and questioning patterns both in graduate and undergraduate courses.
31. **Online Officer Training Program:** Evaluated social interaction, problem solving, online mentoring, & social interaction environment of Army officer training program; focus on instructional design.
32. **Cross-Cultural e-Learning Issues:** Explored differences in student interaction patterns and social discourse in preservice teacher online conferencing from Finland, U.S., and Korea.
33. **Computer Conferencing and Collaborative Writing (CCCW) Group at Indiana:** Group of a dozen graduate students and myself are exploring avenues for understanding the impact of different formats and levels of computer conferencing and computer writing technology tools; book recently published.
34. **The Smartweb:** Designed a suite of online learning tools based on sociocultural theory for my first online course in 1997 (i.e., undergraduate educational psychology ) including an online portfolio system.
35. **Conferencing on the Web (COW) and TITLE Project:** Fostering preservice teacher case-based conferencing on the WWW regarding early field experience observations; both local and international; expanded to TITLE: *The Intraplanetary Teacher Learning Exchange*.
36. **SimTower:** Analyzing effects of guided and discovery learning approaches in SimTower environment on student motivation, achievement, and knowledge construction activities.
37. **TICKIT:** Investigating implementation of the *Teacher Institute for Curriculum Knowledge about the Integration of Technology* with 25 teachers from 5 rural Indiana schools.
38. **Delayed Collaboration Tool Interaction and Mentoring:** Analyzing the learning patterns within conferencing tools and electronic discourse (e.g., FirstClass, Alta Vista Forum, COW, V-Groups, etc.).
39. **Multimedia Weather Collaborations:** Evaluating cognitive change, writing ability, and scientific inquiry of students in 3 elementary schools in a multimedia and electronic community weather project.
40. **Synchronous vs. Asynchronous Conferencing:** comparing electronic social interaction of preservice teachers responding to electronic cases in delayed and real-time conferencing formats.
41. **Adventure Learning/World Forum:** Investigating mentoring, teaching assistance, and questioning patterns in Internet connections between students, mentors, and Arctic explorers.
42. **Social Constructivism and Active Learning Environments (SCALE):** Evaluating perceived/preferred classroom environments within 12 Indiana schools (collected *SCALE* validity data on 8 factors in Indiana elementary and high schools).

### **Sample of Research and Development Activity (1986-1992):**

43. **Computer Prompts and Writing:** Co-developed a set of creative thinking (generative) and critical thinking (evaluative) prompts in WordPerfect. Tested it with middle school youth and college students. Also developed the generative-evaluative model of writing.
44. **Keystroke Mapping and Writing:** Co-developed a keystroke mapping system using keyboard macro commands in WordPerfect. Tested it with middle school youth and college students. Also developed the generative-evaluative model of writing.
45. **Metacognition in Reading:** Created and tested the READER and READERS cooperative reading techniques in elementary schools.
46. **Metacognition in Writing:** Designed a new assessment for metacognition in writing, the Index of Writing Awareness (IWA) based on the Index of Reading Awareness (IRA).
47. **Divergent and Convergent Thinking Skills and Computer-Assisted Instruction (CAI):** Testing dozens of software packages intended to foster thinking skills in various summer computer camps for kids.
48. **Project CAQTALS:** Developed and tested new survey instrument, “The Computer Attitudes Questionnaire for Thinking and Learning Skills of the 1990s.
49. **Project YES (Youth Enrichment Services):** Co-designed the computer lab in the James Paige Learning Center in Wheeling, WV. Conducted research on different CAI software in the lab.
50. **National Survey on Collaborative Technology.** Tested different forms and levels of online technology collaboration; especially, writing technology.
51. **Summary and Essay Writing and Cognitive Change:** Examining cognitive change in business and education students resulting from writing by using concept mapping and ordered tree analysis; also looking at keystroke replay mechanisms to analyze student revision and writing development.
52. **Telecourse and Distance Learning:** Co-developed a national syndicated telecourse for teacher educators on critical thinking.

#### **Technology Used in Teaching and Research in the 1990s and 2000s:**

1. **Course Management Systems:** WebCT, Blackboard, CourseSites from Blackboard, Oncourse, Sakai, e-education, Virtual University, Nicenet.
2. **Synchronous Computer Conferencing Systems:** Breeze (now Adobe Connect Pro), WebEx, Placeware, CU-SeeMe, Elluminate, Blackboard Collaborate, Centra, Wiz IQ, Norton Textra Connect, and various others.
3. **Asynchronous Computer Conferencing Systems:** SiteScape Forum, e-Board, e-groups, Nicenet, COW, WebCrossing, FirstClass, Oncourse, VaxNotes, Alta Vista Forum, WebCrossing, V-Groups) and tested real-time (i.e., synchronous) & asynchronous conferencing tools.
4. **Collaborative Writing Software Tools:** demo networking tool features and emerging software such as Conference Writer, Collaborative Writer, the Knowledge Builder, Aspects, PrepEditor, etc.
5. **Wikis:** Wikispaces, Wikibooks, Wikispaces, PBworks, etc.
6. **Concept Mapping Tools:** trained students in Inspiration and other mindmapping tools.
7. **Shared Online Video Tools and Resources:** YouTube, TeacherTube, CurrentTV, TubeChop, Vialogues, Grocket Answers, etc. Demo ideas/people/tools & anchor instruction; tape student microteaching, presentations.

8. **Distance Education Courses** (Web Courses and Videoconferencing courses with (1) Picture-tel, (2) the Virtual Indiana Classroom (VIC), and (3) Ameritech's Project Athena with Indiana schools; (4) the Virtual University from Simon Fraser; (5) E-education from JonesKnowledge.com; and (6) Eduspace.
9. **Combined Videoconferencing Systems:** Such as "CU-SeeMe" & PictureTel or NetMeeting to connect class to research experts.
10. **The World Wide Web:** Class explorations, demonstrations, and instruction on the WWW, student creation of class web pages, student web-link suggestions, student case creation and discussion, web-based discussions and conferencing, and course syllabi.
11. **Stand Alone Computer Presentations:** Bibliographic retrieval tools, statistical software, writing prompts, keystroke replay mechanisms, and various Web tools.

### Web Tools and Software Development and Project Supervision

- 1999-2024 Web Developer/Supervisor: Various E-Learning Portals and Tools, CourseShare, LLC.  
*CourseShare.com (President and Founder), TrainingShare.com, PublicationShare.com*
- 1998-2023 Web Developer/Supervisor, Grant from Continuing Studies Department, IU  
*The Bobweb: <http://www.indiana.edu/~bobweb> (Web site for R546 course taught via videoconferencing. Components: creativity, critical thinking, cooperative learning, motivation, technology integration, etc.)*
- 2003-2010 Founder, Web Devel/Supervisor: **SurveyShare, Inc. (company sold June 2010)**  
**Product:** A popular, free and low-priced Web-based survey tool.  
**SurveyShare Clients:** Over 15,000 survey memberships per year; millions of survey takers per year from all economic or educational sectors.  
**Funding:** Personally funded all start-up costs associated with SurveyShare including tool development, marketing, management, etc.  
**Tool Development:** Usability testing, design team coordination, planning, etc., oversaw all tool and feature changes and additions.
- 1999-2007 Web Developer/Supervisor: Various E-Learning Portals and Tools (free)  
*InstructorShare.com, ResourceShare.com, LibraryShare.com, QuizShare.com, BookstoreShare.com, UniversityShare.com, etc.*  
**Audience:** Sites developed for sharing resources among college instructors, students, corporate trainers, freelance instructors.  
**Funding:** All the above sites were personally funded.  
**Hired, Supervised, and Managed:** Over 40 programmers and network specialists, trainers, instructional designers, graphic designers, researchers, distance learning specialists (Note: most were graduate students at Indiana University).
- 1998-2003 Project Co-Director/Developer, TICKIT Project, Grant: Arthur Vining Davis Foundations  
**TICKIT:** *<http://www.indiana.edu/~tickit> (Teacher Institute for Curriculum Knowledge about the Integration of Technology; a project for rural Indiana teacher technology integration).*
- 1997-2001 Web Developer/Supervisor, Indiana University, Instructional Consulting  
**The Smartweb:** *<http://www.indiana.edu/~smartweb> (complete undergraduate*

educational psychology course on the Web: activities, Web links, electronic portfolios, profiles, archives, discussions, peer interaction components, etc.)

- 1996-2000 Coordinator of Online Mentoring/Conferencing Program, Grant from School of Ed, IU  
**COW (Conferencing on the Web)/TITLE (The Intraplanetary Teacher Learning Exchange):** <http://cowbonk.educ.indiana.edu/COW/> (Web site for electronic conferencing of preservice teachers from Indiana University, Korea Finland, Univ of South Carolina, Texas A&M University—discussing problems seen in schools and getting online mentoring)
- 1999-2000 Web Developer/Supervisor, Contract with Bell & Howell Learning and Information Company. **Coursepack: Note: this was the first online reader in Educational Psychology Reader**
- 1998-1999 Web Developer/Supervisor, Contract with Houghton Mifflin Company  
**INSITE Web site** to support textbook, *Psychology Applied to Teaching* (9<sup>th</sup> Ed.).  
(Note: this is the most comprehensive and interactive Web site for Educational Psychology)  
**Supervised:** 13 content specialists, programmers, and instructional designers.  
**Responsibilities:** Helped conceptualize the project, created and selected content, coordinated workflow, Web design, interactivity features, handled contracts, reviewed and edited all work.
- 1998-1999 Web Developer/Supervisor, Grant from Center for Global Change, Indiana Univ.  
**The Caseweb:** <http://www.indiana.edu/~caseweb> (set of cases for educ psychology)