Four dimensions of significance: Tradition, method, theory, originality

Hugh Burns
Texas Woman’s University, Denton, TX 76201, USA

Abstract
In this article, I reflect on four dimensions of assessing the significance of research in the computers and composition field: tradition, method, theory, and originality. Considering these four key concepts as *topoi* will help our community define, explain, and predict how future research will significantly contribute to teaching wisely and to writing well with technology.

© 2003 Published by Elsevier Inc.

Keywords: Composition; Computers; Method; Research; Rhetoric; Significance; Teaching; Technology; Theory; Writing

1. Introduction

In his poem “Envoi,” Charles Wright (1997) wrote: “Things have destinies, of course, /On-lines and downloads mysterious as the language of clouds./My life has become like that” (p. 18). I believe the journey of *Computers and Composition* has been exactly like that—mysterious as the language of clouds. This mysterious journey has been significant in at least four ways.

*Computers and Composition* has become significant for its tradition, for its methods, for its theories, and for its inspired originality. The mysterious future holds more downloads and more online moments, but there can be no doubt that our international journal for teachers of writing, our celebrated *Computers and Composition*, is fulfilling its extraordinary destiny—extraordinary in the sense that at one point in time many humanists were reluctant to allow a machine in the garden. Today, that is not the case. The machine has come into the garden, and we are learning to love it. To that loving end, *Computers and Composition* has become the vehicle for helping us cope with our fear and trembling and with technology’s sound and fury.

*Email address:* hburns@mail.twu.edu (H. Burns).

8755-4615/8 – see front matter © 2003 Published by Elsevier Inc.
The ideas and tales that appeared in *Computers and Composition* over the past 20 years have shaped our thinking about computers and their impact on the teaching of writing. Our authors, editors, and readers have created and sustained a discourse community for critically examining, exploring, and understanding the enormous effects the computer has made on our teaching, our scholarship, and our profession.

What makes research significant? That is the question here. Over the years, I have reflected on that question and read about the craft of research in the humanities and in composition studies (Booth, Colomb, & Williams, 1995; Collins & Porras, 1994; Eagleton, 1996; Ede, 1999; Gibaldi, 1992; Olson & Taylor, 1997). Here I approach significance by dividing and distributing significance across four dimensions. I measure research, especially my own, by asking four kinds of questions: First, I ask about tradition. How does research fit the scholarly tradition in the field? Does scholarship have a place in society and culture? Second, I ask about method. How are the methods I use to find the answers to the questions I ask validated and verified? Third, I ask about theory. How does research claim a purpose and support a theory of learning so that the findings will add definitions, explanations, and predictions? Finally—and this is great fun—I ask where is the originality? How does research demonstrate creativity and even courage? Tradition, method, theory, and originality: I claim that our community can weigh the potential significance of scholarship on these four scales. These four dimensions provide a useful heuristic for further research and development in computers and writing.

By asking the right questions at the beginning—questions that demonstrate how the proposed research measures up in these four dimensions—the findings, implications, and recommendations that will be published in *Computers and Composition* over the next 20 years will cement our logos, strengthen our ethos, and spread our extraordinary pathos. Journals have destinies, of course. Significant destinies, we hope.

2. On tradition

No one gets far intellectually who does not “love to think,” and no one loves to think who does not have an interest in problems as such. Being on the alert for problems signifies that mere organic curiosity, the restless disposition to meddle and reach out, has become a truly intellectual curiosity, one that protects a person from hurrying to a conclusion and that induces him to undertake active search for new facts and ideas. (Dewey, 1929/1960, p. 228)

Teachers love to think. Researchers love to think. That is the tradition we embrace when we decide to search for new facts and ideas. When the rhetorical tradition meets today’s technological wonders, it seems that there are too many questions and too little time. But the tradition we value protects us from hurrying to conclusions. What tradition helps us recover, sometimes discover, is appropriate ways of believing, smart ways of behaving, and wise ways for becoming. Below I describe a few of the questions we should ask ourselves in keeping within rhetorical traditions.

2.1. Selected topoi for tradition

How does this research contribute to the rhetorical tradition? Does this scholarship demonstrate ethos, logos, and pathos? How does this scholarship contribute to the practice of human
discourse? How do computers shape the uses and abuses of language? How do computers assist the recovery and the discovery of knowledge? How do computers capture and present our concern for teaching and learning? How does computer-mediated discourse become a political or an ethical agent? How does a technology inform a tradition of social and cultural activism? How does technology evolve in ways that honor the past but also articulate the present and future of literacy? How does technology enhance the integration of all of the language arts: writing, speaking, reading, and listening?

2.2. Reflecting on tradition

In 1983, I received a call from Kate Kiefer from Colorado State University. In New York in the spring of 1983, we consulted for the National Endowment of the Humanities and the Modern Language Association on directions for computer-assisted instruction in the humanities. I was publishing in computer science journals and writing proposals for the Air Force to sponsor research and help demonstrate the promise of new artificially intelligent training systems. One thing led to another. As Kate Kiefer and Cindy Selfe were dreaming about a journal for the computers and writing community, they invited me to write a note about how artificial intelligence would one day help composition teachers. So, in the inaugural edition of *Computers and Composition*, I wrote a small piece in which I claimed that composition teachers could use artificial intelligence concepts to define the best features of a writer’s writing and use those findings to design quality, intelligent computer-assisted instruction (Burns, 1983). As I mentioned, I am convinced that humanists should master the digital machine in the garden of education. I wanted to let composition teachers know that help was on the way to support the traditions we valued in teaching writing. I wanted composition teachers to know that the advancements in microprocessing and the achievements in speed, in storage, and in interface design were being conceived and implemented quickly. The electrical engineers and the computer scientists were not afraid to imagine and to expand the limits of the possible on a daily basis. Our research had to hurry on the one hand and yet be patient on the other.

With a focus rooted in our product-oriented tradition, we sorted through matters of grammar, usage, style, and technology; that tradition wanted drill-and-practice software to address composition skills—seen as mechanics. The National Science Foundation was supporting mainframe-based grammar and usage software development such as Susan Wittig’s *Dialogue*. With such scholar-designers as Fred Kemp, Locke Carter, Paul Taylor, and Wayne Butler, a writing-process tradition began to emerge in the literature. Writing process pushed technology toward dialectic and true rhetoric, with integrated prewriting, arrangement, style, memory, and delivery software. Our practical tradition saw hope in the design efforts to have computer programs read, evaluate, and grade papers. Those were the days, and those were the dreams. Some were realized; some were not.

*Computers and Composition* searched for the common ground in the best traditions of the liberal arts. Any narrow-minded idea of what teaching composition could become was doomed, for the computer was encompassing more and more composing territory in such places as college composition syllabi, in the initiatives to develop writing-across-the-curriculum programs, in the growth of university-wide writing centers, and certainly in “real-world” writing. The
speed of technological change is not a tragedy, but a sign of traditional hope. Next comes the question of how we know what we know: Enter methodology.

3. On method

Our personal participation is in general greater in a validation than in a verification. . . . But both verification and validation are everywhere an acknowledgement of commitment: they claim the presence of something real and external to the speaker. (Polanyi, 1962, p. 202)

Commitment means for better and for worse. When Computers and Composition began, there had to be a commitment to personal and professional participation. That role would set in motion processes of validation and verification. The many wild and crazy claims being made for adding and stirring technology in education in general, and in the composition classroom specifically, were critically examined. The call to “pay attention” not only to what was being discovered but also to how the discoveries themselves were made by our editors, Cynthia Selfe and Gail Hawisher, became a hallmark of Computers and Composition. The intense interest in research methods and research design continues to create a kairos of significance and of caring for our collective work in computers and writing.

3.1. Selected topoi for method

How does the methodology assure the validity and reliability of the research findings? How does a computers and writing researcher select the aspects of the data best collected empirically? How does a computers and writing researcher select the aspects of the data best collected and examined ethnographically? How does the data-gathering process not contaminate a naturalistic setting in the teaching of writing? How does a computers and writing scholar best present the rhetorical practices as they are observed and measured when technology is a variable itself? What kinds of critical reflection on method are the most appropriate for the research being conducted (e.g., historiography, cultural studies)? What are the key features of research design in computers and writing studies (e.g., contextual properties, formal proprieties, technical properties)?

3.2. Reflecting on method

In 1983, when I was 14 years into my 20-year Air Force career, I was appointed as a research director for a new think tank effort to design and develop artificially intelligent training systems for the United States Air Force, especially in the areas of aircraft maintenance and medical instrumentation. In that role, I came to appreciate the concept of design and methodology. I believe that those same intelligent principles of design methodology are significant still. The more I worked with computers, the more I realized how much more could be programmed for them to do. The potential seemed endless to me, and it changed the kind of teacher and scholar I was. The research enterprise must never stop, for research can never be finished; the methods of inquiry and of curiosity are constantly at work.

In 1992, in an interview with the editors of Computers and Composition, I commented on the promise of research in artificial intelligence (AI) that “the first rule of AI is if it works, if it
runs, it’s not artificial intelligence anymore.” To elaborate, those of us who were actually programming in those early days, especially those programmers working on the human–computer interface, discovered that computer software releases were never complete. The dramatic improvements in microelectronics in terms of processing speed and of memory management demanded new designs and an array of new methods of assessment. To the programmer, these expectations were a mixed blessing: Such expectations not only stimulated research and development but also demonstrated—especially in the rush to the marketplace—how far technology designed by imperfect human beings for imperfect human beings had to go. And there are indeed miles to go.

Considering the 20 years of progress, many of the challenges remain the same in the design of research methods. As far as I am concerned, we will never have enough research methods for validating individual models of writing expertise and for verifying the effectiveness of a corresponding but unique model of instructional intervention. A lesson we have learned in Computers and Composition is to make our research significant by being aware that the methods of the methodology are themselves dynamic. These lessons learned stack up, especially as the problem space for thinking and writing becomes more and more visible in the acts of writing on computers, of inventing with prewriting software, of organizing with graphic interfaces, of editing with grammar checkers, of collaborating in synchronous interchanges with peers, etc. For me, a mark of significant research in computers and writing is the contribution the research makes to our literature on the most appropriate methodologies for verifying and validating what we are doing in investigating the effects of computers on our compositions and on our composing processes. When it comes to measuring significance, keeping methods in view acknowledges a commitment to the facts and a conviction for the whole truth and nothing but. . .

4. On theory

Meanings become visible in discourse: connected language used for a purpose, whether in the form of a conversational turn, a haiku, a how-to manual, a courtroom cross-examination, a novel, or any of the innumerable other linguistic actions in which we all engage regularly. (Lakoff, 2000, p. [AQ: Page #])

Technology makes the processes and, therefore, the meanings in computer-mediated discourse visible. It is as simple as that. It is as complicated as it can be. The theoretical research we conduct analyzing human discourse—connected language used for a purpose—defines, explains, and predicts linguistic actions as well as our very humanity. My definition of theory is evolving still, but worthwhile theories are at least this much: inherent systems of principles that define, explain, and predict actions.

The clarity of rhetorical theory has brought a significant harmony to my teaching practices over the years. Rhetorical theory provides the research radiance to the questions we need to ask. When writers use computers to express, to inform, to create, and to persuade, what happens? What needs to be defined? What must be fully explained? What can be predicted? If you hear such siren songs, then it is time to develop a set of theoretical topoi.
4.1. Selected topoi for theory

How does research in computers and composition contribute to theories of language, linguistics, and literature in our culture and in our society? How does this research clarify, define, and demystify rhetorical theory? How does research demonstrate how rhetorical theory is applied? How does research distinguish the limits of human discourse? How does research analyze the various effects produced in computer-mediated discourse? How does research summarize and elaborate the products, processes, and consequences of written communication? How does research in computers and composition contribute to the practice of writing instruction in different cultural contexts? How does research connect language and culture? What contributions will such research make in the fields of epistemology and ontology, of knowing and of being?

4.2. Reflecting on theory

In my career and perhaps in the careers of many of those trained in English departments, the insights from our work experiences and our teaching practices came first and rhetorical theory came later. That was certainly my case. I used computers everyday in the work I did in the financial world of mortgage banking. I composed day in and day out as a technical and business writer on a large workstation called the IBM MT/ST, the “magnetic-tape selective typewriter.” This business system allowed texts to be stored and texts to be processed. In 1974, as a faculty member of English at the United States Air Force Academy, I had the good fortune to meet James L. Kinneavy of the University of Texas. He helped guide me to a theory of discourse. His lessons helped me change the way I taught writing. Under his guidance, I started to read the major works in rhetoric, for example, Plato’s *Phaedrus*, Aristotle’s *Rhetoric*, and Kenneth Burke’s *A Grammar of Motives*. Soon I was finding theoretical concepts and rhetorical terms that I could use in teaching composition. From 1977 to 1979, I would investigate in my dissertation if computer-assisted instruction in rhetorical invention (i.e., Aristotle’s enthymeme topics, Burke’s pentad, and Young-Becker-Pike tagmemics) would help writers use these heuristics to clarify their purpose for writing and to discover how to appeal to their audiences. I was interested in seeing how a writer’s mind worked.

As a community, we are still exploring our understanding about how the writer’s mind works—how the brain arranges information, how human beings use and abuse language. In the popular press, rhetoric always seems to receive a bum rap. Rhetoric defined as a way of creating knowledge and of advancing epistemological power through discourse often fails to persuade those who manage our educational systems. It will take theoretical convincing. The proposition that rhetorical theory is “mere rhetoric” is misleading at best, for what is discovered and recovered are new definitions and predictions about learning and about basic communication in a wired society and, yes, in a global village. Exploring how powerful computer-assisted environments such as simulations, intelligent databases, and virtual learning systems can be designed to teach communication is still in its infancy. As ubiquitous computing becomes even more ubiquitous, the community of Computers and Composition continues to make a difference. Researchers have designed writing tools to acquire, represent, and search knowledge. Search engines and tools such as spelling checkers, grammar checkers, and hypertext protocols are part of our everyday use; *truth maintenance, constraint propagation, personal intelligent*
agents, and other terms will soon join our daily vocabulary. What will make tradition, method, and theory significant is originality.

5. On originality

Men will not live without vision; that moral we do well to carry away with us from contemplating, in so many strange forms, the record of the visionaries. If we are content with the humdrum, the second-best, the hand-over-hand, it will not be forgiven us. (Knox, 1950, p. 591)

I see visionaries. I see teachers who are not content with the humdrum, the second-best. I believe the pages of *Computers and Composition* are filled with the records of original thinkers and writers. When I look at the names of the authors in our journal, that is what I see—I see visionaries, originality.

5.1. Selected topoi for originality

How does this research make an original contribution to the research and development in the field? How does research define a professional territory for life, liberty, and the pursuit of happiness? Does this scholarship manifest an original and creative contribution? Does this research realize new possibilities as a result of each new finding? Does this research define more ways and better ways of knowing? Does this research begin something new? Does this research demonstrate the continued tension of pathos and ethos? Does this research sustain the vitality of the research enterprise itself?

5.2. Reflecting on originality

In 1979, as an assistant professor of English at the United States Air Force Academy, I taught and directed courses in composition and rhetoric and continued to write prototype software to stimulate rhetorical invention. I can remember the first time that I was called upon to speak about my early work. The University of Wisconsin was hosting a conference on computing in the humanities. The organizers who belonged to a consortium called CONDUIT had come across my dissertation through *Dissertation Abstracts*. They invited me to Madison to discuss my research, my software, and my findings on a special panel of experts. An expert? Me?

I was in a session with computing and humanities pioneers who were using the computational power of mainframes to develop concordances. What made my work “original” was that I was interested in what the computers were *not* doing to help an individual think better, argue better, research better, write better. Open-ended programming would be more promising in the tools-generating process, I argued. Using natural-language processing, I had programmed software that allowed teachers to speculate about writing systems that actually changed the way writers wrote through Socratic dialogues. Writers need help. Computer writing tutors, working one-on-one, were on the way. The design process revealed what we did not know. Writers needed tools that they would find helpful again and again and again. Why bother using a computer? Was I mad? Not really, but I was clearly original. Thankfully, I was lonely but not alone. Word processing and personal computers were around the corner. Our community was being defined on a chip.
In 1992, the editors of *Computers and Composition* brought together a group to collectively explore the state of original software development. Within composition studies, a few faculty members were producing original software. Bill Wresch, Nancy Kaplan, Jim Strickland, Helen Schwartz, Fred Kemp, Paul Taylor, Locke Carter, Wayne Butler, and I were among those who had actually written code. I noted that “we need to offer kudos to reward those teachers who try to think about software design and instruction and who try to make their instruction and curriculum explicit enough for effective delivery with computers” (“Software Forum,” 1992, n.p.). I still believe this with all my heart. That’s my story, and I’m sticking to it. How original!

6. Epilogue

As I wrote this article, the story I re-remembered is of a group of friends and colleagues who never let me stray too far from my academic roots in teaching. Every time I ventured off to explore another professional opportunity in the digital revolution or in the research labs of the U.S. Air Force or in corporate America, the members of this community lured me back with their passion for making a difference in the composition classroom. They tempted me with their unexpected generosity for the significance of the early work I did when I was a graduate student. To this *Computers and Composition* family, I am grateful for the validation you brought to my work and the passion you added to my life. I deeply appreciate being the adjective in the “Hugh Burns Dissertation Award in Computers and Writing,” for I know such work celebrates those traditions, methods, theories, and original contributions we share in common. Congratulations to you for what you have done, are doing, and will do in the field of computers and writing. Congratulations to *Computers and Composition* for fulfilling the past 20 years of its extraordinary destiny.

**Hugh Burns** is a professor and chair of the English, Speech, & Foreign Language Department at Texas Woman’s University. Burns serves as an editorial board member for *College Composition and Communication*, *Computers and Composition*, and *Rhetoric Review*. He has published in *Re-imagining Computers and Composition: Research and Teaching in the Virtual Age* (1992) and co-authored *Intelligent Tutoring Systems: Evaluations in Design* (1991); Burns also wrote the introduction to Cynthia Selfe’s *Technology and Literacy in the Twenty-First Century: The Importance of Paying Attention* (1999). Burns can be reached at <hburns@twu.edu>.

References


