

Second language writing research and pedagogy: A role for computer logging?

Kristyan Spelman Miller

*The University of Reading, Faculty of Arts and Humanities,
Whiteknights, Reading RG6 6AA, UK*

Abstract

This paper considers the use of keystroke logging software to investigate how writers interact with the task of writing on the computer. The research focuses on second and foreign language writing, drawing on studies from a variety of contexts from school to university, involving both academic and communicative tasks. The observation of writing through this means of data capture allows access to a mass of detailed information about a range of aspects of the planning, formulating, and revising processes of individual writers. It prompts investigation, at one level, of the writer's interaction with the computer itself during the writing event. The interaction may be further investigated in terms of both social and discursal dimensions as the writer grapples with topic, audience, genre, social and cultural constraints, as well as language.

The interactivity of the logging tool offers researchers the opportunity to explore not only the actions that writers take but also the conscious strategies they employ as they compose. Replaying the writing session with writers, that is, using stimulated recall, reveals insights into the writers' perceived attention and strategies to address such issues as content, discourse organization, language and metacognitive concerns.

There is considerable overlap between the use of this software from a research perspective and its potential as a pedagogic tool. The application of computer logging and stimulated recall in the classroom is presented as a means of promoting self-assessment, metacognitive awareness, and learner autonomy among second language writers.

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1. Introduction

The evolving nature of second language writing as a field of inquiry has been charted recently in a number of significant publications (Kent, 1999; Kroll, 2003; Matsuda, 2003a,

Email address: k.s.miller@reading.ac.uk.

2003b; Silva & Matsuda, 2001), which draw attention to the shifting trends and influences in this field during the recent decades. Situated at the interface of composition and second language studies (Kroll, 2003; Matsuda, 1999), second language writing is clearly an interdisciplinary domain, drawing on a number of areas, including rhetoric, discourse analysis, psycholinguistics, cognitive psychology and Second Language Acquisition (SLA). The position that second language writing occupies allows opportunity for diversity of approach in an “era of multiplicity” (Matsuda, 2003a, p. 79), with rapprochement and dialogue between various disciplines, while at the same time promoting healthy debate concerning the compatibility or complementarity of diverse research agendas and epistemological stances.

The aim of this article is to prompt discussion of the potential role, in a broader conception of second language writing research and pedagogy, of an approach to research writing that is based on the observation of the writing process. The specific context of writing under consideration and composing using a computer, is of particular importance and topical interest. In today’s age of technological literacy, our ability to communicate in digital environments is seen as an essential aspect of literacy (Hawisher & Selfe, 2000) and is the focus of many current studies, reflecting a range of research paradigms from quantitative to ethnographic. In everyday (non-research) contexts, commercial tools to observe and record how we interact with computers are widely available and marketed as a means for individuals, such as parents and employers, to monitor computer and Internet activity. Human-computer interaction is clearly acknowledged nowadays as a significant area of interest in the advancing era of computer literacy.

Against the background of current interest in users’ interactions with technology and the availability of versatile means for recording behaviour, this paper addresses the potential use of keyboard recording for research purposes, by exploring the range of insights that computer-observation can offer researchers interested in the writer’s interaction with the task and with the aspects of the language learning process. The research method, referred to as computer (or keystroke) logging, consists of recording the writer as they compose on a computer. All keyboard operations (keypresses, mouse operations and periods of pausing) are recorded as they occur in real-time, providing a richly detailed log of the writing event that is stored electronically and accessible for later analysis and exploitation. These recorded data may also be replayed during a retrospective interview, eliciting commentary by the writer on the writing episode as an additional layer of observational information concerning the writing event.

As an observational tool, it yields indirect data about the behavioural aspects of the individual’s writing, not only concerning the temporal aspects of the writing, reflecting the internal cognitive processes at play in the production of text, but also concerning the evolution of the text: the choices and actions the writer makes in response to the demands of the writing task, including consideration of genre, audience, topic development and linguistic choices. Such broader socio-cognitive insights may be further enhanced by replaying the writing event and eliciting comments by the writer on such issues as their strategy for responding to the task, the motives behind textual revisions, sensitivity to constraints of genre and audience, and so on. Such a facility, it is suggested, may have a useful role within the second language context as a means of stimulating the writer’s awareness of language, therefore supporting the processes of language learning.

This article will begin with a brief description and evaluation of keystroke logging as a research tool with reference to a number of studies in different contexts that have used

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