

**Workforce Literacy Instruction and Electronic Writing: A Study**  
by  
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The 21<sup>st</sup> century workforce demands an array of skills which likely include abilities to effectively manipulate some form of technology. From this, there arises a need for an extended conception of literacy, as well as new pedagogies, to reflect the increasing presence of technologies in various areas of adult learners' lives (Kellner, 2001). This new wave of technology may require educators to rethink approaches to literacy instruction in the context of adult literacy programs.

Literacy in today's society may involve different levels of participation in electronic communication. Although reading and writing are often the foundation of instruction in adult literacy programs, as new forms of communications emerge, it must be recognized that "having the literacy and skills to access, communicate, work, and create within computer and multimedia culture is quite different from reading and writing in the mode of print literacy" (Kellner, p.76). For example, writing for electronic discussion groups and mail systems place a unique emphasis on clarity and precision (Kellner).

A study by three Acadia University researchers at the Annapolis Valley Work Centre in Nova Scotia maintained the following goals: to increase understanding of the experience of participants in workforce literacy programs; to assess the impact of an instructional protocol (developed to teach three specific writing strategies) on the quality of writing; and to examine changes in participant attitudes toward writing with computers.

Twenty-two participants (ages 18-48, mean 29.8) enrolled in food services, shop, janitorial / maintenance, and basic office skills vocational programs took part in this study. All participants had barriers to employment; all had been either out of employment for a significant period of time or had never been employed and were receiving social assistance. They also all felt that an improved ability to communicate electronically would better prepare them for their future workplaces.

This research involved the development and assessment of a learning context for instruction that would facilitate the development of writing skills necessary for effective electronic communication. Instruction was situated within a meaningful, work-related context through electronic discussions and was provided through a combination of face-to-face and electronic tutorial sessions, using reciprocal teaching as a framework. Reciprocal teaching takes place over several sessions. An instructor begins by modelling strategic approaches to tasks, and gradually shifts more responsibility for strategy use to the learners. This process encourages learners to ask questions, clarify understanding, and receive supportive feedback prior to implementing the strategy independently.

Case studies were created to reflect workplace scenarios and provide the context for electronic writing. The cases included issues that often occur in workplace situations, such as trust, loyalty, fairness, work ethic, searching for employment, interview preparation, time management, setting priorities, and tolerance of differences among others. Given the participants' focus on finding and maintaining employment, the case studies provided a relevant and meaningful context for learning.

Before developing the instructional protocol, the researchers reviewed writing produced in electronic discussion groups at Acadia University, and identified three strategies as necessary for effective communication: explaining/expressing a viewpoint, asking pertinent questions, and writing effective responses. These three writing strategies became the focus of the instructional protocol developed and assessed in this study.

Prior to the instructional phase of the study, participants completed a computer usage survey designed to gather information about their experience with and attitudes toward computers. Participants also received basic computer instruction (for IBM Thinkpads, used throughout the study), so they would know how to use electronic discussion groups. During this introductory session, participants made an electronic entry into the discussion group after examining a case study. The format of this session was consistent with sessions during the instructional phase, when participants would be required to examine a case study and make an entry into the electronic discussion group.

The instructional phase involved eleven tutorial sessions. Three sessions were dedicated to each of the three strategies: 1) modelling of the strategy; 2) guided practice; and 3) independent practice. After nine sessions, there were two final sessions which involved the use of all three writing strategies, first with guidance and then independently. Modelling sessions were conducted face-to-face, whereas guided practice sessions entailed both face-to-face and electronic instruction and strategy use, while independent sessions consisted only of electronic strategy use. The gradual shift of

responsibility to participants was reinforced by a reciprocal teaching approach (Palinscar & Brown, 1984), embedded in the tutorial sessions.

Each session included the reading and discussion of a case study, with questions for the electronic discussions. After reading and considering a case study, participants made an electronic entry into the discussion using the writing strategy of focus. Participants also used worksheets and study guides throughout the tutorial sessions to assist them in working through the strategies and organizing their information; these were completed prior to making electronic entries.

The computer usage survey revealed considerable diversity of experience. For example, fourteen percent of participants viewed themselves as heavy computer users while another fourteen percent reported being infrequent users, with the remaining participants equally dispersed in the categories between. The survey also revealed that the majority of participants (62%) had used computers for playing games whereas fewer than half (46%) had used e-mail one week prior to the study. This may suggest that not all participants were gaining adequate experience communicating with computers; this is unfortunate considering that in pre-study interviews, thirty-six percent of participants had identified writing as a significant barrier to finding and maintaining employment.

The impact of the instruction on writing was assessed through a comparison of electronic discussion entries made prior to the instructional phase and entries made during the final independent session. Changes in the quantity (number of words / number of sentences)

of entries were examined. It was found that although the number of words did not differ, the number of sentences showed a significant increase, from 3.5 sentences per entry prior to instruction to 4.9 sentences per entry after instruction. Further, ninety-five percent of participant entries also showed an increased amount of explanation to support viewpoints expressed. This may suggest that participants were beginning to be more concise, making more thoughtful decisions about their writing processes.

When the quality of the arguments was assessed using a 5-point scale, it was found that the arguments were stronger after instruction, with an average score of 4.7 compared to an average score of 1.5 before instruction. In addition, a scoring scheme based on a modified version of the TOWL-3 was developed to assess the overall quality of writing. The results revealed a significant increase in overall quality after instruction with an average score of 22.9 compared with an average score of 19.2 before instruction, with 29 points being the maximum score.

After receiving instruction, participants gave feedback on the effectiveness of the instructional approach. All maintained that the blend of face-to-face and electronic sessions was an essential component with regard to their overall comfort level. In addition, many of the participants requested ongoing assistance with computer use, suggesting that these participants may not have been able to participate in the instruction without the face-to-face interaction. Further, many participants reported that they enjoy writing with computers more than writing with the traditional paper and pen. There was also a consensus that they feel more confident about their writing after receiving

instruction than they did before. This increased confidence was also noted to transfer toward participants' perceived readiness for finding and maintaining employment, their common goal.

In conclusion, this study resulted in an increased understanding of participant experiences with and attitudes toward computers. Although participants had very diverse prior experiences with computers, fewer than half of participants had used computers for electronic communication one week prior to the study. These findings may suggest that there is a need for instruction around electronic communication in the context of workforce literacy programs, given the increasing presence of technologies in today's workplace. The assessment of the impact of the instructional protocol on the quality of writing revealed that overall quality of writing increased, with the inclusion of more arguments to support their viewpoints; further, the arguments generated were typically of higher quality. Finally, participants' attitudes toward writing with computers was also found to change, as many participants indicated greater enjoyment of the writing process and increased confidence in writing with computers. This study provides an optimistic glimpse at how electronic communication instruction may be integrated effectively in workforce literacy programs.

## **References**

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