

Workforce Literacy Participants' Experience with Technology

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Abstract: Upon entering workforce literacy programs, learners bring with them an array of experiences with and attitudes toward literacy. Within this consideration of literacy, technology often plays a significant role in both the lives of the program participants as well as their potential workplaces. With this, it is important to explore the literacy and technology experiences and skills participants bring with them to workforce literacy programs. Such an exploration may result in enhanced awareness of program participants' needs and therefore, more effective program delivery. This paper will examine workforce literacy program participants' experiences with and attitudes toward technology and literacy (reported by participants through a survey and interview) as well as discuss possible implications for program development.

Introduction

As the presence of technology pervades various aspects of the 21st century, it becomes increasingly evident that computers must place an escalating role within workforce literacy education. With this, adult preparing for employment are faced with new challenges and opportunities with regard to using computers in workplace settings. In order to effectively address the needs of adults enrolled in workforce literacy programs, it is important to examine individuals' experiences with and attitudes toward computers upon program entrance. Such findings may have profound implications for workforce literacy program development and facilitation.

Writing in electronic environments is becoming increasingly important in today's workforce; however, it must be noted that electronic texts have distinct features that define them as fundamentally different from conventional texts (Reinking 1994). These differences may account for new demands in workforce literacy education, including a need for instruction specifically focussed on electronic communication. Those who do not receive adequate education around electronic literacy may find the "initiation to be traumatic as they struggle with the technical and social complexities technology brings to communication" (Allen 1996 p.216). Further, individuals who do not acquire the necessary skills to use technology may be left unable to participate effectively in a modern socio-economic system (Stoicheva 2000). Therefore, an emphasis on technology within workforce literacy programs is becoming more essential. This paper will discuss the experiences and attitudes of workforce literacy program participants with regard to computers and literacy as well as explore possible implications for program development.

The Study

Upon entering a workforce literacy program, forty-seven adults (ages 18-55, $M = 33$) completed a computer usage survey (adapted from Loyd & Loyd 1985; Heinssen, Glass, & Knight 1987) and participated in individual, open-ended, semi-structured interviews focused on their attitudes toward literacy. In addition to participating in academic, literacy, and personal development classes, learners were also enrolled in one of the following vocational

areas: food services, shop, basic office skills, or janitorial/maintenance. This workforce literacy program enabled individuals to gain hands-on experience in real kitchens, offices, shops, and buildings while academic offering upgrading opportunities.

Computer usage surveys provided some insight around participants' experiences with computers as well as their attitudes toward them. The survey was divided into six categories: computer confidence, computer liking, computer anxiety, computer usefulness, computer access, and computer usage. The first four divisions comprised of statements that participants rated on a 5-point Likert type scale (1=strongly disagree; 5=strongly agree) while the remaining sections involved either short answers or a checkmark to indicate the chosen answer.

The interviews focused on participants' views of different types of literacy and how literacy may be used in various workplaces, how literacy fits within the framework of their particular career goals, if and how electronic literacy may be important to them, their perceptions of their own barriers to employment and how their literacy skills impact their efforts with regard to finding and maintaining employment, their motivation for program attendance and goals, their thoughts on computer instruction and its place within workforce literacy programs, and their career and educational priorities.

All participants had identified difficulties finding and/or maintaining employment due to a diversity of obstacles including academic, emotional, or behavioral barriers. Regardless of their unique challenges, all individuals brought with them varied experiences with and attitudes toward both literacy and computers.

Findings

It was found that although participants did not have a lot of self-confidence working with computers, they identified a positive attitude toward learning about computers if presented with opportunities to do so (Tab. 1). Participants felt they would like working with computers and wanted to learn more about computers. Although some participants reported feeling scared to think of the possibility of losing information by hitting an incorrect key, they also felt that computers are necessary tools in educational and workplace settings that become easier to use with practice. Participants also indicated that learning about computers is worthwhile whereas they felt computer knowledge will increase their employability as well as play an important role in many aspects of their lives, including their future workplaces.

| | Measure (1=strongly disagree; 5=strongly agree) | Mean |
|---------------------|--|------|
| Computer Confidence | I'm not the type to do well with computers | 2.4 |
| | I could get good grades in computer courses | 3.8 |
| | I have a lot of self-confidence when it comes to working with computers | 3.6 |
| Computer Liking | I would like working with computers | 4.5 |
| | I think working with computers would be enjoyable and stimulating | 4.3 |
| | I would like to learn more about computers | 4.9 |
| Computer Anxiety | Learning to operate a computer is like any new skill – the more you practice the better you become | 4.6 |
| | I would feel comfortable working with a computer | 4.3 |
| | Working with a computer would make me very nervous | 2.4 |
| | It scares me to think I could cause the computer to destroy a large amount of information by hitting the wrong key | 3.2 |
| | I feel the challenge of learning computers is exciting | 4.3 |
| Computer Usefulness | I can see myself using a computer in my future workplace | 4.0 |
| | Learning about computers is worthwhile | 4.7 |
| | Knowing how to work with computers will increase my job possibilities | 4.6 |
| | I will computers many ways in my life | 4.4 |
| | I feel computers are necessary tools in both educational and work settings | 4.5 |

Table 1: Descriptive statistics of selected computer usage survey results (N=47)

Whereas 66% of participants did not own a computer, the majority of computer use took place either primarily at the workforce literacy program or at a combination of places including libraries, and homes of friends and family. Forty percent of participants claimed to have some experience with computers while 32% reported having none or very little computer experience. Some participants had never accessed the Internet (32%) while an equal number of individuals accessed the Internet on a daily basis. A larger percentage of participants (48%) either never or occasionally had used e-mail while another 48% used e-mail on a more regular basis. It was also found that e-mail users were more likely to retrieve e-mail than to compose e-mail. An equal number of participants (32%) categorized themselves as fairly heavy users (at least once per day) and infrequent users (rarely use the computer), supporting the diversity of computer experiences often found within workforce literacy programs. Despite their vast range of experiences with and attitudes toward computers, most participants reported a high level of enjoyment with regard to computer use ($M = 4.2$).

Interviews with participants indicated a strong recognition of literacy skills as being necessary in the workforce. Many individuals provided examples of how literacy is needed for jobs within their interest areas; reading was reported as important for using computers, using a cash register, using photocopiers, for mixing cleaning chemicals, ordering supplies, as well as for reading labels, instructions, recipes, application forms, safety regulations, measuring tapes, and road signs. Writing was cited as being important for filling out application forms, taking inventory, filing for grants, record keeping, writing instructions, making appointments, advertising, and writing memos, resumes, reports, phone messages, and letters. One participant claimed, "You need reading and writing in jobs just about anywhere – if you can't read you'd be lost" whereas another noted, "If you can't read, you can't know what the safety regulations are so you could get hurt". Further, participants also spoke of the need for literacy skills within the context of their own specific career goals. When reflecting on the literacy requirements of the food service industry, one participant stated, "I will need reading for understanding allergies when cooking – I could kill a person if I can't read." Despite their recognition of literacy importance, 60% of participants reported some aspect of literacy to be a barrier for them in their lives, especially in terms of finding and/or maintaining employment. One individual explained, "Being illiterate is a big thing for me....I'm scared employers are going to ask me to read – that pretty well screws things up for a fellow". Other barriers to employment mentioned by participants include illness, lack of education, lack of computer skills, and lack of specific job skills.

Whereas adults with low literacy skills "are less likely to be in employment, less likely to find work when looking for it and less likely to work regularly when a job is obtained" (OECD & Statistics Canada 2000 p.27), their concerns affect multiple areas of their lives. Additionally, participants' anxiety around their literacy levels is further compounded when considering the technologically advancing workforce. This is becoming an immediate concern since technology, machinery, equipment, and processes in Canada's workforce are becoming steadily more sophisticated (Bloom, Campbell, & Gagnon 2001; Software Human Resource Council 2001). Many participants felt that reading and writing in workplaces is becoming increasingly important with new focuses on computers. One participant articulated the increasing demands for literacy skills: "reading and writing is more important than it used to be since using computers is more important now – and you have to read and write to use them." Bloom, Campbell, and Gagnon (2001) claim that the literacy skills that individuals needed for their jobs in recent years are no longer adequate for new demands of today's workforce. One participant said, "You'll never succeed in the workforce if you don't know at least one type of computer".

Participants viewed electronic literacy as being a necessary component in their lives either presently or in the future for gaining information on the Internet, finding and/or maintaining employment, communicating, word-processing, playing games and/or music, and managing finances. These attitudes are consistent with the notion that electronic literacies are becoming increasingly important for the 21st century (Oliver, Towers, & Oliver 2000; Tomei 1999). Additionally, it was mentioned that although there existed a desire to own a computer, this was typically unaffordable for most participants, which has been frequently reported by other adult learners as well (Kunz & Tsoukalas 1999). One participant expressed some frustration with this, claiming that one "need[s] to know how to use computers in order to survive – you have to change with the system or be out of it." Such frustrations are evident with issues surrounding the digital divide as those without access to technology as well as the information and literacy skills necessary to thrive in a technologically advancing society are quickly being separated from opportunities available to those with access (Pearlman 2002). Returning to education later in life was often perceived by many participants as their "last chance" to "catch up with the rest of the world".

Participants' motivations for attending the workforce literacy program varied, as many adults enter programs for differing reasons (Demetron 1994). Thirty percent of participants claimed that learning was their sole motivating factor for attending the program without any mention of employment or career opportunities. However, seventy percent of participants reported their reason for attendance as being a combination of learning and employment, making the connection between education and employment. It is interesting to note that not one of the

participants indicated employment as being his or her sole reason for program enrollment. Individuals within workforce literacy programs often have much broader goals that employability (Long & Middleton 2001). Workforce literacy programs may begin to focus their curriculum on a combination of employment and education simultaneously rather than a more narrow focus on the attainment of specific employment. When asked what they hoped to have learned upon program completion, the following responses were included in random order: increased computer knowledge, increased self-esteem and confidence, enhanced quality of life, employment, attained G.E.D. or grade 12 education, improved subject area knowledge (English, Science, Math), improved cooking skills, gained shop skills, as well as resume and cover letter writing skills. Learning about computers and improving overall quality of life and self-esteem / confidence were the most frequently reported whereas these were mentioned in 50% of responses.

With regard to the type of computer instruction participants felt would be an important component of workforce literacy programs, forty percent specifically reported an interest in using computers to enhance their literacy skills in general. Others focused on more specific electronic literacy skills. For example, one participant stated, “computers should be used to help people read and write” while another participant wanted to “learn how to write using e-mail” while another individual showed an interest in being able to use the Internet to “find information without getting mixed up”. Other features of computers participants felt were important to include in the program include: Internet searching, e-mail, Microsoft Word, Windows programs, computer graphics, spreadsheets, accounting software, games, screen savers, website design, creating presentations, computer programming, how to fix computers, saving documents, printing documents, and basic computer skills. Based on their responses, it becomes evident that their experiences with and knowledge of computers is very diverse; this may have implications for how workforce literacy programs integrate computers whereas there needs to be room for individuals to build on skills they already have and pursue areas based on their own personal interests and needs. The participants’ self-reported low skill set around literacy and computers combined with their indication of the increasing need for high level literacy and computer skills creates both tension as well as a context for potentially meaningful instruction.

Conclusions

The findings from this study have implications for workforce literacy education program development and implementation. Learners must be introduced to new technologies so they are more equipped with the skills necessary for accessing new kinds and increased amounts of information now available (Mikulecky & Kirkley 1998; Selfe 1996). This study revealed participants’ pleas to learn more about computers out of necessity to their livelihood and overall independence and well-being in a world that is becoming increasingly reliant on technologies. Overwhelmed by the continual evolution of literacy demands in their everyday lives, one participant passionately stated the following:

Times are changing – they’re not waiting around for us illiterate people. Even using bank machines is hard but I’m trying to work my way around that. I have to go to the bank to talk to a person if I want to get money out or put it in because I don’t know how to use the machines.

In conclusion, adults enrolled in workforce literacy programs maintain a broad range of experiences, interests, and aspirations that need to be considered during program development and delivery (DesBrisay 2002). Additionally, the proliferation of technology has introduced an inevitable role of technology within the lives of adult learners. Workforce literacy programs must provide learners with opportunities for lifelong literacy learning in the context of individualized goals that incorporate the necessary skills involved with participating in today’s electronic workforce or else they will be doing a disservice to program participants in terms of finding and maintaining employment (Gupta & Ndahi 2002). New technologies “are not reducing literacy requirements...but are adding new literacies and writing to move into new settings and to respond to these electronic settings” (Dautermann & Sullivan 1996 pp.xii-xiii). Not only do workforce literacy programs need to offer computer integration, they must also value learners’ prior life and educational experiences so that they may be given ample opportunities to build upon their already existing knowledge. Within workforce literacy programs, there needs to be more emphasis placed on the “literacy” rather than the “workforce” provided participants’ diverse motivations for program attendance despite increasing pressure by government and / or funding agencies to focus on employment related goals (Herod 2003). This study may suggest that adults enrolled in workforce literacy programs may be better served when their knowledge and experience is deemed valid and valuable throughout a negotiated curriculum that is designed to meet their individual needs and interests in a technologically advancing context. To adequately prepare adult learners for the demands of an evolving society, instructional approaches must reflect the

authentic process of using computers to promote growth in the area of electronic literacy. In the words of a workforce literacy participant, to *not* use computers would be “shutting themselves away from so many possibilities.”

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