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Reconceptualizing Adult Basic Education and the Digital Divide

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The use of computer-based, or digital technologies in adult basic education (ABE)is increasingly widespread, along with the proliferation of instructional software designed specifically for adult literacy learners. Some advocates claim that computer-based instruction offers learners a wider range of engaging, motivating, and presumably more effective learning opportunities. More significantly, another argument for incorporating such technologies into ABE is that the mastery of what are commonly now called "digital literacies" can be crucial to adults' success in accessing information important in their daily lives, obtaining better jobs, helping their children succeed in school, and generally improving the quality of their lives.

The rhetoric surrounding the use of such technologies, most commonly the Internet but also other computer-based tools, suggests that those who do not have access to such technologies are becoming increasingly disadvantaged in this "Information Age." The so-called digital divide has been linked with economic disadvantage, low levels of educational attainment, and other indicators of social disadvantage and quality of life. For example, the types of jobs with higher economic and social rewards now tend to be those that provide "symbolic-analytic services" requiring the use of multiple forms of oral and visual representations, problem-posing as well as problem-solving (Reich, 1992), typically associated with the use of new technologies. Social disadvantage has been characterized as a cause as well as a

consequence of digital "illiteracy." National survey data indicates that only 22% of children in households with incomes of less than $20,000 have access to home computers (and the resulting opportunities to acquire knowledge and skills related to digital technologies), compared to 91% of those in families with annual incomes of more than $75,000 (Becker, 2000, p. 44).

Simply introducing digital technologies into ABE will not ensure that those technologies are used in meaningful or empowering ways. In education on the whole, new technologies tend to be assimilated into traditional classroom practices, rather than making any significant impact on the goals or organization of instruction (Hodas, 1993). Howard Becker (2000) criticizes the tendency in schools of using information communication technologies (ICT) for drill and skill instruction among low achieving children:

> Certainly, lower-performing students and students from economically poorer backgrounds can profit from greater competency in arithmetic and literacy. Targeting computer opportunities to those limited domains, however, will exacerbate these students' disadvantage compared to more advantaged students who use their computer access to gain mastery of higher-order skills and competencies. (p. 69)

Similarly, ABE typically does not go beyond addressing the most limited forms of digital literacies. For the most part, the impact of new technologies is limited to the incorporation of computer-mediated instruction (often no more than a "workbook on a screen") and instruction in "computer literacy," which is typically defined as the use of word-processing or spreadsheet applications, email, and searching the web. This limited curricular focus suggests that current instructional practices in ABE are

more likely to reinforce a digital divide rather than reduce it (Ginsburg, 2004; Hopey, Harvey-Morgan, & Rethemeyer, 1996; Levesque, 2000).

In this paper, I argue that literacy educators should begin to think more expansively about the nature of new technologies, the kinds of literacies inherent in such technologies, and their implications for literacy learning and teaching. Such literacies should not be considered within the purview only of an elite; they can and should be incorporated even into our conceptions of "basic" education for adults. While talk of constructivist and even emancipatory views of literacy and literacy education are common, the majority of ABE instruction rests on assumptions about literacy as a set of basic skills (see the chapter by Hal Beder in this volume). Improving the quality of digital literacy education requires different ways of conceptualizing literacies in general, and digital literacies in particular.

Sociocultural Perspectives on Digital Literacies

A growing number of scholars argue that common approaches to "computer literacy" instruction are based on conventional conceptions of literacy that are inadequate and obsolete (e.g., Cope & Kalantzis, 2000; Lankshear, 1997; Perelman, 1992). The rise of new technologies has provided impetus and focus for the work of theorists associated with what has been variously described as the New Literacy Studies, multiliteracies, and sociocultural perspectives on literacy (e.g., Cope & Kalantzis, 2000; Gee, 1996; Lankshear, 1997; New London Group, 1996). Rather than viewing literacy as a set of cognitive abilities or skills, these scholars share the belief that literacy concerns "social practices – something to do with social, institutional, and cultural relationships" (Gee et al., 1996, p. 1). How people construct meaning from texts is central to conceptions of literacies from this perspective. The term

"multiliteracies" signifies the assumption that understanding literacy as meaning-making must include broadening our definition of "texts" to encompass multiple forms of representation including those that involve not only language but also visual images, such as pictures and diagrams, auditory and spatial modalities (Cope & Kalantzis, 2000). Multiliteracies also refers to the increasing blurring of cultural and linguistic boundaries, and the corresponding need for people to interact with multiple languages and discourses (ibid).

Sociocultural perspectives on literacies can be applied to more traditional print-based texts and educational contexts, as well as texts created with new technologies; indeed they form the basis of a radical rethinking of our conceptions of literacy in general. My purpose here is more narrow; to provide detailed examples of several key concepts, or ways of understanding digital literacies from a sociocultural perspective, and to suggest implications for digital literacy learning in ABE. I have chosen to use one particular manifestation of digital technologies, video gaming, as a primary source of examples for this discussion. Video gaming might seem an unlikely focus for an analysis of digital literacies for educationally disadvantaged adults; however, as I will argue below, such games are of interest precisely because they challenge our current beliefs about literacies.

The Significance of Video Gaming

Video gaming (I will use this term as inclusive of both computer and console games) has become a mainstream activity in the United States and elsewhere around the world. Video gaming has grown to be an $8.9 billion dollar industry in the U.S., generating far more revenue than movie box-office receipts or video rentals (Poole, 2000, p. 6). For many children, video gaming is their first and most powerful

introduction to digital technologies. The appeal of these games extends to a growing number of adult gamers. According to a gaming industry trends survey, 42% of frequent videogame players in 2002 were over the age of 36 (Interactive Digital Software Association(IDSA), 2003, p. 2). According to the same survey, in the United States women now comprise 43% of frequent computer gamers (ibid). A trend in many games is towards reducing or even eliminating violence while increasing the emphasis on problem-solving, plot development, and character interaction (Poole, 2000). Gaming is often quite social; the majority of people who play games do so with friends and family (IDSA, 2003).

In addition to the rampant popularity of video gaming as a form of popular entertainment, gaming is being adopted for a variety of more "serious" purposes, such as patient education, psychotherapy, training in a variety of occupations, second language learning, and museum education (see the Serious Games Initiative site at http://www.seriousgames.org/). Scholars in a variety of academic disciplines have begun to take an interest in video gaming as an object of theoretical and cultural significance. There are now entire journals devoted to research on video gaming, such as *Game Studies*, with publications on topics ranging from the nature of narrative in games, virtual economies, and forms of interaction and communication in multiplayer games (see http://www.gamestudies.org/).

Rise of Nations: "The Entire Span of Human History is in Your Hands"

The source of examples in my discussion is the widely praised game *Rise of Nations (RoN)*. In *RoN*, players build civilizations, advancing in size and sophistication through accumulating resources, researching new technologies, and expanding their territories. Battles with civilizations controlled by other players, human or virtual, are

an important though not essential aspect of game play. *RoN* is what gamers describe as a real-time strategy (RTS) game; as a genre, these games share several key attributes. As the name suggests, game play takes place in "real-time;" the players, human or virtual, are simultaneously building their civilizations, and battles can take place at any time, at the players' discretion. RTS games involve the constant manipulation of a wide variety of elements, such as creating villagers and soldiers; directing villagers to gather resources such as food, gold, wood necessary to maintain and expand a civilization; constructing houses, military buildings, storehouses and other essential buildings; researching technologies to upgrade capacities and progress to more advanced levels of civilization. The goals of these games are quite broad, such as to overcome an enemy, or gain the most resources in a particular time period. Game play itself is nonlinear and presents the players with an indefinite number of choices about how to proceed. One player, for example, might spend a lot of time initially accumulating resources and building a civilization, while another more intent on combat might seek to attack another civilization early in the game, relying on battle strategy more than resources. RTS games, like many games of other genres, have multiplayer options, in which human players can play each other by connecting through a local area network (LAN) or on a website. A written description is sorely inadequate as a means to capture the nature of any computer game, and I encourage interested readers to investigate Microsoft's *Rise of Nations* website: www.microsoft.com/games/riseofnations/.

The Nature of Digital Literacies

In this section, I will describe four key concepts that I have drawn from literature associated with sociocultural perspectives on digital literacies: (a)

multimodal textuality, (b) semiotic domains and designs, (c) critical literacies, and (d) identities and affinity groups (e.g., Cope & Kalantzis, 2000; Gee, 1996, 2003; Lankshear, 1997; New London Group, 1996). Gee's (2003) work is particularly relevant to my analysis, as it represents one of the first attempts to move beyond exclusively cognitive psychological approaches to the study of learning in the context of video gaming. I draw selectively from Gee's work as well as the work of literacy scholars more broadly in my discussion of these concepts. These concepts can serve as a foundation for reconceptualizing digital literacy education.

Multimodal Textuality: Not Just Words on a Page

The picture in Figure 1 is a screen from the middle of a RoN game. Someone unfamiliar with the game might identify certain images as buildings or forests, and might recognize numbers and phrases, but overall the screen is likely to be meaningless, similar to how a page in a textbook might appear to a new reader. How does a gamer make meaning of or "read" this screen? Unlike a textbook, however, the task obviously is not one of finding the main idea or supporting details, nor is it a matter of following step by step instructions as in a manual.

[insert Figure 1 about here]

The New London Group (1996) points out that all meaning-making involves *multimodality*, or a combination of modes; for example, a written text involves both linguistic (how sentences are structured, for example) and visual design (how the text is laid out on the page, font style, and so forth). Different modes of meaning offer different potentials for meaning-making; a picture, for example, can communicate

meaning that language cannot, and vice versa (Kress & van Leeuwen, 1996). Digital technologies, due to their new affordances, make new combinations of modes more possible, apparent, and valued. This juxtaposition of modes creates the potential for the creation of new meanings or representations through innovative and creative designs.

The RoN screen offers an example of how different modalities of meaning, such as images, texts, icons, numbers, can be integrated in ways that take advantage of the affordances of digital technologies, rather than repeating the format and patterns of traditional texts. One key attribute of multimodal texts in games such as RoN is their reliance on icons and images to convey information in a form useful for immediate action. Unlike texts composed primarily of words, meanings are presented in a condensed form and their meaning is not dependent on surrounding texts. Figure 2 shows just how much information is represented in a typical game interface.

[insert Figure 2 about here]

Unlike texts in which pictures are used to illustrate ideas or concepts from written passages, words and phrases on the RoN screen primarily are used to illustrate or clarify the central image. Furthermore, images such as icons are used to illustrate other images. For example, the chart in the lower left hand corner of the screen consists of a set of icons representing commands that can be executed in the central game map.

Written and numeric texts are important in digital contexts such as RoN, though they are not the main sources of information. Lengthy written texts, such as game manuals, descriptions of game elements that can be accessed within the game,

and strategy guides prepared by other players, are available. However, the role of such texts is more comparable to the ways in which words and numbers are embedded in a context of use in daily life outside of school rather than to how they are used in textbooks. For example, signs and labels are juxtaposed with what they describe, long narrative texts are used as a reference for action rather than for memorization and restating, and information is continually changing as the "world" changes rather than remaining static and fixed.

Games such as RoN are designed to give the player considerable freedom to pursue various goals. The player is presented with a wide range of information and potential choices at all times. To make meaning of a text such as a book, the reader must learn the conventions of how a book or other type of text is organized, and once those conventions are understood, the reader is provided with considerable guidance in navigating the text. In contrast, the gamer has to take a much more proactive role in finding her way through the text of a game, which includes identifying the overall pattern of how information is organized. For example, in RoN the gamer learns that information provided in charts at the edges of the map illustrates the civilization; she also learns that this information does not necessarily relate to what is currently at the center of the screen. The organization of information is paradigmatic rather than linear (Kress & van Leeuwen, 1996).

These examples indicate that making meaning of digital texts can require very different kinds of skills and knowledge than those that are commonly taught in ABE. The ability to identify patterns and relationships among modes of meaning, to move back and forth in a nonlinear way within and across texts, and to understand the strengths and limitations of diverse modes of meaning are just a few examples of abilities that learners might need to recruit in order to become more adept at using

digital texts. In some cases, these may be abilities that learners already use in "real-world" literacy practices such as those that I described above, that can be adapted and expanded to include digital texts. However, it is not simply a matter of transferring "generic" skills; learners must marry those skills to an understanding of the broader semiotic domains and designs of digital worlds.

Semiotic Domains and Designs: Reading the World

To read the world you must understand the world, not just its parts, and the same can be said of texts. Any text is more than the sum of its parts. Texts, including the digital texts of computer games, make sense only if you understand the text in relation to a wider social context, which includes the role of such texts in certain social practices and their association with particular social groups. The nature of texts, in whatever modes, and our interactions with them must be understood in these contexts. As Gee (2003) points out, one cannot be literate, even in the most traditional sense of making meaning through reading, if one is not familiar with the broader *semiotic domain* that gives words their meaning.

Gee (2003) defines a semiotic domain as "any set of practices that recruits one or more modalities (e.g., oral or written language, images, equations, symbols, sounds, gestures, graphs, artifacts, etc.) to communicate distinctive types of meaning" (p. 18). Semiotic domains are pervasive in our daily lives; examples vary from domains associated with occupations and professions to domains related to entertainment or everyday tasks. As an example, think of the practices and meanings associated with driving a motor vehicle including understanding different indicators on the dashboard, and interpreting traffic signs, turn signals on other cars, and sometimes the gestures of other drivers. Of particular importance is the distinctive

nature of meanings ascribed to symbols and practices within a domain. A few light taps on a car horn can signal a friendly greeting, while a long loud blare can be a warning of an impending crash.

A semiotic domain is defined by an *internal design grammar* that specifies what particular kind of content is appropriate and valued within the domain. Grammar, in this sense, refers not to the set of rules for correctness in writing or speech, but to "a means of representing patterns of experience . . . It enables human beings to build a mental picture of reality, to make sense of their experience of what goes on around them and inside them" (Halliday, 1985, p. 101, cited in Kress & van Leeuwen, 1996, p. 2). A design grammar related to driving a car in the United States is locating the driver's seat on the left hand side of the vehicle, and driving on the right hand side of the road. Think of the confusion that drivers from the United States experience when they go to another country such as England where people drive on the "wrong" side of the road!

Digital texts and tools are also embedded in distinctive practices and domains that affect their meanings and uses. There are different genres of computer games, for example, that are based on different design principles and conventions. The importance of this design knowledge is reflected in RoN's manual (Rymaszewski, 2003). In the manual's *Forward*, one of the game designers explains how the design team attempted to integrate features of another type of game, turn-taking games, into the RTS mode of RoN. The first chapter of the manual includes a detailed discussion of key elements of RTS games, as well as how RoN differs from other games of this genre. The digital tutorial for the game embeds instruction in "basic skills" essential for game play within simplified scenarios that also introduce players to the overall game domain and its design features, such as how civilizations and their

capacities change over time or the importance of strategies like targeting military barracks for attack. The player learns to "read" the digital RoN world with attention to a range of features including location and prevalence of resources (which might affect the best location for buildings and towns), the expansion rate of other civilizations (indicating their choice of conquest strategy), and their own nation's rate of resource consumption (suggesting how labor should be allocated).

In schools, including ABE, instruction often focuses on isolated, supposedly "generic" skills or content without much connection to wider domains and practices. However, a generic lesson on websites, for instance, may be of little value to learners without an understanding of specific practices and features associated with different types of sites. Learning activities must be tied to the conventions of relevant domains in order to be meaningful and useful. For example, learning to use websites as an RoN gamer requires making distinctions among the different kinds of information that might be found on another gamer's blog as compared to a fan site, or to Microsoft's (the game producer) RoN site. I would likely use each site for different purposes, and engage in different practices at each site. Even within each site there are different rules and conventions for various social practices that must be learned. For instance, in an online discussion thread, I need to know what kinds of questions might be considered "stupid" to avoid insults.

Critical Literacies: Redesigning Worlds

All domains incorporate beliefs and ways of judging desirable designs. Returning to motor vehicles, we make judgments about cars based on beliefs and values related to functionality and economics as well as aesthetics and other values such as environmental impact. Identifying and thinking about design principles within

the context of a domain opens up possibilities for critique and creativity, including what we commonly think of as critical literacies. While critical literacy practices are often equated with critical thinking as a cognitive skill, from a sociocultural perspective, engaging in critical literacy practices requires an understanding of the broader domain and its assumptions, the ability to question those assumptions, and often the ability to redesign aspects of the domain.

In RoN, players are encouraged to think about design principles in several ways. The game manual brings design elements to the player's attention through an initial discussion of how RoN is similar and different to other real-time strategy games. Strategies for game play are presented in relationship to the overall design and goals of the game. The player is given many different options for playing the game; in a limited way, she is designing game play, through choosing civilizations to play and to compete with, the levels of difficulty and speed, the particular map as a context for the game, and the criteria for victory, such as accumulating the most territory. Setting the game parameters encourages the player to reflect on design principles and how they relate to game play. Player participation in game design is taken a step further through the provision of an editing tool that allows players to create their own landscapes, prompting reflection on the effects of geography on game play.

Critical literacy abilities are also recruited and developed as players engage in reflection and discussion of the values and assumptions underlying game design. A good example is a debate that arose among gamers over the nationalities that were selected for inclusion in RoN. A focal point for the debate among U.S gamers was the decision not to include the United States. As summarized on a gamer's website (Rise of Nations: The Great Debates, 2003), the arguments for and against this decision reflected a wide range of values and perspectives. Some players argued in favor of

including the United States based on their perception of its influence as a "superpower" in global affairs. Others, taking the perspective of the game manufacturer and audience, argued that the United States should be included because it would be a major market for the game, and presumably players would want the ability to command (or perhaps compete with) their own nation. Those against the inclusion of the United States presented a similarly wide range of arguments. These included, "Having American Hoplites, longbow men, and war galleys in RoN would create significant historical dissonance," "America is a nation of immigrants, and this is beyond the reasonable modeling capabilities of the game engine," and "Leaving America for an expansion pack makes good business sense." The debates extended to questioning the underlying assumptions of the game, in particular the assumption that more technologically advanced civilizations had inherently superior intelligence or other attributes.

The above examples suggest ways through which critical literacy abilities might be recruited in other domains of digital literacy learning. Making design principles explicit, engaging in discussion of the assumptions underlying design decisions, and ultimately acting as designers, not just consumers of digital texts can contribute to critical literacies. In ABE, learners might identify and critique the assumptions underlying websites, videogames, and other media, as well as create their own digital "texts." *Tropical America* is a relevant example of one such media literacy project, in which high school students created a video game to bring attention to little recognized but significant events and people in the history of Central American illustrate the For example, in a high school (see http://www.tropicalamerica.com/). Learners also begin to take on identities within the context of the domain, as they align themselves with certain

sets of values and beliefs, and with other people who share similar interests and affiliations within the domain.

Identities and Affinity Groups: New Selves in New Social Worlds

From a sociocultural perspective, identities and affinity groups are key elements of literacies within a domain. Becoming "literate" in a particular domain is not simply about making meaning of texts. It involves participating in certain kinds of social practices and acquiring identities associated with those social practices, as well as perhaps modifying or even abandoning old identities. For example, the goals of ABE typically are not characterized solely as reading, writing or math skills improvement. We hope that ABE learners will become *certain kinds* of workers, parents, or citizens as a result of acquiring new knowledge and skills. These identities, in turn, are often what motivate learners; one person might want to be a "better" parent, another might seek the status (as well as income) of a more highly skilled occupation. To achieve such goals, learners and educators must gain a deeper understanding of the social practices and identities associated with specific domains.

Within the video gaming community, players construct identities as fans of a particular game genre or a particular game. If this seems far removed from everyday technology use, think of how people identify themselves as Mac versus PC users, or members of particular online chatrooms or listservs. Solitary game play, playing multiplayer games, sharing strategies, troubleshooting, and just discussing experiences with other gamers, often on the internet, are important social practices associated with gaming. By participating in such practices, gamers learn about the beliefs, behaviors and values of other RoN gamers. In turn, these beliefs, behaviors and values can shape (and are shaped by) players' gaming practices and the kinds of identities that they find

desirable. Certain identities are limited to individuals with specific skills and knowledge, such as expertise in gaming, the ability to create a fan site, or the detailed experience required to write a walkthrough. Even if a player does not actively participate on a site or directly interact with others, she can gain a sense of identity as a particular kind of gamer by comparing her own gaming preferences and abilities to those made public on websites or in gaming magazines.

Participation in affinity groups can lose value if it is forced or if groups are not supportive. In most naturally occurring affinity groups, such as those associated with RoN, people have choices about their level of involvement and the kinds of identities they wish to attain. Such groups also vary in the extent that they support and invite potential participants and provide opportunities for varied levels of involvement. Interestingly, gaming listservs can be simultaneously supportive, offering tips for very beginning players, while at the same time tolerating if not encouraging participants to swap insulting comments about their skills and questions.

In ABE, social support for literacy learning, digital or otherwise, is sometimes provided through small group learning in which learners can share ideas and information as well as provide emotional support. However, such groups are typically transitory and offer learners few opportunities to develop meaningful identities in relationship to relevant social practices that extend beyond the classroom. How might ABE programs take into account the role of identities and affinity groups in digital literacy learning? A first step could be recognizing identities that learners find compelling and motivating, connecting technology skills and knowledge to these identities and participation in these social practices and groups. For example, a parent of a bilingual child might be motivated to take a more active role in supporting her child's success in school. She could learn to use the internet to locate information

about bilingual education, share information with other parents on listservs or face-to-face, use email to communicate with her child's teachers, and even work with other parents to create a website with information about bilingual education that can inform other parents.

Looking Forward: Changing perspectives and practices

How might adult basic education programs move towards incorporating instructional practices based on this reconceptualization of digital literacies? I can suggest a few broad strategies. Policy makers can take the lead by developing more expansive goals for digital literacy learning; both policy makers and program administrators should consider a reallocation of resources to staff development and reduce reliance on expensive and readily outdated software; and teachers can adopt instructional activities that emphasize learning through engagement in social practices.

More expansive goals

A major challenge is the current policy emphasis on narrow definitions of functional and workplace skills as the goals of adult basic education. The federal National Reporting System (NRS) for ABE reflects this emphasis in how benchmarks for assessing student progress are described. For example, NRS benchmarks for high intermediate basic education (reading grade level 6-8.9) (United States Department of Education, n.d.) include:

❑ The individual can learn or work with most basic computer software, such as using a word processor to produce own texts

❑ Can follow simple instructions for using technology

Compare these to two of ten benchmarks for students in grades 3-5 proposed by the National Educational Technology Standards Project (International Society for Technology in Education, n.d.):

Prior to completion of Grade 5, students will:

- Use technology tools (e.g., multimedia authoring, presentation, Web tools, digital cameras, scanners) for individual and collaborative writing, communication, and publishing activities to create knowledge products for audiences inside and outside the classroom

- Evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources

These standards are much more compatible with the perspectives on literacies advocated in this paper, which emphasize engagement in social practices associated with digital technologies. Since the NRS benchmarks are used as a program accountability measure, standards such as those proposed by ISTE might be viewed as a threat to program funding and reputation. However, such benchmarks often become translated into what is deemed possible and desirable on a program level, and clearly present a barrier to more sophisticated views of digital literacies. Local ABE programs can and should establish their own conceptions of digital literacies that more adequately reflect sociocultural perspectives on literacies.

Reallocation of resources

At the most fundamental level, the actual hardware and software available in programs is often outdated and nonfunctional (e.g., Levesque, 2000), perhaps more so than in K-12 schools, which have benefited more from public and private technology funding initiatives. However, a persistent problem is that teachers often are not prepared to use such technologies even when they are available. Teachers' limited

expertise and experience with digital technologies contribute to over-reliance on commercial educational software, particularly software that fits most easily into existing curricula and instructional formats. Lack of familiarity with technology also leads to assumptions that the cost of developing more innovative software and instructional methods are prohibitive.

More resources should be devoted to staff development rather than to purchasing expensive software. Teachers who are more familiar with digital technologies are more likely to identify and use existing resources in creative and sophisticated ways. Yasmin Kafai (2001, p. 5)) writes about children, but his comments apply to teachers as well:

> Just as fluency in language means much more than knowing facts about the language, technological fluency involves not only knowing how to use new technological tools, but also knowing how to make things of significance with those tools, and (most important) develop new ways of thinking based on the use of those tools.

It seems unreasonable to expect teachers to assist learners in developing such technological fluency, if they do not have opportunities to develop such fluency themselves.

The National Technology Laboratory for Literacy and Adult Education (n.d.) at the University of Pennsylvania is sponsoring a number of staff development initiatives related to improving teachers' use of technologies for instruction, including study circles and documentation of promising practices. The project "Connecting Communities" sponsored by the national agency Learning and Teaching Scotland (n.d.) is an example of a training program designed to enhance the use of ICT and communication in community learning agencies.

Learning by engagement in social practices, in and out of school

Another issue in ABE, related in some ways to the lack of resources, is the predominant reliance on individualized instruction directed towards goals such as passing the GED test or enhancing functional skills assumed to be necessary for success in the workplace and other adult roles and contexts. As a result, instructional software is often designed as a substitute for workbooks or other individualized curricula. Clearly, a skill and drill, individualized instructional format is not compatible with a sociocultural perspective on literacy learning, digital or otherwise. There are a small but growing number of instructional resources that reflect some of the assumptions associated with a sociocultural perspective on digital literacy learning. For example, the National Educational Technology Standards website (ISTE, n.d.) offers a helpful description of strategies for more sophisticated integration of technologies into classroom teaching. The Captured Wisdom on Adult Literacy website, sponsored by North Central Regional Laboratory, describes seven innovative activities for ABE and ESL adult learners. For instance, in one activity, "The Restaurant Problem," students act as consultants hired to save a failing restaurant. They use technology to deal with irate customers, schedule work hours, and design new menus (North Central Regional Laboratory, n.d.).

Changes are needed not only in classroom instruction, but also in the connections made to literacy learning and social practices beyond the classroom. Many ABE teachers and most ABE students are likely to be "digital immigrants." Unlike middle class children and young adults, they have not grown up with computers and other digital technologies as an integral part of their lives, and they are less likely to have peers with such experiences. Most middle class children and adults have access to much more sophisticated technologies than are currently found in ABE programs or

even in most public schools. ABE students, like disadvantaged children, are much less likely to have access to such technologies outside of classroom. They are also less likely to have family or peers who can be recruited for assistance with learning social practices associated with digital technologies. As Warschauer (2003a, p. 47) points out:

> People access digital information in a wide variety of ways and usually as part of social networks involving relatives, friends, and co-workers. . . . people become literate not just through physical access to books but through education, communication, work connections, family support, and assistance from social networks

As I discussed previously, learning the "cultures" or semiotic domains in which digital technologies are embedded is just as important as learning basic skills.   Some of this learning must occur outside the classroom as learners use digital technologies to engage in actual social practices that help them achieve meaningful goals.

<p align="center">Rethinking the Digital Divide</p>

Perhaps most important, however, is the effort on the part of some scholars and educators to rethink the overall purpose of digital literacy education. Mark Warschauer (2003b) argues for an emphasis on social inclusion:

> The goal of using ICT (information communications technology) with marginalized groups is not to overcome a digital divide, but rather to further a process of social inclusion. . . . the extent that individuals, families, and communities are able to fully participate in society and control their own destinies. . . (p. 5)

The goal of social inclusion suggests the focus of digital literacy education should go beyond the acquisition of technical skills to address how digital technologies enable people and groups to engage in particular social practices. Ultimately, digital literacy education must be integrated with broader community development projects in which technology is used to attain broader social, political and economic aims. In this regard, we can learn from successful and unsuccessful efforts to use technology for community development in other countries (e.g., Warschauer, 2003a, 2003b; Digital Divide Network, n.d.). As Warschauer suggests, adult educators should move from technicist considerations about the role of technology in ABE to more social and political considerations about the role of ABE in a technologically driven society. This can lead to some difficult questions, since viewing technology as means, not an end of instruction prompts us to ask what is it that our current and potential uses of technology support? Do we contribute, albeit unintentionally to a widening of the digital divide? Or can adult educators, together with learners, find creative ways to use digital technologies as tools in an effort to promote greater social inclusion of all people in our society? Rethinking our conceptions of digital literacies may be a starting point.

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Figure 1

Game Screen

Screen shot reprinted by permission from Microsoft Corporation
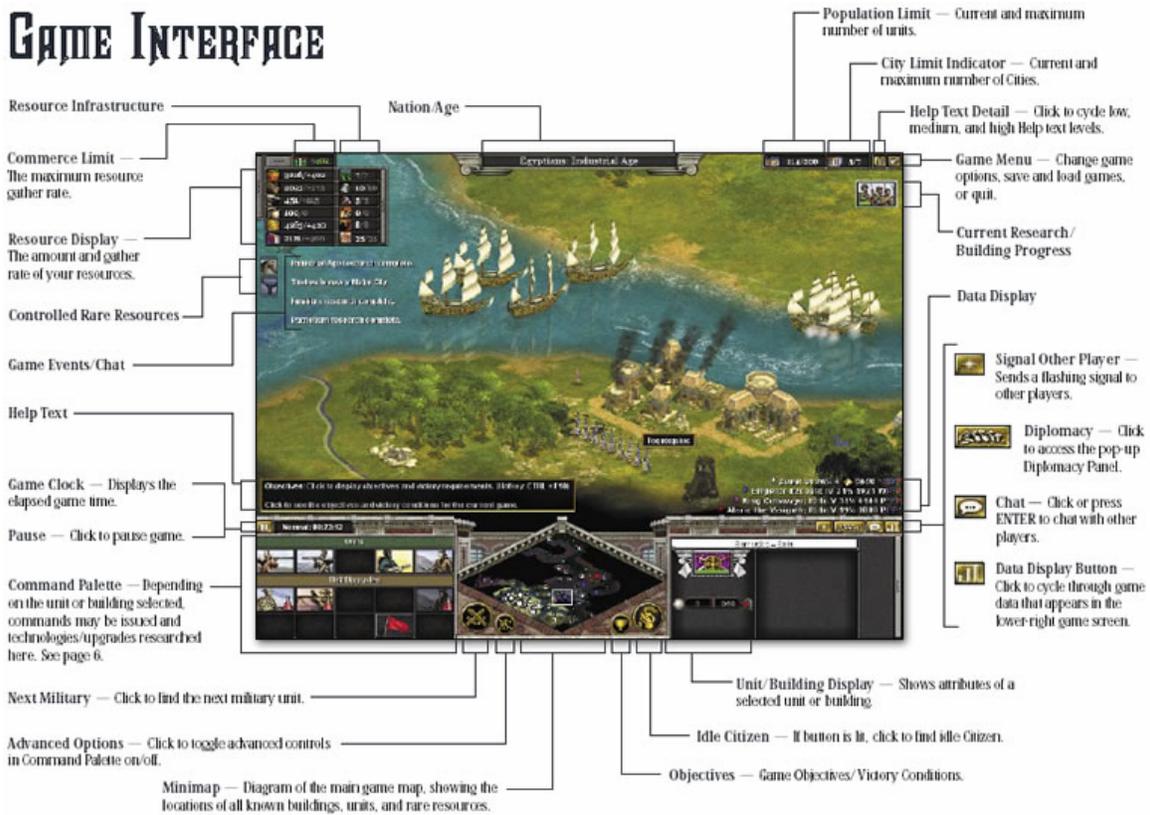
GAME INTERFACE

Figure 2

Game Interface

Screen shot reprinted by permission from Microsoft Corporation