



Online learning design: Does generational poverty influence the young-adult learner?

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A conundrum exists when examining online learning and young adults who live in generational poverty. As informal learners these individuals gain and practice communication skills such as synchronous chat, uploading files, and frequent posting habits as members of social networking sites, yet typically do not succeed in formal online learning. This study examined how a sample of young American adults living in generational poverty participated in online social networking sites in order to identify cognitive styles used to develop knowledge or share knowledge, and to consider the implications of these approaches for the design of online learning for students at or near the poverty level. A case study strategy was employed to investigate online activities of Midwestern (USA) young adults who identified their families as living for at least two generations in a poverty level economic status defined by the U.S. Bureau of Census. The group was of mixed gender, and the same questions were posed to a like group of self-identified middle class adults to assess responses that were not unique to income level. Five usage perceptions or patterns were identified as unique to the generational poverty participants: (a) how the individual perceives life as a member of the virtual world; (b) life in the responders' real world; (c) language register; (d) use of millennium learner cognitive styles; and (e) preference for synchronous versus asynchronous activity. These patterns suggest designers can cater for generational poverty through community interaction as a survival tool, casual language and tackling projects or problems with a sense of immediacy.

Keywords: instructional design, online courses, social networking, generational poverty

Introduction

Friere (1970) and Mead (1994) wrote of the obstacles for impoverished students who realise that education opens doors that lead to a better life than the conditions experienced by their parents and grandparents. Research has endeavored to seek out characteristics unique to these impoverished learners and use this information to improve the design and presentation of knowledge sharing. DeVol (2005) and Payne, (2005) found that populations of students who live in generational poverty (i.e. those who have lived below the U.S. Census Bureau's defined poverty level for more than one generation) are very much influenced by social interactions within their living community. The original, 1963, national poverty level was set at three times the estimated cost of food for an individual or family. It has been adjusted annually since that time. In 2007 the single person level was an income of less than \$10, 210 (U.S. Department of Health & Human Services, 2007). DeVol and Payne's research results argued that students from generational poverty backgrounds enter college with their own set of obstacles that are as problematic as any other disability and hinder their success rate.

Online classes offer attendance options that meet the needs of those who live remotely from the school of their choice or who must accommodate school hours around work and family demands. While these options would appear to meet the needs of students with limited resources, American students living in poverty continue to exhibit higher failure rates than their middle class peers (U.S. Department of Education, 2007). At the same time, with the growth of online social networking sites, instructional designers are seeing casual users demonstrate many of the tools used for successful online course participation: synchronous and asynchronous postings, exchanging ideas with other individuals that may never know in the face-to-face environment, small group information exchange, uploading and downloading files, and frequent presence in the virtual social networking area.

Within this context, this paper documents a research study which examined usage habits and perceptions American young adults who actively share information and communicate within social networking sites. In order to better understand how those tools might best be integrated with online learning environments to meet the needs of poverty-level students, the same questions were asked of middle class and impoverished students. Answers common to both groups were discarded, and data analysis focused on patterns that were unique to the participants living in generational poverty.

Poverty, online learning, networking and instructional design

Undeniably, higher education is an important part of a plan to help those seeking to step out of a life of poverty (U.S. Census Bureau, 2001), and within higher education offerings, online courses are a part of the educational experience (Bonk, 2004; Palloff & Pratt, 1999). However, success requires more than simple access to education (Murillo, 2004; Torres, 2000). Poverty level students have unique characteristics such as a preference for background noise and refined skills in bartering for services or products that cannot be purchased (DeVol, 2005; Payne, 2005) and educators must continue to search for a pedagogy that will enable effective instruction of such students (Freir, 1970; U.S. DOE, 2007).

Friere acknowledged that those living in economic comfort often view students of poverty as being “outside society” (1970, p. 74) and therefore incapable of succeeding in academic pursuits, which was supported by Haggstrom who argued “there is little concern to educate the poor, but the emphasis is rather to enable persons to acquire skills enough to secure jobs on the under side of the economy” (1965, p.145) and went on to suggest that a series of community actions such as the organisation of workers by Ross and Chavez in California proved the need for impoverished students to participate in collaborative actions to develop an “intense and far-ranging thirst for knowledge” (1965, p. 89). Murillo (2004) agreed that simply providing money to an impoverished student will not guarantee success in the academic environment. In fact, perceiving educators as authority figures, impoverished students may resist offers of monetary aid or extra study help or they may internalise problems and blame themselves for failure instead of blaming the course presentation.

Conversely, those participating in online social networking often find unique ways to overcome what is commonly termed the “digital divide.” The American Library Association (2003) documents an ever increasing number of low income and homeless families who remain active online through the public library. Others find the Internet via donated computers or even access through homeless shelters: Evidence exists to show online options becoming a part of the culture of poverty networking. For example, bloggers share information about housing and food availability (Barbieux, 2007). Others write in the same journaling process known by generations of scholars: “For the past five months, I have been living alone in a car at the edge of the woods—jobless and homeless and totally unable to find a way out of it. I can’t sing, I can’t dance, I can’t scream loudly enough, all I can do is write. So here I am laying down tracks... hopefully the start of an online trail out of here” (Wandering Scribe, 2006). Online blogging allows a means to share achievements with those who might open even more doors such as the blogger who admitted no college plans after his son’s recent graduation. He admitted no prior plans because “frankly we did not expect him to [graduate]” (Brown, 2008).

These attitudes do bring new complex issues to identifying trends for online learning. The Internet usage of the homeless weaves around current trends for formal online learning. Mestre (2008, p.30) argues that learners who have grown up in a technology-intensive world have different perceptions and attitudes toward online tasks. Referring to these individuals as *millennials*, she notes that these students must feel they are in charge of their own learning path with interactive options and networking. The Associated Colleges of the South [ACS] research found that millennials are not motivated by a traditional love of learning but rather by what can be achieved or gained by completing the educational offering. This view weaves back to the financial gain anticipated by generational poverty learners if they go to school. These students tend to have poor study skills and quickly grow impatient with a lesson if not quickly engaged (ACS, 2008). Similar research has noted such students will quickly participate in activities that take them outside the traditional classroom such as blogging (Oblinger, 2003) and that they learn best through active learning situations such as the creation of e-portfolios (Wickersham & Chambers, 2006). Millennials bore easily because they are so used to multiple stimuli and technology options happening at the same time (Roberts, Foehr, & Rideout, 2005).

A community comprised of individuals living at the poverty level forms a culture unto itself which evolves from the unique life skills required to replace the value of actual money (DeVol, 2005; Payne, 2005). One component of poverty as a unique culture form is heavily reliance on social networking to solve life’s daily challenges and need. In the face-to-face environment, poor adults have unique learning

and knowledge sharing strategies that are tied to their sense of community (Payne, 2005). Within this new culture form, communication is primarily verbal and consists of informal language. Although the exchange of knowledge as a part of everyday language is not new to the theories of information exchange, Payne demonstrates how this form of communication hinders educational progress by first examining historical research concerning registers of speech: Cultural differences in speech are identified as *registers*, and it is socially acceptable to drop one register below one's normal register if participating in a conversation. Conversely, language use is a key factor of staying elite or moving to an elite status: Speaking with the correct accent or using correct grammar identifies a class status as does the correct use of spelling and punctuation in a written document. Expanding this concept to explain her presentation of the language of poverty, Payne noted that speaker to speaker conversation is usually interpreted as offensive if more than one register is dropped so language patterns become a firm part of an individual's presentation of himself/herself to the world.

The language choices of the impoverished community incorporate slang, euphemisms, and terms relevant to survival. Middle class teachers should ask themselves if they could survive in poverty. Without a steady paycheck, could they prevent utility cutoffs, find transportation to work or school, share apartment space with multiple families, or bail out a friend in trouble? As habits develop, students who routinely speak in less than scholarly language may not be able to even comprehend how to write papers in a formal register. Educators who work with impoverished students must recognise the common issues facing these students and grasp the fact that social contacts and their ensuing relationships are critical to survival. Instructional design for online learning allows those who develop classes for this population to accommodate what we know about knowledge sharing within the face-to-face impoverished community and adapt strategies to improve the online experience.

Online activity combined with discussions such as Payne and DeVol's build links between learning theories and other aspects of the cognitive process. It is important to remember that the exchange of knowledge through spoken relationships are not necessarily limited to just impoverished individuals, but that how these spoken relationships are phrased and interpreted are the keys to identifying a given class or culture. Interaction within the community could be related to a cognitive style of learning. Stash and DeBra (2004, p. 16) state that "Cognitive style deals with the form" of cognitive activity (i.e., thinking, perceiving, remembering), not its content," and Payne argues that a life of poverty creates a mindset for the way an individual acts that is in a predicable pattern and terms this pattern a "prevailing attitude" (p. 47). Although each of the factors addressed by Payne could become an obstacle for student success at any level, instructional design for online learning, with its non-verbal nature, faces unique challenges when serving students from poverty level environments. Social networking is creating a new forum for constructivism that allows the process to facilitate free exchange of ideas through participation in online communities (Chan, 2006; Heibert, 2006; Seimens, 2006).

Therefore this research sought to address three questions concerning online social networking activity generational poverty level young adults:

1. In what ways do generational poverty level young adults approach sharing knowledge when participating as active members of a social networking site?
2. In what ways do these approaches compare or contrast with the identified patterns of communication and knowledge sharing among traditional face-to-face generational poverty communities?
3. What are the implications of these approaches for the design of online instruction for impoverished students?

Methodology

A case study methodology was chosen to provide the structure to interview adults living at poverty level who were active users of at least one social networking site. In this particular case, the subjects' economic level was defined by levels set by the U.S. Bureau of Census. The description of "poverty level" included a statement indicating that the poverty had existed for at least two generations. To investigate patterns unique to poverty-level participants, the same questions were asked of a similar group of 10 generational poverty young adults and 10 middle class young adults about their general perceptions of online social networking and investigate the sharing of knowledge as a part of the activity. There were six males and four females in the middle class participants; four males and six females in the poverty level participants. All of the participants were 19-30 years of age. These participants were recruited in a chain sampling method where an initial 6 volunteers were asked to refer others who might meet research criteria. A second part of the interview examined the actual process of online participation to identify the learning strategies used by interview participants to facilitate use of the social networking sites and also identify

any strategies they may have used to gain or share knowledge in the virtual environment of middle class participants. Responses were compared and only those unique to the generational poverty participants were used to address implications for instructional designers. Direct observation of participants and examination of their work documents as presented in social networking personal pages were also used to reinforce interview coding themes or to clarify interview comments.

The interview questions were designed to find options to address the first research question - "In what ways do generational poverty level young adults approach sharing knowledge when participating as an active member of a social networking site?" and reflect on the second: "In what ways do these methods or steps compare or contrast with the identified patterns of communication and knowledge sharing among traditional face-to-face impoverished communities?" Since the same questions were asked of both income levels, poverty and middle class, two levels of answers resulted from the coding of interview questions.

Findings

There were levels of high activity that were unique to the underprivileged participant. The process of coding, reinforced by an examination of *myspace.com* and *facebook.com* personal pages, defined five areas of activity that could result in knowledge sharing where the responses, and in some cases, even the language used to respond to the questions tended to be very different between the two answering groups. In the questions where these differences occurred, neither age nor gender made a difference in the answer. The data were analysed by gender and by economic level, but of each of the data items coded, the only difference was in economic level. The five patterns of difference identified were (a) how the individual perceives life as a member of the virtual world, (b) life in the responders' real world, (c) language register, (d) use of millennium learner cognitive styles, and (e) preference for synchronous versus asynchronous Activity.

Perceptions of life as a virtual citizen of the world covered concerns that might be shared in a face-to-face environment: Security, sharing, standards for interaction with others. Life in the responder's real world relates findings to known aspects of the face-to-face impoverished community. Language register examines differences between the written, spoken, and page design language of the two different income groups. Millennium learners are not always poor, but the impoverished members of this survey group all identified with habits that fit this learning style. Face-to-face impoverished communities tend to live with a sense that what is happening at a given time is all that matters; worries about future gains or losses are diminished. The online impoverished young adult also identified with synchronous activity that provided instant answers to actions or questions.

The way generational poverty level individuals viewed themselves as members of the virtual world began to show unique differences with the examination of personal social networking pages. Since chat options are heavily advertised on both *facebook.com* and *myspace.com*, an unexpected outcome was the finding that only one participant in the entire sample of 20 used chat options, and interview responses indicated that none of the participants belonged to online special interest groups.

Seven of the middle class participants belonged to social issues groups available on their *facebook.com* accounts, yet none of the generational poverty level participants belonged to such groups. Attitudes toward interaction online varied with perceptions of chat room activities. When generational poverty level participants were questioned about the use of chat rooms, they did not have issues with the use of chat. Rather, most indicated that they had just never taken the time to get to know how to chat and just used synchronous bulletin postings to create a pseudo chat area. Middle class interview subjects were concerned about security in a chat room and how to protect their information from being accessed by a stranger. They also indicated that they had never taken the time to read and understand how a chat room works. Similar attitudes prevailed when the participants discussed interactions online both with friends and strangers. The impoverished participants indicated the willingness to interact with virtual strangers, and felt that their own online behavior created a safe environment for such contact. The majority of their middle class peers were too concerned with privacy and security to interact with online strangers.

In addition to an open attitude toward interaction with strangers, other characteristics of the face-to-face poverty culture were identified in this study of the virtual world. Single mothers were proud to define their ability to be the head of the house; single males were very prone to use overt sexual terms, music and graphics to define their sexuality. Frequent bulletin postings between various participants became the virtual arena for what Payne (2005) defined as the "mating dance." Disagreements were viewed as a part of life, not something to be avoided: eight of ten impoverished participants have had an online disagreement versus only one of the middle class responders.

As far as life in the real world of the participants, all impoverished participants were comfortable with daily online interaction. The majority of middle class responses spoke of “minutes per week” spent online while the impoverished responders spoke in terms of “hours per day” online. While it is possible that this daily time commitment has to do with unemployment, most of them indicated in follow up questioning that participation time was not a factor. Rather, they found time for daily check-ins on social networking pages out of a sense of urgency to see what new postings were made by other members. Also, 80% of the impoverished participants preferred synchronous interaction while only 20% of the middle class participants indicated synchronous postings.

Overall usage comments from the impoverished participants indicated similarities with the Millennium Learner cognitive style. A marked preference for synchronous conversations creates an environment where multiple stimuli (conversations) will keep the participant engaged. Multiple stimuli can also result from the preference for background noise while simultaneously participating in the virtual environment. Also, a review of the individual social networking pages showed that the poverty level participants changed options frequently, sometimes daily, using uploading files and photos, and that they also tapped into various online resources to download music, videos, and other data.

Just as the face-to-face community of poverty functions with casual language, differences were found between poverty and middle class online participants’ language. Once again, 80% of the impoverished participants indicated a preference for the use of commenting shortcuts such as *LOL* for *laugh out loud*, *culdr* for *See you later*, and these shortcuts, along with other casual or slang terms, were documented on all 10 social networking pages. These preferences were only observed in 20% of the middle class responses. Even the choice of social networking areas was divided by income. Everyone used *myspace*, but 6 of the middle class participants preferred *facebook.com*. Only one poverty level participant had a *facebook.com* page, and others termed this site “lame” or “boring.” The details of these issues are not as important as the general usage habits identified through the participants’ answers. Instructional design for online learning must include methods to move learners past the “I don’t know how to use it, and I won’t take the time to learn” stage. Interview data reveals that impoverished participants are especially vulnerable to this habit due the consistency of their responses indicating repeated lack of willingness to share or seek “how to” information for online communication.

Implications for instructional design

The many different options and tools noted by participants are not self-organised for learning: instructional design therefore becomes an important tool to coordinate these tools in a learning process. Data presented in answering the first two research questions also provided documentation for options to address the third question: In what ways do these methods or steps impact on instructional design strategies for online learning? The preferences or patterns identified from answers of the impoverished participants impacts instructional design. For example, if the course blends students from both economic levels, should both asynchronous and synchronous options be provided with the student deciding which option? Or should value be given for both, acknowledging that each set of students will have strong preferences? Each option will provide different challenges for the instructional design team.

Contrary to the issues commonly raised about access and ability to compete, analysis of the interview questions gave the impression that impoverished students may be better prepared for success in an online learning environment than their middle class counterparts. These impoverished students bring an open mind to the virtual course room: based on this research, impoverished students are willing to meet and interact with strangers in the online environment even if that environment is not always positive. Online classroom interaction can be hampered by the inability of students to exchange a difference of opinions without creating a negative environment. Those designing for institutions where impoverished students are a part of the population would do well to remember that these students welcome honest interaction and also appreciate a sense of immediacy. As a result of preferring quick exchange of information, rather than post asynchronously, these students welcome the option of participating in synchronous classes or the availability of instant messaging.

In addition to the consideration of cognitive styles, other areas of instructional design will be influenced by this study. One such factor relates to ensuring interaction between the learner and classmates, team members, and facilitator. From the initial interview questions, the impoverished student is actually more open to interaction with others online. Interview questions and follow up observations revealed that the impoverished respondents spent much more time online and did not mind initiating a conversation with a stranger. The instructional designer preparing a course for this population is catering for a group of students who are well prepared to work in the virtual classroom as willing members of various

asynchronous and synchronous communications. Options include working with strangers, course postings, group work including chat rooms or instant messenger communications, or virtual tours.

In addition, these online communicators demonstrated the commitment to continual online interaction, frequently on a daily basis. The challenge to the instructional designer is to create a learning environment where the social networking population can use transfer acquired communication skills for online course success. Also, although the results of this study show that the impoverished young adult eagerly enters into conversations with others, even strangers, the interactions must be relevant to that young adult or he/she will tend to look elsewhere. Instructional design cannot focus on simply presenting a course offering that will follow a single track to receiving a grade. That path may not be important enough to stay in an area lacking stimulating engagement to meet the needs of this group of learners.

When it comes to actually sharing knowledge online, however, even though the impoverished participants made comments about being open to conversation with strangers, few respondents from either income level were willing to ask or give help for problems encountered online; often, the general response was to quit or solve the problem alone. These actions present special concerns to instructional design for online learning. Constant interaction among participants may be positive, but the course design must include methods to identify problems or questions raised by students. Problems may range from technical issues surrounding the student computer's interaction with the learning management system to the students' understanding of how to use a learning management system versus social networking sites to actual understanding of the material presenting. Questions may cover any of the identified problem areas or simply be inquiries from student to teacher that comprise a part of normal classroom interaction. Thus, the instructional designer must develop learning activities that will accommodate the initial burst of enthusiasm and openness but will also encourage commitment to finish a project.

It would be remiss to imply that instructional designers are not already involving the concepts behind community building in the development of online courses, for this is not the case. However, although, instructors are tasked with facilitating a class, the ultimate responsibility to combine student needs, curriculum, and presentation falls to the instructional designer. With this responsibility in mind, the data from this study suggest usage patterns that can be identified with implications for instructional designers, as discussed in the following sections

Life in the virtual world

Although impoverished students may be very confident in their use of Internet options and quite willing to participate often, their reluctance to ask for help might be a problem. One possible solution would be to include pre-class or pre-graded sections on how to use various classroom options to ensure that the student understands how to manipulate all options. In addition to facilitator interaction, the student should be encouraged to frequent the class area with participation or activity options that provide positive feedback for the participative effort.

Understanding the value of social networking to the overall success of the learning environment, the student should have options to interact with other students informally. Just as a face-to-face student might accidentally enter into knowledge sharing by way of a group conversation over a shared lunch, the virtual student needs opportunities to interact with others and freely exchange ideas. In addition, course requirements need to include options to ensure regular connection with facilitators to ensure that the student understands the assigned tasks. In addition to placing responsibility for contact on the student, the facilitator should also have a set of assigned responsibilities or roles. If assigned course work is not completed to a satisfactory level, the facilitator would be the one assigned to address the situation.

Life in the responders' real world: Preference for background noise

This issue will vary greatly by the student's participation environment and should probably be address with options for use that can be added by the individual. Study music upload section that can be click-for-play during session times. Other options for background noise could be created with the use of voice chat options for student groups. If the individual does not wish to interact with others in the course through chat, perhaps the ability to voice chat or voip the course facilitator with questions. Through options such as Utube the instructional designer could also make references, including videos that can be accessed/downloaded online for visual and auditory stimulation.

Preference for the use of a casual language register

The use of both written and spoken casual language creates problems for face-to-face generational poverty learners. In an online setting, where the facilitator has no other perceptions of the student, scholarly writing and presentation may lack the necessary elements for success. However, discussing the way an individual speaks to the world is also a very sensitive topic and will therefore require tact from both the instructional designer and the facilitator. When moving to a formal, educated register of speaking or writing after years of living at a casual level, the individual might feel threatened or lost in this new area of language.

Options to aide in the creation of online course options would include the creations of sections of the course interaction area where shortcuts and abbreviations are allowed. Also, the designer should enable extra tutoring sections where students may receive help if they are truly unable to transfer from casual to formal language. Other sections have discussed the importance of networking, and this type of area would allow customisation on personal pages to include graphic text options to express individuality.

Use of millennium learner cognitive style

While much of the design recommendations may apply to all contemporary online learners, the impoverished members of this study were the only ones to relate to options such as frequent change in task options for participation in the course room or class assignments. To include this preference for constant change in stimuli, the course design should include frequent regrouping to create new conversations among students. In addition, the learner should be able to accomplish tasks in short time or concentration bursts. This step would not imply that all assignments need to be short in nature, but would allow independent steps to combine to form a total project worthy of a grade. Of course, the millennium learner is also keen to use technology from many and varied sources. Allow this learner to use different options that include graphics, cameras, mobile computing devices, scanners, and update often to include the newest available technology for a given semester. This element of the course design will change rapidly and require almost constant thought on the person responsible for maintaining the course syllabus.

Preference for synchronous activity

Although this can be a part of the design, since it can be tied to a given student population, care must be taken to ensure sensitivity to the dignity of these students. The instructional designer might plan student groupings to allow for frequent synchronous options. Another option might be to group students by time zone or allow them to pick groups where they are motivated to accommodate different time zones for projects. It is also possible to create class deliverables that motivate the student to work quickly, even if others have time for asynchronous postings. Add on options for the course including chat, video/voice chat among students and facilitator would help to create areas where synchronous activity is an accepted part of the creation of knowledge.

Conclusion

Even though the field of instruction design for online learning is relatively new in the history of education, it is facing demands for the rapid evaluation of a community of learners to best meet the needs of that individual community. With each year, the number of online classes dramatically increases and as a result, new definitions of learning styles become more and more tied to available technology. This study was designed to identify these cognitive styles for impoverished young adults who participate in online social networking. They haven't made it to the higher education course room yet, but they are active online, developing and sharing knowledge as they participate. As we learn about this unique group of students, we are better prepared to create online learning situations that help them to become academic successes.

Not all of the identified characteristics of these impoverished social networkers are indicators of trouble. The online learner needs to be independently active in the course room, and the generational poverty interview subjects have demonstrated a positive skills and attitudes for online learning. They are not afraid to interact with strangers, have the desire and commitment to be online frequently, and are anxious to get the next bit of reaction from a conversations partner. New challenges occur into how best to include the desire for background interaction or to adapt presentations assuming that the student has provided that background interaction. Further challenges will develop in accommodating the use of a casual language structure while interacting online including both formal assessment and assessment of learner participation and interaction.

Ultimately, universities and colleges are finding that the online learning environment of the 21st century must prove itself to meet the needs of all learners as the concept of a “typical” student becomes less and less defined. Adults may attend for a variety of reasons from personal fulfillment to job advancement. The identification of unique characteristics for online knowledge sharing by generational poverty level adults provides a strong argument for instructional design to develop strategies that will accommodate individual differences for all learners.

These emerging strategies serve as such a reference to instructional design for online learning. We now know that many aspects of the culture of a face-to-face impoverished community appear in similar online social networking options. By identifying the similarities, the instructional designer will be able to adapt design options to create learning situations where the student feels comfortable and encouraged to succeed. By creating choices that appear as different options for the student, the design accommodates impoverished students but does not highlight their needs in an insensitive or embarrassing manner.

This research should represent only the first step in combining what we know from historical foundations with the ever-increasing hardware and software options available to the instructional designer. With each generation of improvements, educational accommodations for learners with different learning styles will become not only more affordable, but also expanded in capability. Effective strategies through instructional design may yet offer a method to achieve the dreams of Freire, Mead, Payne and others who have searched for equality in the educational world.

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