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Is there a Technology Bias against Adult Learners?

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Abstract: Students' communication and study habits outside of class were analyzed using grounded theory. Results indicate that factors other than age informed students' communication patterns, including their use of ICTs. The research calls into question assumptions that adult learners are less inclined and able to use ICTs for education.

Background

There is commonly held belief that adults are more likely behind the technological times than youth or even children. Several writers have imported this general belief to education. They claim younger learners are more adept and interested in using information and communication technologies (ICTs) for education. Prensky's binary of "digital natives" and "digital immigrants" is probably the common most expression of this argument. Adult learners are the immigrants in this metaphor, as they did not grow up in a land of digital technologies since birth. The subtext of the digital natives metaphor is that adult learners are less able and interested in ICTs in education. Intentionally or not, the metaphor has an anti-immigrant (read anti adult learner) bias. This bias is a recent incarnation of an assertion adult educators face repeatedly: you can't teach an old learner new tricks. That is to say, you can't teach an adult learner new tech. Yet what evidence exists to support the claim that adults are less interested and able to use ICTs for education? Certainly, claims by Prensky and others (Oblinger, 2003; Tapscott 1998) are based on highly questionable research at best, and at worst speculation dressed as facts.

Many studies have been done about how adult learners use ICTs in classrooms and course management systems such as Moodle, Blackboard, Elluminate Live , etc. However, a more accurate indicator of adult learners' communication and ICT preferences is manifest in learner-generated, self-directed interaction not by instructor-required interaction. It is by examining learner-generated interaction that one can more accurately assess if and why adult learners are more or less likely to use ICTs for their learning. Thus this study focused on what students did outside the classroom, in the hallways, cafeterias, social spaces and other interstitial spaces.

Purpose of study

This study was not initiated to investigate if adult learners are less likely to use ICTs than younger students. That focus emerged later. The study initially served two purposes. Staff at the British Columbia Institute of Technology (BCIT), the research site, were interested in evaluating and examining how their educational technology initiative had diffused across campus and how technologies were being localized in unexpected ways. I was interested in describing how learners communicate outside of class for course purposes, and the role of ICTs in doing so. So, at the outset, the research was framed more generally as a study of student communication patterns and study habits outside of class. The goal was to learn about how students interacted but not to bias the study towards responses about ICTs. Given this, the general research questions were:

- how do learners communicate with peers outside of class time?
- how do learners use ICTs in these spaces to help their learning?

- what factors influence learner interaction decisions?

This paper presents the results of the study about students communicating with peers and instructors outside of class for course purposes. (For the BCIT study with the same dataset, see Bullen et al 2008).

Research design

This study was designed with the goal of addressing the general research questions by describing students' behaviour patterns and identifying themes within these patterns. The larger research goal was to use the themes from this qualitative study to create substantive hypotheses. These hypotheses are now being tested in a follow-up quantitative study that involved creating and administering a survey to a larger sample of students (N=442). Data has been collected and is currently being analyzed for the second part of the study.

The qualitative study was conducted at BCIT, a post-secondary polytechnic that offers diploma and degree programs in trades, applied sciences and business. Data was collected via several techniques including student group and individual interviews, instructor interviews, reviewing institutional documents, and reading students blogs. The study relied most heavily on the semi-structured student interviews, where students described their behaviour in their own words.

Students were asked the following questions in interviews:

- Through what channels do you communicate with peers?
- Name four topics you communicate about?
- Where are you when you communicate with peers?
- Describe what channels you use to communicate with your instructor.
- Does the instructor require or encourage you to communicate with peers?
- When you have a problem or issue in your courses, what do you do?
- What communication options would help you learn in your courses?

In total, 69 students were interviewed in 29 student interview sessions. Most students did not show up to pre-arranged focus groups. Fortunately, ethics approval allowed for approaching and interviewing students in spaces throughout campus to conduct on-the-spot interviews. Of the 29 student interview sessions, 11 were pre-arranged while 18 were on-the-spot. Nine of the sessions were with individual students while another 20 were with students in a group of two or more. Interviews averaged 15 minutes in length.

Of the 69 students interviewed, 63 stated their age, with 37.5% of students being over 25. The other 36.5% were 25 or under. The average age of adult learners was 30.3 years while the average age of youth learners was 20.6 years.

Emerging design grounded theory, advocated by Glaser (1992), was used to analyze the data. This approach to grounded theory is useful for creating substantive middle-range process theories (Merriam, 2002) without having to use a predetermined framework for analyzing data. In the first step of data coding, verbatim notes were made of student responses during the interviews. Extra field and open coding notes were then made about interesting comments students said. In the second step, notes were made in the margin of interview documents and memos were written to distill the key points from each interview. The key points from all interviews were aggregated into one document. Next, major themes from the data were listed. Creating themes involved grouping similar responses and choosing a keyword or phrase that

captured similarity among responses. Finally, themes were constantly compared with each other and all data. Themes were listed, reviewed, edited, removed and added until I felt the themes saturated the data. As I went back and forth comparing themes and data I regularly asked core grounded theory questions: how are the themes connected?; what is the data a study of?; what is happening here?

To validate the research, and make sure I was not finding just what I wanted to find, a copy of the analysis and emerging findings was sent to staff members at BCIT who were familiar with the data. Their perusal of and feedback on my research served as a peer review regarding the congruency of emerging findings with the raw data. The emerging findings were also presented at BCIT's Professional Development Day. Attendees at the presentation included instructors who were interviewed for the study. Their feedback provided a mild member check.

Findings

Outside of class, students turned to peers and instructors for course purposes by talking in person and via cellphones, and by writing to each other via chat programs (e.g. MSN and Yahoo chat), email, Facebook, MySpace, WebCT and cellphone text messages. The most common method, by far, was for students to talk in person with peers and instructors. They would discuss assignments, seek and share information about administrative issues, organize work together, commiserate about their workloads, all interspersed with socializing. One Computer Science student depicted this dynamic well. "Often we discuss assignments we're working on or assignments we're doing. General conversation I guess. Yeah, there's a lot of talk about our school and labs and the hockey game".

From grounded theory analysis key themes emerged about which factors affected students' interaction decisions. These themes included: the importance of program design, trust of peers, students' relationship with instructors, the knowledge domain of a subject, and course design. These themes did not differ for adult learners compared to younger learners.

Two dimensions of program design were important, the cohort model and program schedule. Most BCIT courses are based on the cohort model, with a group of students often completing an entire program together. Students would turn to peers outside of class because, over time, they developed relationships as they had common experiences, struggles and goals. The program schedule affected time management. For many BCIT programs, students had to be on campus 30 hours a week or more. Students would often talk with peers in person, rather than using ICTs, because they were on campus together so much. For many, it made sense to use the time in between classes to study together, seek help about administrative issues from peers, etc. The cohort model and program schedule provided regular access to peers and a basis for trusting relationships.

Access to and familiarity with peers were necessary but not sufficient reasons for interaction with peers outside of class. This depended on whether students trusted their peers. Trust had three dimensions: affective, perceived utility, and reliability. If students trusted a peer affectively, they felt less risk approaching them about a course-related issue. But at times this was not enough. Some also would communicate with peers if they were confident that it was useful, such as improving the quality of their work or increasing their motivation. Finally, some students turned to peers because they received help from them quickly, when they needed it. Here ICTs could be helpful. One engineering student said, "if anything is due or any important thing, like whatever, you go and ask [on the Facebook discussion board]. Someone will reply".

Students relationship with instructors affected if and how they communicated outside of class for course purposes. Approaching instructors instead of peers for course-related issues often made sense if students found instructors physically accessible and emotionally safe. For those who did feel a threat, for example, it was useful to communicate with instructors via ICTs. One geology student said “I email instructors all the time cause I don’t like to talk about it [coursework] face-to-face cause they can catch me on all this stuff I don’t do”.

The knowledge domain of a subject related to issues of relevance and efficiency. For some Trades students, for example, it was just not an appropriate option to communicate via ICTs about subject matter that was mainly psychomotor. For most students, ICT options were for textual or audio communication. For some of these students, ICT options would require too much time and would perhaps be less effective for, say, discussing a graphic. One X-ray Technician student summarized this efficiency point by saying, it is “easier to ask in person, or show the [annotated] diagram of what I don’t understand”.

Course design related to issues of power and efficiency. Students certainly interacted with peers outside of class for course purposes if institutional powers required they do so for course assessment. “We use [the WebCT chat] because our teacher wants to monitor our progress, how we work with case studies” said a Health Sciences student. Course design also related to work efficiency. Some students communicated with peers because sharing a large workload saved time while effectively meeting course requirements.

This study found that outside of class all students, regardless of age, communicated with peers and instructors because of a mix of structural and personal factors. Structural factors were beyond the control of students. These included how the program was designed, how specific courses were designed and the knowledge domain of a subject area. Personal factors included whether a student trusted peers, her opinions about how useful and reliable peers were, and her perception about how available, safe and knowledgeable instructors were. Age was not a factor shaping if students communicated in person or via specific ICTs. Their motivation to use particular communication modes was based on issues of access, time management, safety, accurate knowledge, quick communication, relevance, and efficiency. Sometimes using ICTs were the most practical solution. Much of the time they were not. There was not evidence to indicate that students did or did not use ICTs just because they were putative digital natives or digital immigrants.

Conclusion

Adults have often been seen as laggards when it comes to using ICTs. It is unclear if this is in fact the case. But is it appropriate to extend what maybe a larger social phenomenon into the arena of education? Education, by definition, is a social relationship with particular structural and interpersonal dynamics. In this study, structural and personal factors were far more important in shaping students’ communication habits than a biographical factor such as age. Whether learners chose to use ICTs depended on a host of variables specific to the learning context.

Implications for adult education theory and practice

This research indicated that the general negative attitude about adults using ICTs for learning maybe an unfounded bias. It also suggests program planning and learner dynamics are important variables for adult learning, more so than learners' preferences for ICTs.

Adult educators should not accept uncritically the common belief that adult learners are less adept or inclined to using ICTs for learning. Even if adult learners may not use specific ICTs, it does not mean they cannot or will not use them for specific learning purposes. For the adult educators, there are a lot of other struggles to fight without regressing to old biases about what adult learners can and cannot do.

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