Social Media Use By Students With Disabilities

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Abstract

The objective of this exploratory study was to investigate the use and accessibility of social media by postsecondary students with disabilities in order to raise basic awareness by the higher education community. YouTube was the most popular form of social media used by these students. MSN / Windows Live Messenger was rated the most accessible social medium, and InternSHARE.com was the least accessible. The most popular suggestion for developers and producers of social media was to have a simpler or better layout.

Introduction

Among the e-learning tools available for teaching and learning, social media (e.g., Facebook, YouTube) are increasingly being used by faculty and others at postsecondary institutions (CDW-G, 2010). These tools can provide new opportunities and innovative ways to engage students, promote collaboration, and help build digital literacy (Rheingold, 2008).

Below, we share results of a recently completed exploratory study (winter 2009) involving 723 postsecondary students with different disabilities from across Canada. The study's objective is to raise basic awareness about the use and accessibility of social media as experienced by these students.

Background

In the last ten years, the numbers of students with disabilities enrolled in postsecondary education has been rising in both the United States and in Canada (e.g., United States

Government Accountability Office, 2009). In parallel, there has been a growth in the use of e-learning in general by postsecondary educational institutions (Abrami, Bernard, Wade, Schmid, Borokhovski, Tamim, Surkes, Lowerison, Zhang, Nicolaidou, Newman, Wozney, & Peretiatkowicz, 2006). Recently, social media have joined the list of e-learning tools in academe. From recruiting students to engaging them in course-specific activities, postsecondary institutions have been experimenting with and adopting various forms of social media that are already popular in daily life (e.g., Connell, 2009).

Students with different disabilities use information and communication technologies (ICTs) in a variety of ways. For example, our research (Fichten, Asuncion, Barile, Fossey, & De Simone, 2000) shows that most students who are blind use software that reads what is on the screen (e.g., text, links) and/or hardware that produces Braille output of what is on the screen. Students with low vision use software that enlarges the size of visual elements, software that reads what is on the screen, and/or large screen monitors. Students with mobility and hand/arm impairments use a variety of ergonomic adaptations including software based keyboard adaptations, virtual keyboards, and a variety of alternative mice. Many of these students can benefit from voice dictation software, allowing them to speak content and commands. Some students also use word prediction software to speed up typing. For students with hearing impairments, a variety of electronic dictionaries as well as both general use (e.g., spell-check, grammar-check) and specialized writing aids (e.g., word prediction software) can be helpful. Computer based and mobile chat programs such as Windows Live Messenger are also useful. When accessing video and audio clips, these students often use subtitles/captions when these are available. Students with speech/communication impairments can use a netbook or tablet computer to communicate with others in face-to-face contexts. For class presentations these students can use a word processor with a multimedia projector instead of speaking. Students with learning disabilities can use equipment developed for students with the disabilities mentioned above. For example, students who have dyslexia or other reading problems can use software that reads what is on the screen as well as screen magnification and highlighting. Students who have difficulty with grammar and spelling sometimes find dictation software helpful.

While much has been written about the use of social media in a postsecondary setting, nothing has been published with an explicit focus on the experiences of students with different disabilities in the past five years. Similarly, while research has been conducted on social media use and people with disabilities, the focus on students with disabilities in higher education is sparse (cf. Jaeger, 2009).

In the spring of 2010, the United States Department of Education published a policy addendum that clarified issues related to the accessibility of ICTs in postsecondary education and reminded schools which receive public funding that emerging technology must be made accessible (Office For Civil Rights, 2011). Canada's province of Ontario (2009), through its Ontarians with Disabilities Act, has likewise brought focus to the legislative duty to make technology used in education inclusive of all learners by removing barriers.

With the above in mind, it is reasonable for individuals who either encourage the use of social media in education and for those who are actually teaching and designing learning activities to ask fundamental questions, such as: What social media can be used by all students, including those with disabilities? What problems currently exist with specific platforms when it comes to their use by these students?

Present Investigation

The Adaptech Research Network and the National Educational Association of Disabled Students (NEADS) collaborated in an exploratory study in the winter of 2009 looking at social media use and accessibility by postsecondary students with disabilities. For the purposes of this investigation, social media included, but was not limited to, social networking sites such as Facebook, video sharing sites such as YouTube, virtual worlds such as Second Life, podcasts, blogs, and instant messaging services.

Method

In winter 2009, a convenience sample of 723 (69% females and 31% males) students and recent graduates (within the last two years) with various disabilities completed either an English or French web based questionnaire. Participants' mean age was 30 (range 16 to 65, SD = 10), and they attended or had recently graduated from a postsecondary institution in one of Canada's ten provinces or the Yukon Territory. Varied methods were used to recruit participants. Individual e-mail invitations were sent to student members of NEADS and invitations were sent through the NEADS e-mail discussion list (NEADS-L). Campus disability service providers were also asked, using the e-mail discussion list of the Canadian Association of Disability Service Providers in Postsecondary Education (CADSPPE), to forward the e-mail invitation to students on their campuses.

From the study's web site, participants selected English or French to read the consent form approved by McGill University's Research Ethics Board. This provided information about the study, including a draw to receive one of five $100 gift cards for Chapters/Indigo, a large Canadian book and music store. Participants clicked on the continue button to signal their agreement. This brought them to the online questionnaire. The final screen invited participants to provide contact information for the draw. Students were also asked if we may contact them for future projects. In total, the questionnaire took approximately fifteen minutes to complete. Four weeks later, those who provided contact information were e-mailed, asked to complete the same questionnaire again (to allow calculation of test-retest reliability), and were informed that doing so would enter them in a draw for a BlackBerry Smartphone (donated by Research in Motion).

The online questionnaire included: demographics (e.g., sex), impairment / disability information, specialized software used, ways of connecting to the internet (e.g., type of browser, device used such as a Smartphone), hours spent using social media, engagement in 22 specific social media activities (e.g., contributing to a blog), and accessibility ratings of 20 forms of social media (e.g., Facebook). Open-ended questions included asking about problems using social media and suggestions for social media

developers/producers. Finally, participants indicated their levels of agreement (6-point Likert scale) about topics related to general internet and social media use. The questionnaire is available from the first author.

Results

Because these may affect their experience using social media, respondents were asked to self-report as many disabilities/impairments as applied to them. They were presented with 14 options. This resulted in 1189 reported disabilities / impairments:

- o 32 percent Psychological / psychiatric disability
- o 29 percent Learning disability
- o 21 percent Chronic medical / health problem
- o 19 percent Attention-deficit disorder (ADD / ADHD)
- o 11 percent Visual impairment (low vision)
- o 10 percent Hard of hearing / hearing impairment
- o 10 percent Limitation in the use of hands / arms
- o 8 percent Mobility impairment: wheelchair / scooter user
- o 8 percent Neurological impairment
- o 6 percent Mobility impairment: use of a cane / crutches / walkers
- o 3 percent Totally blind
- o 2 percent Speech / communication impairment
- o 2 percent PDD (Pervasive Developmental Disorder such as autism and Asperger's)
- o 2 percent Deaf

As noted earlier, students with disabilities often use specialized software when interacting with a computer. The participants, on average, used between 1 and 2 different types of specialized software. The top five reported were:

- o 44 percent Software that improves writing quality
- o 24 percent Software that reads what is on the screen
- o 16 percent Voice dictation software
- o 15 percent Scanning and optical character recognition (OCR)
- o 12 percent Software that enlarges what is on the screen

Seventy-four percent of participants described themselves as frequent users of social media. On average, participants told us they spent 12 hours per week using social media for non-school related activities, 6 hours for school-related activities.

Participants also indicated all the types of social media they use from a list in the questionnaire. Six-hundred and sixty-eight of the 723 participants indicated that they use YouTube, making it the most popular of the social media listed. This was followed by: 614 participants indicating using Facebook, 531 using MSN / Windows Live Messenger, 279 participants using Skype, and 162 using Twitter.

Participants were also asked to select specific social media-related activities that they had engaged in over the last month from a list. The top five activities were:

- o 91 percent   Watched a video on YouTube,
- o 79 percent   Used an instant messaging service such as MSN / Windows Live, Messenger, Skype, Google Talk, etc.,
- o 79 percent   Searched for someone they knew on Facebook, etc.,
- o 76 percent   Added someone they knew using Facebook, etc.,
- o 69 percent   Updated their status on Facebook, etc.

Participants indicated that the five most accessible forms of social media were: MSN / Windows Live Messenger, Facebook, YouTube, Yahoo! Messenger, and Skype. Conversely, InternSHARE.com, Second Life, Disaboom, Classmates.com, and Digg were identified as the top five least accessible forms of social media.

In an open-ended question, respondents were asked to indicate up to three problems they encountered when using social media. In rank order, the top five were:

- o Technical problems (e.g., crashes, features not working properly, internet connection problems),
- o Problems with disorganized layouts (e.g., color problems, difficulties with font enlargement),
- o Information related problems (e.g., not knowing how to use the social medium, not knowing where to look for something, not knowing how to get help, confusing instructions),
- o Privacy and security related concerns (e.g., viruses, annoying pop-ups, advertisements),
- o Problems with accessibility (e.g., no captions/subtitles, inaccessibility to screen readers, no spellchecker, Completely Automated Public Turing test to tell Computers and Humans Apart (CAPTCHA) problems.

Another open-ended question asked for participants to indicate up to three suggestions for developers / producers of social media. The top five were:

- o 25 percent   Having a simpler or better layout
- o 23 percent   Improving privacy / security
- o 21 percent   Fixing accessibility issues (e.g., CAPTCHA)
- o 11 percent   Enlarging features on website
- o 8 percent   Having captions / subtitles

Discussion

The major conclusion here is that students with disabilities, not unlike their non-disabled peers, are using social media for school and non-school related activities. The results of this study indicate accessibility issues do exist. Students told us in the study that, for example, captions/subtitles were often missing on videos. It is important to find out

whether the video sharing service selected allows for captioning (while YouTube does have the facility for captioning, not all video sharing services do). CAPTCHAs, which place text into an image to forbid robots from accessing the web site, were also cited as a problem because software that reads what is on the screen cannot interpret them. Nevertheless, CAPTCHAs are often seen during the registration process for certain services. The lack of a spell-checker was also mentioned as an accessibility topic; this is an important issue for many students with learning disabilities. In such cases, students should be informed that they can compose their responses in a word processor that has a spell-checker, and then copy this into a blog or other text area.

The findings here reflect the abilities - and disabilities - of our sample, most of whom had psychological and learning disabilities. Because of the specific computer related needs of students with different impairments, future studies should examine social media use and accessibility where the views, needs and concerns of larger samples of students with specific disabilities can be examined. Moreover, an investigation focusing on how faculty uses social media in courses where they have students with disabilities would be useful to identify best practices and issues from the educators' perspective.

The present investigation has limitations which may have influenced the results. For instance, the results cannot be generalized to the population of postsecondary students with disabilities. While all regions of Canada are represented, the sample was neither random nor fully representative of the populations studied. Given self-selection biases, and despite attempts to recruit those who did not use social media, students enthusiastic about social media and heavy users are likely over-represented. Furthermore, because of the manner in which participants were recruited, it is impossible to calculate a final return rate. That being said, the sample size is large and most available indices suggest that participants have characteristics typical of Canadian postsecondary education (e.g., the sample had more females than males, proportions of students with different disabilities reflect the realities of many colleges and universities).

Resources

What follow are resources that provide further information or support for those interested in learning more about using social media in an accessible way.

- o Accessibility and Assistive Technology (from the Facebook Help Center)
  http://www.facebook.com/help/?page=440
- o The Future Will Be Captioned: Improving Accessibility on YouTube (from YouTube)
  http://youtube-global.blogspot.com/2010/03/future-will-be-captioned-improving.html
- o YouTube Caption Tools Part 2 (Terrill Thompson, University of Washington)
  http://terrillthompson.blogspot.com/2011/07/youtube-caption-tools-part-2.html
- o How POUR is Your Blog (eBook on assuring your blog is accessible)
  http://www.doitmyselfblog.com/2009/how-pour-is-your-blog/

- o Accessibility of Online Chat Programs (from WebAIM - Web Accessibility in Mind)
  http://webaim.org/articles/archives/chats
- o Easy Chirp (an accessible Twitter client) http://www.easychirp.com

Conclusion

The goal of the present investigation has been to explore the use and accessibility of social media by postsecondary students with disabilities in order to raise basic awareness among the higher education community. Results of the study show that students with disabilities are using social media such as YouTube and Facebook both for personal (on average 12 hours per week) and educational (on average 6 hours per week) purposes. The lack of captions and spell checkers, and the use of CAPTCHAs were seen as accessibility-related problems by study participants.

As social media evolve, become more sophisticated, and continue to gain popularity, these are increasingly used in teaching and learning. If the goal is to provide a fully inclusive learning environment for all, then faculty and others who are involved in social media adoption and use must better understand the needs of these students and take proactive steps to assure that the tools they use enable full participation of these learners. For example, when choosing a video sharing service, identify one that supports and enables captioning content for the Deaf. Only in this way can students with disabilities benefit from the same learning experiences using social media as their non-disabled peers.

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