Social Media Accessibility in Canada (SMAC) Benefits, Suggestions, Problems, and Solutions Coding Manual

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To examine open-ended comments about the accessibility of social media to students with disabilities, the SMAC Benefits, Suggestions, Problems and Solutions Coding Manual was developed and questionnaire responses students with disabilities were examined. The questionnaire contained the following open-ended questions:

- Indicate up to three benefits you have experienced using social media
- What suggestions do you have for developers / producers of social media? Please be as specific as possible, mentioning the name of the social medium
- Indicate up to three accessibility problems you have encountered using social media. How was each resolved? (if not resolved write "unresolved") Name the social medium with which you experienced problems

Definitions

- Social media: the term "social media" includes social networking sites such as Facebook and MySpace, online gaming, virtual worlds such as Second Life, along with instant messaging services, blogs, wikis, and sites such as YouTube, and Classmates.com.

Coding of Open-Ended Questions

Development of coding manual. In developing the coding manual, researchers read a sample of participant responses and noted themes that emerged. On the basis of these themes, 17 categories of Benefits (see Table 1), 15 categories of Suggestions (see Table 2), 20 categories of Problems (see Table 3), and 15 categories of Solutions (Table 4) of using social media were created and a set of coding rules was established for each question to help ensure consistency.

Coding of responses. Two coders independently classified responses according to the Benefit, Suggestion, Problem, and Solution codes. They then met to discuss disagreements until all codes were agreed upon. Coders 1 and 2 then refined the coding manual based on their discussions. A third, fourth and fifth coder coded samples of the remaining responses and met with the other coders to discuss disagreements until all codes were agreed upon. The coding manual was refined after receiving feedback from the rest of the coding team members.

Reliability of coding. Inter-rater agreement (%) is calculated as follows: 2 x Number of Agreements / (Number of codes recorded by Coder 1 + Number of codes recorded by Coder 2). Inter-rater agreement for Benefit and Suggestions codes was 82% with a total of 1744 responses and 704 respectively. Inter-rater reliability for Problems and Solutions was 76% and 83% respectively, with 644 codes for each question.

Table 1. Benefits			
Code	Code Name	Definitions	Examples
1	Entertainment	This category refers to any item that has to do with being entertained and having fun, so this can be watching movies, relieving boredom, etc.	Fun; relieves boredom; entertainment; watching videos; relaxing; killing time
2	Communication/ networking (personal life)	This category refers to direct communication to keep in touch with people that mostly part of someone's **personal life.** This can be **friends, family, acquaintances, etc..** The type of interaction between people in this category is different than from a business networking interaction. This is purely for one's personal life. This category is direct communication between friends, not keeping up to date.	keeping in touch **with friends and family;** Kept in touch with friends around the world; made new friends
3	Communication/ networking (academic /job/ work/ professional life)	This category refers to direct communication to keep in touch with people that are mostly part of someone's school, work/professional life. This type of interaction includes people who are from an academic setting, such as professors and classmates, as well as any term that is related to professional contacts. See examples for more information of who should fit into this category.	Able to stay connected with past professors and classmates; Academic contacts; Building professional network; Professional contacts; Reconnecting with past associates
4	Communication / networking (unspecified or other)	This category refers to direct communication to keep in touch with people in general. This category is for people who are not specified. For example, whenever people say "social life" it falls into this category because social life can mean anyone. Also communication with groups also falls into this category.	Keeping in touch; keeping in touch with people; Augmenter mon réseaux social; A stronger social life; Social Networking; Stay connected; Connections with a dyslexic community; contacting many people at once
5	Education/ benefits for school	All items related to school go into this category unless it is communication with people from school.	able to organize meetings for school projects and study groups; able to talk with other students about projects,

6	Access to information (not school related)	This category refers to being able to obtain information of any kind because of using social media. So being able to connect or gain information about other parts of the world would go into this category. Learning new things go into this category because it is new information that they are being presented. If something is about school related to learning, it goes into the school category just to keep all school things together. **This category includes sharing information, opinions, and ideas**	have a connection with other parts of the world and learn; access to current news; access to media, world events; I can stay aware of non-local issues; Learn new things; sharing information
7	Intrapersonal benefits	The intrapersonal benefits category refers to things that improve the person's daily functioning in terms of feelings and emotions. It does not include items that refer to spelling or writing because even though it is good for them, it does not necessarily benefit them on the intrapersonal level. According to the Merriam Webster dictionary, the definition of intrapersonal is: occurring within the individual mind or self. Use this definition to guide you for items that you are unsure about whether they fit into this category or not.	helps them feel less isolated; am less shy about making contact/socializing; able to obtain music which helps me concentrate; feeling connected; Feel not as alone; Provide anonymity; no one needs to know I have a disability; Given a speech impediment; I have less trouble expressing myself online; stress reliever
8	Employment opportunities and work benefits	This category refers to things are useful in terms of employment that does not mean communication. This can be advertising, finding a job or work, basically anything that is useful for working.	Self promotion/**advertising;** availability of employment throughout Canada; Easy to apply for jobs; Finding Work
9	Staying in the loop	This category refers to keeping up to date with things that are going on, this can be birthdays, events, **keeping up** with news about people. This is not communication with people, this is literally finding out about people without directly asking them. Anything that has to do with staying updated with people, the community, current events, news	Keeping track of organized events; Birthday reminders; To keep up to date with certain organizations; Stay updated with current events at university/community; Updates and staying in the loop socially; I keep up with news of friends and family; timely awareness of news events; looking at people's

		etc… This is different than access to information because it they are not going out to look specifically for information, they want to keep updated about things that are going on around them. **Updated** is the key word, not accessing information.	pictures
10	Helps plan activities	This category means that using social media helps them plan activities.	Making plans and Events; Planning events is easier (publicity)
11	Saves money	This category means that using social media helps them save money.	money saving; More cost-effective (e.g. Using Skype for long-distance calls)
12	Saves time	This category means that using social media helps them save time.	Time saver (don't have to email, phone as much); is a quick way…;
13	Community engagement	This category means that it helps them engage in things that are happening in the their community. This is more than staying connected, it means they actively are engaging in something, like creating a committee in their community. Also community in the virtual world is endless, it does not necessarily mean around the area in which they live.	am currently building an advocacy committee
14	Sharing media (media only)	This category refers to sharing content by using social media. It means they can post and share videos, share songs, share links, share photos. It is not going out to look at peoples pictures, it is actively posting them so that others can see.	sharing music; sharing videos; sharing photos; Pictures
15	Dating	This category refers to dating, finding love, boyfriends, girlfriends etc.. Anything that goes beyond normal friendship that they say was established by using social media.	dating; got a date; girlfriend
16	Personal expression	This category refers to being able to express oneself by using social media. It really means that they can show who they are by using it, this can be said as a form of personal expression.	a form of personal expression; able to express self; Express my thoughts; express myself artistically

17	Other	Anything that does not fit into any other category fits here.	

Table 2. Suggestions			
Code	Code name	Definition	Examples
1	Improve privacy / security	Statements that relate to privacy and security of social media goes into this category.	Safety- Prevent stalkers; Increase privacy
2	Less advertisements	Having less advertisements and spam when using social media	better spam control; less advertising; Stop with the pop-up ads that block the content.
3	Have a spell checker	This category refers to when participants mention that they want anything related to a spell checker for social media	ability for user to have access to spell check; spell check before posting a message
4	Have captions/subtitles	any comment that relates to having captions or subtitles on social media	subtitles on music videos; make subtitles mandatory; provide captioning/subtitle options for video content online; Subtitle EVERYTHING; subtitles to audio material
5	Have a **consistent** layout	Update the website less often to keep the layout the same for whatever reason	Don't constantly change the layout; stop changing how things work and where things on the page are placed because it is hard to try to find stuff everytime; Stop changing the layout. It gets confusing; Don't constantly make updates
6	Fix accessibility issues (unspecified)	this category refers to all accessibility comments that do not fit into any of the other categories or are so general that they cannot be classified as anything else.	Captcha; create disability-friendly sites; improve access; For users of screen reading software, volume needs to be compressed so that users can get information more quickly; alternatives to captcha for fanfiction.net; consulting people with disabilities; getting feedback from people who use adaptive technology; written text of podcasts; speech-to-text
7	Have text-to-speech	any comment that refers to having text-to-speech or having the text being read aloud to the user built in to the social media	add a voice function, so that it will read the words on the screen to the user; talk back software

8	Have a **simpler** or **better** layout/ make it easier to use	This category refers to all comments about making social media easier and or simpler to use. This includes layout because the layout is how the user navigates the site.	Simplify layout of webpage for easier viewing/navigation; The photo uploading process has too many steps to get to where you want to get; Well organized and laid out; Keep things simple; User Friendly
9	Enlarge features on site	This category refers to having specific features on the site larger. This can mean that the user wants do it himself or wants it to already be automatically done for them.	ability to enlarge font; enlarge photos; enlarge text; Zoom or enlarge options; writing too small; Large print
10	Provide instructions/ help on how to use	This category refers to when participants say they want instructions or help figuring out how to use the social media. They might want demos, or test	easy to understand directions; type in what you want to do- it will give directions how to do it; on line demo; test guide
11	Improve color scheme	All comments that have to do with problems related to colour	less use of bright colours; Try not to use to many bright colours. (yellow); use colours that contrast, light colours on white (for example) don't work; Come out with colours that contrast better for people who have visual impairments; ability to change the contrast
12	Computer technical problems	All comments that relate to the person having problems with their computer that needs to be fixed in order for them to be able to use social media. It **might** not be a suggestion for the developers but it might mean that they want the way the social media is set up to be changed so that they can use it on their computer. this includes hardware, software, internet etc...	if I had a more updated version computer I would have more interest.(not developers fault); Make them compatible with software programs
13	Less expensive	All comments that refer to reducing costs for social media, for groups of people etc. Basically anything that means paying less.	Reduce Costs; Those that have a fee could have a discount for people with disabilities; Yahoo web hosting, less expensive
14	Easy to find	This category refers to any comment that has to do with making the social media more easy to find or advertised. This can include search engines or anything related to looking or trying to find the social media.	Make it easier for our sites to be found search engines, so we can be heard; Promote blogging sites, so that those of us with disabilities have a public voice; Sites with tools need to find a way to allow metatags, so they can be tracked and found by

			search engines.
15	Other	Anything that just does not fit into any of the other categories, or is too ambiguous to figure out the meaning	Use W3C standards; Updates on the new technology should happen automatically without having to run and restart computer; Talkshoe needs to update it's Pro client

Table 3. Problems			
Item Category	Codes	Definitions	Examples
1.Accessibility Problems			
1.1	Captcha problems	.	Every social networking site: CAPTCHA; having to type a message or word from a box in order to subscribe to a website or newsletter
1.2	No text-to-speech	.	buttons are not access to TTS; Does not read text to me;
1.3	Not accessible with screen readers	.	la synthèse vocal de zoom text marche SUPER mal dans hotmail; The website couldn't be easily navigated with JAWS; Screen-reader couldn't read info for proper navigation
1.4	Not accessible with magnification software	.	issues with windows messenger and ZoomText;
1.5	No speech-to-text (voice recognition)	.	dragon naturally speaking will not dictate in social media;
1.6	No spellchecker	.	There isn't a spell check.
1.7	No captions/subtitles	.	No captions or subtitles in videos on YouTube; Online news doesn't have captions
1.8	Assistive hardware problems	Problems related to all types of adaptive hardware.	
1.9	Other accessibility issues (not related to technology problems)		Second Life did not work well with my onscreen keyboard. Have not tried lately; can't hear podcasts; YouTube videos are often difficult to hear and understand; Having to listen to poor-quality audio clips and with too many time gaps between clips with my cochlear implant
2.Technical Problems			
2.1	Compatibility/ Specs Related Problems	Problems that are caused by the user's OS or the specs of the computer or hardware that makes it	YouTube videos not working on slower computer

		hard for them to use social media.	
2.2	Computer / social media crashes / features not working properly	When the computer or the social media freezes/crashes/shuts down/stops working. When one, or several of the social media's features are not working/not working properly (such as chat, links, graphics, images, plug-ins)	freezing up unresolved; Facebook chat being glitchy; facebook chat errors; Kept on logging me off; broken links on YouTube; youtube hard to upload videos; poor audio/quality on YouTube
2.3	Internet connection problems	Problems related to a slow/bad Internet connection	Video plays too slow; Facebook: loaded slow; Internet Connection Down; lagging
3.Privacy/Security/Viruses/Spyware Related Problems			
3.1	Pop ups/ads/etc	All problems that have to do with pop ups and advertisement.	Bombardment of advertisement; some sites have too many pop-ups; adult video advertisement
3.2	Viruses/spyware	All problems related to viruses and spyware infection	chain or virus mail (Facebook and MSN); Occasional problems with viruses I picked up on file sharing sites have shut down my computer numerous times in the past
3.3	Privacy of information	Problems that have to do with the lack of privacy of the user's information	Information sur ma vie privée disponible sans le vouloir; MSN can be dangerous. There can be a crowd of people on the other end of your computer. Privacy issues; Non-respect de la confidentialité des informations personnelles
4.Layout/Display/Colors/Font Problems			
4.1	Color Problems (except for font colour)	Problems related to background color, contrast, etc…	Poor colour contrast, for example light colored text on light colored background; YouTube, videos with flashing images
4.2	Bad/confusing/messy/disorganized **layout**	This category is specific to layout. All problems that have to do with the layout of the social media.	L'écran de facebook et très petit; Crowded looking page layout, is distracting and makes reading things harder - Facebook; They keep changing facebook
4.3	Font enlargement/font related problems	Problems related to font color, size, type, etc…	fonts too light; web page doesn't have option for bigger text (various sites); Font size

5.Information Related Problems			
5	Information related problems	Don't Know How to Use Don't Know How/Where to Look for Something (No Layout Commentary) Don't Know How to Get Help/Confusing Instructions No Layout Commentary	facebook: did not know how to block people; YouTube: could not locate what I was searching for; **navigation problems**
6.Other			
6	Other/ wastebasket	if they mention something about that is not about disability it goes in the wastebasket/other category.	passwords; slow typists

Code	Code name	Definitions	Examples
	Table 4. Solutions		
1	Get help from other user/friend/IT person/vendor/etc…	Anything that involves asking or getting help from a person **other than the developer or the creator/administrator/provider.**	I got a friend to download JavaScript onto my blackberry; ask a friend to help me with this; my son helped me
2	Better security settings/ anti-spam/ blocking advertisement	Anything that involves fixing the problem by changing security features.	better antivirus protection; Revised privacy settings so that only friends can see my profile; stop the advertisement
3	Avoid/ stop using the social media	Stop using the social media or avoid using it.	Avoid using it; do not use the site; Avoid facebook like the plague; avoided using myspace.com
4	Use a different site/social media	Fixing the problem by using another social media instead of the one that causes problems.	I use LinkedIn instead; look for a similar site; used a different blog service; different website
5	Fixed/improved/got new hardware or software	Resolved the problem by fixing or improving the hardware, or by buying new hardware.	bought external speakers for laptop to boost volume;
6	Restart computer/software/refresh page/wait and retry	Fixing the problem by rebooting the computer, the social media or the software. It also has to do with waiting for any period of time and then retrying.	Re-Boot (over and over...); I left it for a while and reloaded it; time- site was down
7	Change layout/display/font/colors	Any solution that involves modifying the organization of the site/social media.	if the had a list view option less icons; Use light colored text on dark backgrounds or vice versa; Use a bold font easy to read simple font such as Arial
8	Use search engine/**forums/FAQs /Wikis/etc.**... to get information	Fixing the problem by searching for information on available solutions.	
9	Creators/developers improve/add features	The problem **is or could/should be fixed by the creators or the developers** by modifying what's already available or adding new options to the social media.	la traduction est maintenant disponible; I provided FB with the code to allow left & right keys on the keyboard to go forward and backward through pictures and they implemented it; Google

			needs to make their text fields accessible
10	Use third-party software/hardware	Fixing the problem by using software or hardware **that is not usually needed to make the social media run properly/accessible.**	Use the built in "system based zoom" feature built into the Mac OS; Purchased wireless mouse; Use ZoomText
11	Use help button/ help option from the social media website	Using the social media to figure out the solution to the problem on their own. The social media has a help button or feature that they consult for answers to their problem	reset password by email address;
12	Contact social media providers	Participants mention they tried to CONTACT the social media providers to alert them about the problem. They may email, call, message etc. The main point in this category is that the participants actually make the effort to contact the social media providers, regardless of whether the problem was fixed or not.	called the help number;
13	Unresolved (no solution)	Unresolved	
14	Other	Other	
15	No Answer (Blank response or ?)	No Answer	

Coding Rules for Benefits

1) If there are 2 codes in one item, take the first code.
2) Each participant was given the option to indicate up to 3 items. If a participant indicated 1 or 2 items and one response has two codes, then put the separate item into a new row and give it the respected code, and don't forget to write down their subject number in the cell labeled subject #.
3) If a participant has 3 items, and one of the items has 2 codes, if the first code is in any of the other items, then take the second code.
4) Try not to over analyze each answer. Choose the most obvious code as possible. Remember that our sample is made up of students with disabilities.
5) Access to information category does not include accessing information for school related items.
6) Every item that has to do with school or education goes into the school/education category unless it is clearly a communication item.
7) The intrapersonal benefits category refers to things that improve the person's daily functioning in terms of feelings and emotions. It does not include items that refer to spelling or writing because even though it is good for them, it does not necessarily benefit them on the intrapersonal level. According to the Merriam Webster dictionary, the definition of intrapersonal is: occurring within the individual mind or self. Use this definition to guide you for items that you are unsure about whether they fit into this category or not. http://www.merriam-webster.com/dictionary/intrapersonal
8) If someone says "social life" for example "helps me have a stronger social life" it is coded as unspecified for the Communication/networking unspecified or other (code #4) category. Any response that is termed as social, it is considered as ambiguous and is coded as #4. This is because the term social life is interpreted differently in English and French cultures.
9) If you don't understand what the item means, instead of guessing a code, code it as other (#17). Chances are if you don't understand it neither does the person you are coding with.

Coding Rules for Suggestions

1) If there are 2 codes in one item, take the first code.
2) Each participant was given the option to indicate up to 3 items. If a participant indicated 1 or 2 items and one response has two codes, then put the separate item into a new row and give it the respected code, and don't forget to write down their subject number in the cell labeled subject. Also please highlight the new codes in green so that these can be added into the final codes section.
3) If a participant has 3 items, and one of the items has 2 codes, if the first code is in any of the other items, then take the second code.
4) Try not to over analyze each answer. Choose the most obvious code as possible. Remember that our sample is made up of students with disabilities.
5) If you don't understand what the item means, instead of guessing a code, code it as other (#13). Chances are if you don't understand it neither does the person you are coding with.

Coding Rules for Problems

1) When participants say something like "difficulty uploading pictures", if they don't mention anything about not knowing how to do it assume it is because the feature is not working/not working properly **(2.2)**
2) When the participants say they have a hard time navigating the site, but do not mention anything specific to the actual layout, then code it as **5**.
3) When participants mention something specific about the layout that makes the social media hard to use (ex. Too many visual stimuli) then code it as 4.2 because it is specific to the layout.
4) Try to code accessibility issues in **1** first. If not possible, go somewhere else.

Coding Rules for Solutions

1) When participants mention new hardware, code it as 5 unless they mention hardware that is not usually needed for the social media.
2) If they write Unresolved and then write a solution next to it, code the solution.
3) If they just say the name of the social media code it as 14.
4) If they type that they tried to do something, code it as a solution.