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# Examining the Use of Social Media Tool “Flickr” for Impact on Loneliness for People with Intellectual Disability

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## ABSTRACT

*This research is part of a multi-phased research project funded by the Norwegian Research Council. This phase explored if people with intellectual disability who use the social media tool “Flickr” are less lonely than those who do not. In this paper we seek to identify the characteristics of functions or activities in which participants using Flickr engaged and if these characteristics contributed to reducing loneliness. We examined also what supports participants needed to use Flickr. Twelve participants were instructed in how to use Flickr and guided in its use for 8 weeks. Interviews were conducted to assess participants’ experiences. Participants stated that social functions such as creating a group for swapping photos were key for enjoyment and engagement in the activity. This pilot study is the first to explore the impact of Flickr on loneliness and will serve as starting point for comparison with other 3D social media tools.*

## 1 INTRODUCTION

Approximately 25 people in every 1000 have a mild or moderate intellectual disability and some may also have a concomitant physical disability. Recent research into the loneliness experiences of adults with lifelong disability has identified that this group are lonelier than nondisabled adults and that communication difficulties as well as access to the community and friendship-building activities are major barriers to inclusion and friendship development (Balandin et al., 2006; Ballin & Balandin 2007; Emerson & McVilly, 2004; McVilly et al., 2006a; McVilly et al, 2006b) Although the benefits of social media are now well established for networking and seeking information among groups who may be marginalized (Bowker & Tuffin, 2002; Moreno & Kolb, 2012; Weidman et al., 2012), the benefits of social media for reducing feelings of loneliness for people with intellectual disability have yet to be explored.

Our research will address the gap of evidence regarding how the social medium tool Flickr can be used to facilitate the development of friendships and reduce loneliness for people with disability. This study is part of multi-phased research project entitled, "Virtual spaces for building friendships and learning about lifelong disability." This is a "Strategic High School Project" (SHP) funded by the Norwegian Research Council (Balandin & Molka-Danielsen, 2010). The aim of the SHP project is to examine whether people with lifelong disability who are taught to use one of two social media tools either the virtual world of Second Life or Flickr are less lonely than those who are not offered access to either of these social media tools, and if loneliness experiences differed across the two tools. Social media as defined by (Kaplan & Haenlein, 2010 p. 61) is characterized by "a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content."

The aim of the study reported here was to examine the experiences, including loneliness, of people with intellectual disability who learned to use the selected 2D social media tool, Flickr.

The questions that we sought to answer in this study were:

- What are the characteristics of functions or activities in which people with disability become engaged when using the Flickr and how can those characteristics be used to contribute to reducing loneliness.
- What supports do people with intellectual disability require to engage in use of Flickr.
- How does the use Flickr impact on feelings of loneliness.

The online photo management and sharing application, Flickr was selected as a contrasting activity to participation in Second Life. Like Second Life is also free, can be used in a variety of ways, but does not require high level literacy skills, and has less emphasis on communicative interaction.

## **1.1 Previous research**

Recently there has been a focus on how people with life long disability can use ICT (Standen & Brown, 2005). ICT is described as technology that can be used to empower people with lifelong disability and make them more equal to their non-disabled peers (Anderberg & Jönsson, 2005). ICT, in the context of people with lifelong disability, includes technologies such as computer games, assistive technology and various online communication tools, such as the Internet, e-mail and instant messaging (Stendal, 2012).

(Bowker & Tuffin, 2002) in New Zealand interviewed fifteen people with disability about how online media enabled them to choose what they disclosed about themselves. The participants noted that online media did allow them to choose what they disclosed, something not offered through real life interaction. The authors suggested that the use of online media facilitates people with disability in meeting other people on equal terms as their disability is not apparent. Furthermore, there is evidence that people with intellectual disability who learn to write blogs feel empowered and included when they can express their thoughts and feelings online (McClimens & Gordon, 2009)

## **2 METHODOLOGY**

This study incorporated both in depth interviews that were analyzed qualitatively and a loneliness scale that was analyzed quantitatively. Ethical clearance for this study was obtained from the Norwegian Social Science Data Services (NSD).

### **2.1 Recruitment and Participants**

Participants with intellectual disability employed at a rehabilitation company in Norway were recruited through the company staff. The rehabilitation company has 50 “Permanently Adapted Work” (VTA) workers and consists of a carpentry department, service department, cleaning department and an assembly department. Employees who had previous experience with computers were told about the project by company staff. All potential participants were over 18 years of age, able to give informed consent, had access to and were able to use their own computer. Twelve people (6 male and 6 female) agreed to participate in the pilot project. The age of the participants ranged from 20 to 56 years old and the mean age was 32.08 years old.

### **2.2 Intervention Process**

The participants used Flickr for 8 weeks with guidance from a research assistant. The research assistant met with the participants once a week during the intervention period. The first week the research assistant helped the participants register on Flickr and showed them how to upload photos. In the second and third week the participants were introduced to activities such as searching for photos, commenting on each other’s photos and finding and adding friends. In week four the participants were introduced to a Flickr Group created by the research assistant. This group was only open to the participants and allowed them to easily share photos with each other. The participants were also encouraged to join other groups related to their interests. Some of these groups enforced a strict policy about what kind of photos was allowed into the group. For example one group concerning Vikings and Viking culture only allowed original photos into the group. The following four weeks the research assistant guided the participants in the use of Flickr. During these meetings he discussed with the participants what they had done since previous week and they were also given small tasks (like uploading more photos or commenting).

### **2.3 Data Collection**

Participants were evaluated pre- and post- intervention using a loneliness scale (adapted from (adapted from Chadsey-Rusch et al., 1992 as per Stancliffe & Keane, 2000). This loneliness scale is used to score individuals on both aloneness and social dissatisfaction based on twelve questions.

The research assistant also interviewed the participants about their experiences in the research project. In depth interviews were conducted 2 weeks after the intervention period. Due to the varying levels of understanding among the participants, the questions asked during the interview had to be adjusted for each individual. The interviews were semi-structured and followed an interview guide (questions are listed in Table 3). All interviews were conducted face to face in a natural setting at the participant’s work place and were recorded with the participants’ permission.

## 2.4, Data Analysis

Pre and post intervention loneliness scales were analyzed using descriptive statistics. The interviews were analyzed for the responses that participants gave to the different questions. All interviews were read in two cycles by the first author, analyzed for common or typical responses within and across interviews. These were discussed with the second author. We were also interested in responses that differed as in a small group this might indicate individual preferences or difficulties with the program that we had not anticipated.

## 3 FINDINGS

### 3.1 Loneliness

Participant number	Pre-intervention score		Post-intervention score	
	Aloneness	Social dissatisfaction	Aloneness	Social dissatisfaction
1	4	2	5	0
2	2	4	1	3
3	2	0	2	0
4	0	0	0	0
5	3	0	2	0
6	0	1	1	0
7	4	2	0	0
8	5	1	2	0
9	2	2	1	0
10	0	0	0	0
11	0	0	2	0
12	0	0	0	0

Table 1: Pre and post-intervention loneliness scores per participant

The mean Aloneness score pre-intervention is 1.83 while the mean Aloneness score post-intervention is 1,33. The mean Social Dissatisfaction score pre-intervention is 1.08 while the mean Social Dissatisfaction score post intervention is 0.25. A total of five participants had a reduced Aloneness scores while five participants had a lower Social Dissatisfaction score. Two of the participants showed a slight increase in loneliness.

### 3.2 Support to use Flickr

The different supports that the participants needed to use Flickr effectively are presented in Table 2.

Activity	Support
Logging in	Due to Flickr having multiple ways of logging in, the participants needed help to choose the right method.
Uploading pictures	The participants needed help with uploading pictures the first few weeks. After week four eight of the participants had all managed to upload pictures on their own.
Adding pictures to group	Needed help with understanding that to allow photos to be added to a group, these must already have been uploaded to an individual account.
Commenting	The process of commenting itself is straightforward and was handled by all of the participants. However, the first weeks they often needed suggestions about what to comment on and what kind of comments to write.
Searching for photos	Participants needed help in choosing the correct words when searching. This is due to Flickr not being available in Norwegian and words with multiple meanings confused the participants.

Table 2: List of Supports for Accessing and Using Flickr

### 3.3 Using Flickr

#### Week one

For the 7 participants who could read English, navigating Flickr was a relatively easy task. However, for the 5 who did not read English, navigation was a challenge. These 5 participants had to repeat the steps together with the research assistant many times before they could upload photos on their own.

The participants mainly chose to search for things related to their own interests, like horseback riding, a sporting team or a TV series.

#### Week two

By week 2, 5 of the participants had logged on to Flickr from their own computer and uploaded their own photos. All these participants uploaded photos related their own interests. These included pictures of their pets, a particular place that meant something to them or pictures of themselves. 2 of the participants had also uploaded more generic pictures found on the Internet.

One of the participants had already uploaded many photos and started creating albums. The photos he uploaded were mainly art photos he had created himself. He noted that it was 'great' to finally have a place to share his photos with others.

### **Week three**

By this week eight of the participants had logged in to Flickr and uploaded photos on their own. They had uploaded a wide variety of photos ranging from generic photos they found on the Internet to more personal ones, like photos of themselves. In this week the participants learned how to search for friends. Two of the participants were able to find friends they knew from outside the participant group while the others added the other participants as friends. Not all of the participants added all the others in the group as friends stating that they did not feel they were good enough friends to do so. Adding people as friends on Flickr means that their photos show up on your "photo stream". The photo stream is presented on the top of the front-page, making it easy to see the photos your friends are uploading.

### **Week four**

A turning point came in week four when the research assistant introduced the participants to a Flickr group. This group was open only to the research assistant and the participants and allowed them to easily share photos with each other. Adding all of the participants to the group solved the problem with not everyone wanting to be friends. They were now able to upload photos and share photos with all of the other participants. A lot of the participants expressed excitement about being able to share photos with the others. Some of them said that they already had photos that they would like to share, while some needed suggestions from the research assistant.

To be able to use the group, some of the participants had to receive support from the research assistant. When uploading pictures to the group the user first has to upload the pictures to their account and then add them to the group. Not being able to upload photos directly into the group was something that confused a lot of the participants.

### **Week five to eight**

The photo group introduced in week four prompted the participants to upload more photos and generated a lot more comments. Half of the participants uploaded photos on a weekly basis and almost all of the participants contributed with comments. The photos generating most comments were of the participants themselves. These photos were often together with colleagues and were commented upon jokingly by the other participants. Other photos that generated a lot of comments were more generic images, including pictures of animals and the local soccer team, downloaded from the Internet.

Two of the participants uploaded several photos from a trip they had made to Denmark. This was met with enthusiasm from the rest of the group, as they had not been able to share these photos with each other before. Other photos uploaded were from other social activities involving the participants, like photos from a summer party or from the lunch break. Two of the participants stated that they were uncomfortable with others uploading pictures of them. However, when asked by the research assistant if they would like the pictures removed, they insisted on the photos staying in the group.

One of the participants with a particular interest in Viking and fantasy photos had joined a group for Viking photos. The group contained almost 4000 pictures and he was enthusiastic about finding new photos. He also uploaded some of his own Viking photos to the group, but they did not generate any comments. This was due to the group enforcing a strict policy of what kind of photos were allowed into the group, and not all of his photos were accepted.

During the last four weeks the participants became more easily engaged in Flickr. The use of the group increased the amount of photos available and generated a lot more comments than in the first weeks. Because the participants now had used Flickr for some time, they were also starting to become proficient with using it. This included the participants who did initially not read English very well and needed more time and support to get accustomed to Flickr and its functions.

Generally, the activities that the participants enjoyed in Flickr were the ones that allowed them to express themselves. These activities are characterized by enabling the participants to share their own photos with others and receive comments. The participants also became engaged in searching for and finding photos. One of the characteristics of Flickr is that its database contains photos which one cannot find through other search engines (like for example Google Image Search). The participants were therefore excited about being able to find different kinds of photos than they were elsewhere.

Through the intervention period the participants mainly interacted with each other. One of the participants commented on photos in another group, but received no replies. Although the participants added each other as friends, none of the participants made any new friends in Flickr. One of the participants was able to find friends on Flickr whom he already knew. He did however not get any response from these friends, indicating that they were not active on Flickr.

### **3.4 Interviews**

During the in-depth interviews, almost all of the participants stated that they had a positive experience with Flickr, either using it alone or together with the research assistant. In the final interview all of the participants stated that they had enjoyed activities such as uploading and sharing photos, commenting and searching for photos. The extent to which the participants used Flickr varied. Some of them used it several times a week and uploaded several photos, whereas others logged in only once a week and uploaded photos more sporadically. Four of the participants admitted to never using Flickr at home. Therefore they did not upload their own photos and thus did not receive comments from the other participants. However, they still enjoyed using Flickr together with the research assistant and commented on the other participants' photos.

Table 3 summarizes the questions from the in depth interviews and provides responses that illustrate typical answers.

<b>Question</b>	<b>Answer</b>	<b>Participant number</b>
What has it been like to use Flickr?	"It's been fun"	#10
What have you liked best?	"I liked commenting on photos, and that the others can comment on my photos"	#9
What have you liked least?	"I don't like that everyone else can see my pictures"	#7
What features of Flickr have you used?	"I have uploaded photos to the group and commented on other's photos"	#3
What features of Flickr have you liked to most?	"It was fun to search for and download pictures"	#12
What features of Flickr have you not liked?	"Nothing, everything has been ok"	#5
What has it been like to share images with others in Flickr?	"It's been ok, but it would have been more fun if more people were commenting"	#2
What has it been like to use Flickr to communicate with others?	"I liked commenting on photos, and that others can comment on my photos"	#9
What have been difficult with using Flickr?	"Logging in to Flickr was difficult"	#1
What has been easy with using Flickr?	"Uploading photos was easy"	#4
What could have been done to make Flickr easier for you?	"It would have been easier if Flickr was in Norwegian"	#2
Are you going to continue using Flickr?	"I might use Flickr to upload photos later"	#4
Have you met any new friends in Flickr?	"No, I'm a bit skeptical about meeting new people online"	#7
Have you used Flickr at home?	"Yes, one a week"	#1
Do you use Facebook?	"Yes, several times a week"	#11
How often do you use Facebook?	"I'm using Facebook every day, Flickr only once a week"	#2
What do you use Facebook for?	"On Facebook I can play games, chat, create my own pages and publish photos"	#7

Table 3: Interview Questions and Example Responses

Six of the participants said that they would like to continue using Flickr, while the rest were unsure. The ones that would like to continue using it were typically the ones that had been the most active during the intervention period. Others stated that they already had enough with Facebook, which also allows them to upload photos, amongst other features.

## **4 Discussion**

### **4.1 Loneliness**

This study has shown that there is some indication that Flickr may be helpful in reducing loneliness among people with mild to moderate intellectual disability. However, the results are inconclusive and it is difficult to determine whether the reduction in loneliness scores is due to using Flickr or because of other factors. There is a possibility that the participants could feel less lonely due to meeting the Research Assistant once a week. While the results on reducing loneliness are inconclusive, there was also a marked decrease in social dissatisfaction as indicated in the results in Table 1. This may indicate that the interactions with the social media tool Flickr had some positive value for participants.

### **4.2 Using Flickr**

The participants faced some technical challenges while using Flickr. Language was a major barrier for those not reading English. Searching for photos could also at times be a challenge due to words and phrases having multiple meanings. For example, one of the participants wanted to search for the soccer team Start. She searched for “Start” and was confused when the search resulted in a wide variety of photos. She then had to be explained that she needed to narrow the search by being more specific (i.e. searching for “IK Start” or “Start Soccer”). This type of problem was also typical for a lot of the other participants.

The interviews showed that all of the participants enjoyed using Flickr. They particularly enjoyed the social functions, which let them express themselves and communicate each other. One of the key elements in supporting the participants to use Flickr was creating a Flickr group where they could easily share photos with each other. This group solved several problems: the participants were not required to be friends to see each other photos, the photos were only visible to people within the group and it made it easy for them to comment. The participants thus needed support to become engaged in Flickr and to use it in a meaningful way.

As a tool for people with mild to moderate intellectual disability for whom English is not a first language, Flickr has some limitations. As with many social media tools a language barrier exists for those who do not read English. Additional language and literacy problems common to people with intellectual disability problems may also impact on participants’ use, for example the difficulty participants experienced when searching for photos using words and phrases that have multiple meanings.

Some of the participants expressed concern about their photos being available to others. The research assistant made sure to point this out to the rest of the group to ensure that none of the photos uploaded were too private. The participants were shown the privacy settings on Flickr

and how to adjust them accordingly. Clearly, it is important for participants to know that they can limit access to their photos and how to do this. It is equally important to ensure that there are some agreed rules about what photos are acceptable to upload on the group pages. As the pictures in the group pages are only visible to the group members, the same caution does not apply as when uploading pictures globally on Flickr. It was however important to note to the participants not to upload any pictures of the others that could be deemed as offensive or otherwise inappropriate for the group as a whole. For the most active participants who uploaded pictures of themselves, who also typically were to ones with higher computer literacy, explaining the concepts of privacy and the privacy settings were a relatively easy task. For participants with lower understanding of Flickr, this could be more of a challenging task. But since these participants mostly limited themselves to uploading pictures relating to their interests (such as animals or music groups), privacy and inappropriate photos was not a problem.

Compared to other social media tools (e.g., Facebook) the functionality of Flickr is relatively sparse. The focus is on uploading photos and sharing them with others. Other tools, such as Facebook, have more functions and a stronger emphasis on group communication. The importance of functionality was supported in the interviews as the participants stated that they frequently used Facebook, noting that it contained more functions and was more fun to use. Nevertheless, for people with disability with literacy problems or those who are shy and ill at ease with communicating with others, Flickr may provide a nice and nonthreatening introduction to participating in a group by sharing photos.

### **4.3 Limitations**

The loneliness results must be interpreted with caution as the numbers were small and two participants noted an increase in feelings of loneliness. Furthermore as there was no control group it is not possible to conclude that Flickr was the cause of the reduction in loneliness but this warrants further exploration. A further content analysis of the interview data is needed to gain a deeper understanding of participants' experiences of the program. Why for example some participants never used the program at home. This will occur before the final stage of this project.

## **5 Conclusions**

In this small pilot study we explored the question if the use of Flickr has the potential to reduce loneliness for people with intellectual disability. In addition we sought to identify the characteristics of functions or activities in which participants using Flickr engaged and if these characteristics contributed to reducing loneliness. The characteristics we found were related to the technologies ability to support the participants' self-expression. We found that Flickr does not have many functions that support communication in groups. Functions that give stronger support of group communications are found in alternative Web 2.0 software such as Facebook, Google+, MySpace, etc. However, Flickr may be helpful in identifying interests. Flickr's large database of photos is a differentiating feature that may appeal to some who have weak literary competency or are weak in social skills, because it can be used as a visual forum for exchange and sharing.

Another question we examined was what supports participants needed to use Flickr. We found that it was difficult to engage the participants in Flickr initially. The key to engagement was achieved when participants could express themselves individually, for example through uploading photos, or received comments from their friends on photos. In order to reach this level of engagement the participants needed to achieve a certain level technical competency and self-confidence. The 1-to-1 sessions with the research assistant were critical in achieving this level of engagement.

In conclusion this pilot study indicates that Flickr might be a useful tool in reducing loneliness for some people with intellectual disability. It therefore warrants further research into the use of social media to reduce loneliness for adults with mild to moderate intellectual disability. Future research could explore what kind of social media tools are best suited for this group and if tools with more social functions could yield better results.

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