

Investigating the link among flow, social interaction and ICT skills with WOW

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Although research shows the link between flow and social interaction, this study explore the role of ICT skills in order to experience flow and social interaction. We used constructivism theory as it explains how humans make meaning from personal experiences, social interaction and tool use. The theory of flow was applied because it stipulates that people experience flow when they are fully engaged in any activity (Nakamura & Csikszentmihalyi 2002). A pre and post-test was answered to determine the significance of ICT skills in relation to the experience of flow and social interaction during gameplay. We described the experiences of each participant using a case study and all the participants reported flow, social interaction in relation to their level ICT skills. We found that minimum ICT skills used for daily online operations are needed for older adults to experience flow and social interaction.

Introduction

In Canada, it is estimated that by 2061 the number of people aged 65 and above will be more than double from the 2009 estimation (i.e., from 4.7 million to 15.0 million in a projected population of 52.6 million) (Statistics Canada, 2009). The challenges to meet the needs of this ageing population include the creation of new approaches for dealing with the problems associated with ageing such as loneliness, lack of social support, and other neurodegenerative disorders such as Alzheimer's disease (Brickman & Stern, 2009).

In previous research looking at flow and social interaction among older adults, face-to-face observation was the norm (Bardzell, Bardzell, & Nardi 2011; Schiano, Nardi, & Ducheneaut, 2011). In this study, I use the term online social games to refer to social games as used in Mahmud et al. (2009). Social games were used to stimulate interaction among older adults. This study explored an online learning method to analyze the links among flow, social interaction, and ICT skills with older adults using WOW as a tool.

The Study

Millions of individuals are playing Massively Multiplayer Online Role-Playing Games (MMORPGs). An example of a MMORPG is World of Warcraft (WOW). WOW is an online social game played by multiple players around the globe involving a digital world of activity (Bardzell, Bardzell, & Nardi 2011). WOW is considered to be an online social game because it has been used to stimulate socialization (Schiano, Nardi, & Ducheneaut, 2011). Schiano et al., (2011) belied the notion that WOW is a game for lonely people but supported research findings that WOW is a social game played by people who may be single, married, young, or old (Dickey, 2011; Schiano et al.). Chen and Duh (2007) found that social interaction with WOW among gamers can be achieved through collective gameplay. One of the reasons people experience social interaction in WOW is due to the fact that they are able to form social contact with other gamers.

Theory and Definition of Flow

The theory of flow stipulates that people experience flow when they are fully engaged in what they are currently doing (Nakamura & Csikszentmihalyi, 2002). Flow theory originated from the desire to understand the experience of intrinsic motivation without the external reward (Nakamura & Csikszentmihalyi).

Flow and Social Interaction through WOW

To explore the experience of flow in digital games, Takatalo, Hakkinen, Kaisteinen, and Nyman (2011) asked participants to play Halo (Combat Evolved); a multiplayer digital game played on a desktop computer. The participants were divided into two groups; those playing at home and those playing in a computer laboratory. The authors found that those who played at home were more involved in the gameplay than those who played in the laboratory.

To investigate the link between flow and social interaction, Snodgrass, Lacy, Dengah, and Fagan (2011) conducted a study involving 255 participants. Gamers reported flow as a result of the gaming experience and were willing to relate their experiences to their physical contacts. The authors concluded that the participants were willing to tell others about the study because of the social interaction they had during the study. Therefore, I can say that the experience of flow during the study initiated social interaction within and outside the research.

Statement of the Problem

The studies explained above shows that flow is linked with social interaction but these studies did not take into account the link that might exist among flow, social interaction and ICT skills especially with older adults. The literature review showed the link between flow and social interaction among gamers but without exploring the effect of ICT skills in relation to these two factors. This study explored the use of WOW because it has the potential for social interaction among players (Whitlock, McLaughlin & Allaire, 2012). One possible reason why people socialize through WOW is because they experience flow.

Therefore, I decided to explore the relationship ICT, flow and social interaction among gamers especially older adult. As a result of these observations in the literature the research question is: what is the link among ICT skills, flow and social interaction with older adults during gameplay?

Method

Because I focused on how people construct their knowledge, I chose constructivism as a framework. Constructivists who focus on individual learning, such as Piaget, describe how individuals subjectively construct their knowledge based on their past experiences, regularly updating and adapting their knowledge to cope with new experiences (Proulx, 2006). Social constructivists, such as Vygotsky (1986), added that social interactions, practices, and tools play a special and indispensable role in the development of human mental processes..

Participants

Two individuals participated in this study (1 male and 1 female). Both participants were given \$100 at the end of the study as an incentive to start and finish the research.

Case Study

To gather more in-depth information and to explore the deeper experiences of each of the participants, a case study design was used. Case study design can be defined “as a research method that offers the possibility of studying a problem defined situation in great detail” (Easton, 2010, p. 119).

Instruments

WOW.

Both participants played WOW. WOW was chosen because studies showed that it can aid social interaction among players (Chen & Duh, 2007). Both participants played from level one to level eight.

Mumble.

Mumble is a voice chat program developed to record conversations and chat especially for gaming communication.

Demographic questionnaire

The pre-test contained a demographic questionnaire. Both participants were required to answer all the questions during the first session of the study.

ICT Scale

The ICT scale used has 11 questions which were administered before the start of the study. The maximum score was 55. It measures competence and understanding of computer installation process and computer as a medium for getting information. The scales for responding ranges from totally agree to totally disagree.

EGameFlow scale

To measure the amount of flow and social interaction on participants, the EGameFlow scale was used. The EGameFlow scale has been used by researchers to explore the experience of flow and social interaction during gameplay (Juric, Matetic & Brkic, 2014; Zielhorst et al., 2015).

Semi-structured interview

A semi-structured interview was conducted after the last session (see Appendix E). The interview questions were directed at participants’ experiences before, during, and after gameplay.

Result

EGameFlow

	Esther	Daniel
Question #		
1. I strongly collaborate with others	7	7
2. The cooperation in the game is helpful	7	7

ful to the lear nin g		
3. The ga me sup port s soc ial inte ract ion bet we en pla yer s (ch at etc.)	7	7
4. The ga me sup port s co mm unit ies wit hin the ga me	7	5
5. The ga me sup port s co mm unit ies out sid e	7	3

- the
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et
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ut
eve
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ay
- | | |
|---|---|
| 7 | 7 |
| 7 | 7 |
| 6 | 7 |

life whil e pla yin g the ga me		
9. Ov eral l ga me goa ls wer e pre sen ted cle arly	7	7
10.1 exp erie nce an alte red sen se of tim e	6	7
11.1 enj oy the ga me wit hou t feel ing bor ed or anx iou s	7	7
12. The cha llen	7	6

ge is ade qua te, neit her too diffi cult nor too eas y		
13. The ga me pro vid es con tent that sti mul ate s my atte ntio n	7	7
14. Ge ner ally spe aki ng, I can rem ain con cen trat ed in the ga me	7	7
15. I am not dist ract ed	7	6

	from		
	m		
	tasks		
	that		
	the		
	player		
	should		
	concentrate		
	on		
Total:	105	Total: 103	Total: 97

Table 1 showing EGameFlow Result

ICT Skills

Question			Esther	Daniel
1) I am computer literate	I	4	3	
2) regularly use a PC for word processing	I	4	3	
3) am good at using computers	I	4	3	
4) know how to install software on a personal computer	I	4	3	
5) Overall, I am satisfied with computer use	Overall	4	2	

6)	Aft	4	4
er using computers, I am pleased with it			
7)	Co	4	5
mputers save time and effort			
8)	Co	4	4
mputers do not scare me at all			
9)	Co	4	5
mputers are a fast and efficient means of getting information			
10)	Co	2	2
mputers do more harm than good			
11)	I	4	2
have no difficulty in understanding the basic functions of computers			
		T 42	35
		otal	
		:55	

Table 2 Showing ICT Scale Result

Esther

She was an online participant who participated on Fridays and Saturdays between 8:00 a.m. to 10:00 a.m. for 4 weeks. She played the game for 10 hours. Esther and I communicated through email, telephone calls, and text messages throughout the study. During the first session, Esther signed the consent form, downloaded Mumble, and registered through www.battlenet.com in order to have an account with WOW. She had no problem signing the consent form and installing the game. At that point, Esther had to end the session because she had to attend to personal errands.

On the second day, Esther created her avatar on WOW and I guided her during gameplay on how to move her character. Esther and I spent an hour together before she left for personal reasons. Esther asked if she could ask her son to teach her to move her character in the game and I said yes. This curiosity suggests that she was very interested in the study. Esther and I spent approximately 12 hours together in total and she was able to play the game from the beginning to the end (i.e., to level 8).

Daniel

Daniel was an onsite participant who played the game on Wednesdays and Saturdays between 11:00 a.m. and 1:00 p.m. Daniel played the game for 3 weeks. Daniel and I communicated through email and telephone calls. In his first session, he signed the consent form, created a Battlenet account, and learned how to move. On the first day of his participation, he played until level two. He attended each session until the end of the study. He played the game for approximately twelve hours.

Discussion

In previous studies, flow was linked to ICT skills but the effect of ICT level to the experience of flow has not been explored. In this study, I was able to show that minimum ICT skills are required by the participants to experience flow. Both the participants were knowledgeable about ICT. When asked what they do with computers, both participants said they spent some time watching movies, reading newspaper, checking Facebook and YouTube. Minimum ICT skills which are needed to perform online operations helped the participants to play the game therefore the level of involvement increased during gameplay. I can say that the knowledge of basic computer skills, such as checking email, reading newspapers, listening to music, and watching movies online, are needed to engage older adults in playing digital games. This is because listening to music or watching movies online requires clicking icons and the ability to be focused on what you are looking at; the same skills are needed for older adults to play social games.

For flow to occur, challenge is needed. Both participants gave a score of 6 or 7 to question 12: the challenge is adequate, neither too difficult nor too easy, indicating that for older adults to experience flow and online social interaction during gameplay, the challenge the game possesses must match their level of ICT skills. For example, the quests they had to look for were located in areas that matched the skills their character possessed; therefore the challenge was equal to their knowledge of the game (Takatalo et al., 2012).

Although Daniel had the highest level of education among the participants, he had the lowest score on the ICT scale. He finished the game like the others but I wonder why he had a low score. It appears the level of education has little to do with the knowledge of ICT skill.

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