ARCADA

Methods of obtaining useful feedback from children using virtual worlds

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Abstract:

This thesis examines different methods of obtaining feedback. The aim is to come up with a working feedback method that can be used on children using a virtual world in the Snowcastle Valley project. The material used for this thesis is previous publications and research in different feedback methods and a qualitative interview with the head of the Snowcastle Valley project. The research questions for the thesis are: How do we get the feedback that is most useful to us? Which feedback tools are the most appropriate? Does it make a difference that our focus is on children? Would the results be the same with adults? The last part of the thesis is a feedback framework based on the previous research and the specifics of the Snowcastle Valley project, this framework will be used later in a test with children. A practical guide for using the framework is also included in the end, this guide is meant for the researcher that is going to conduct the test with the children.

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Detta examensarbete undersöker olika feedbackmetoder. Målet med arbetet är att få fram en feedbackmetod som kan användas på barn som använder virtuella världar inom Snowcastle Valley projektet. Materialet till arbetet är tidigare publikationer och forskning i olika feedback metoder och en kvalitativ intervju med projektledaren för Snowcastle Valley projektet. Forskningsfrågorna är: Hur får vi den mest användbara feedbacken? Vilket feedbackverktyg är vettigast? Spelar det någon roll att fokusen är på barn? Skulle resultaten vara samma med vuxna? Den sista delen i arbetet innehåller en feedback modell baserad på den tidigare forskningen och detaljerna kring Snowcastle Valley projektet, denna modell kommer att användas senare i ett test med barn. En praktisk guide i hur man använder feedback modellen finns också inkluderad i slutet, denna guide är till för forskaren som ska utföra testet med barnen.

Nyckelord:	Feedbackmetoder, virtuella världar, barn
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CONTENTS

TABLES

FOREWORD

I would like to thank everyone who helped me through the process of writing this thesis. It was not easy for me coming up with a topic to write about but my teachers and classmates helped me find this topic that is both interesting to me and useful for a larger project. My family and friends back home also deserve some credit for giving me encouragement when this thesis was the last thing I wanted to do.

Thanks!

Frida Båsk

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1   INTRODUCTION

Getting information from young children can be a very difficult task. When the information has to be both relevant and useful for an online media project such as the Snowcastle Valley project, which will be explained in more detail later, the task is even more problematic. How does one get the children to focus long enough and stay interested to give you the answers that you seek and what research methodology is the most appropriate for the project? Are there a set of golden rules to getting information from children?

Children are getting more and more used to sitting by the computer for longer periods of time. Different games and social media directed towards young children take up a lot of their free time and parental control over the time spent on a computer may or may not be a factor in developing an educational game directed towards children. Is the fact that they are children, with possibly shorter attention spans, a factor in getting the much needed feedback? Or can they be treated just like adults?

In this thesis different methods for getting useful feedback from children will be examined to try and find out which would be the most appropriate for the Snowcastle Valley project.

1.1   Snowcastle Valley

We are working with a class of ten year olds in Helsinki to develop something they have called Snowcastle Valley. This is a USB-stick containing a specially configured island created in OpenSim. It is viewed using a customized version of the Imprudence viewer with much of the interface removed. The island is 16 sims big and contains a series of discreet spaces.

Every child has their own USB stick and every child has the same island. The island can be carried in their pocket and is usable from any modern Windows computer. (Kelly 2012 Appendix 1.).

According to Kelly (2012 Appendix 2.) the project started with observing his own daughter and her friends playing different open-ended world-like games and realizing that the games could have learning outcomes. "This project attempts to look at how online worlds might be created so that they yield to logical enquiry" (Kelly 2012 Appendix 2.). He says that the purpose of the project is open-ended because he wants to find

out more about the use of these kinds of virtual worlds and the best way to do this seems to be exploratory research. The research would involve building a sample virtual world and getting reactions to it and modify the world accordingly.

1.2 Thesis methodology

1.2.1 Subject focus

My goal for this thesis will be to find an appropriate method of retrieving relevant feedback from children using virtual worlds. This will be done by researching previous publications and research on the subject and writing up a framework for a feedback method that will be tested on children. The framework will be what in my opinion is the most suitable for the Snowcastle Valley project and for the children. My key research questions are:

- How do we get the feedback that is most useful to us?
- Which feedback tools are the most appropriate?
- Does it make a difference that our focus is on children? Would the results be the same with adults?

The final part of the thesis will be a practical plan for testing the framework that will be given to the researcher that will perform the test on the children. I myself will not be part of the test because of time constraints and a deadline on the thesis. Because the test would involve children it is very important that the proper steps be taken to insure the wellbeing of the children and because these steps could not be done on time the actual test will be done in a later stage.

1.2.2 Background

The background for the thesis comes from a need to know what children think of the virtual world that is being developed. If the developers don't have anything to base their work on how will they know how to proceed? The fact that the main group of people that will be playing this game are children it is also important that the game be as well

developed and thoroughly researched as possible to avoid confusing or misinforming the children.

1.2.3 Material

My material for this thesis will be theoretical research in the field of working with and observing children. Research in the field of getting general feedback is also well documented and I will be using this research as well. After my own theoretical research in the subject I am going to put together a basic testable framework or model of how to get useful feedback from children. This qualitative model will be tested later on a group of children. A qualitative research interview will be used in gathering material about Snowcastle Valley. I chose the qualitative research approach because it relies primarily on human perception and understanding (Stake 2010 p. 11) and because this thesis relies heavily on human perception I found the qualitative method to be the most appropriate.

With the use of these different materials and methods I hope to get a broad perspective of the way in which one can gather feedback from children.

2   COMMON METHODS OF GETTING FEEDBACK

> Many people know that they need feedback but are unsure about how to get it. Three things must be considered: who to ask, when to ask and how to ask (Kirkland & Manoogian 2003 p. 7.)

There are many ways of retrieving feedback but like Kirkland and Manoogian suggest the who, when and how are the most important. In this thesis the "who" are the children, the "when" refers to when the children would be the most comfortable to give the feedback, when it is the most appropriate time for them and the "how" would be what is the most important part of this thesis.

2.1 Focus groups

Focus groups are perhaps the first thing that comes to mind when thinking of getting feedback. You gather up a group of people and ask them what they think of certain subject. However it is a bit more complicated than that. According to Krueger and Casey (2000 p.4) a focus group is a special type of group in terms of purpose, size, composi-

tion and procedures and the participants are selected because they have certain characteristics in common that relate to the topic. Krueger and Casey also conclude that a focus group should encourage the participants to share perceptions and points of view in a nonthreatening environment, they also suggest that a focus group discussion should be done several times with similar types of participants.

Krueger and Casey (2000 p.5) go on to describe the history of focus groups. In the 1930s the need to investigate alternative ways of conducting interviews grew out of the fact that traditional interview techniques used a predetermined questionnaire with closed-ended response choices. This meant that the respondent was limited to the choices that were offered and the interviewer could unintentionally influence the findings through oversight or omission.

Four key elements to focus groups are, according to Stewart, Shamdasani and Rook (2007 p. 8-12):

- Focused research
- Group interactions
- In-depth data
- Humanistic interview

The focused research refers to the research focusing on a singular situation as opposed to using surveys that gather statistical information on a variety of topics. Unfocused studies with unrelated questions and tasks where the methodological subtleties are overlooked, rarely generate the same results as a focused and well executed focus group study. The second element to focus groups, group interactions, is key because group dynamics and how they affect individual decision making and perception is an important objective in focus groups. Group conflict is generally avoided by using groups that are homogenous, for example: same age, same social status or same gender. In contrast to this, businesses might learn more from focus groups when testing a new product if they mix different ages or use both genders in the same group. The in-depth data collecting in focus groups suggests that a group of people are more likely to go beyond the surface of a question or a task, as opposed to if they were alone in the interview. The focus

groups of today have more questions, which has contributed to the decline of depth in group answers because the participants have less time to answer and discuss. The humanistic interview approach is typical in qualitative research. The interview has an emphasis on meaning rather than measurement.

2.1.1 Conducting focus groups

According to Edmunds (2000 p. 12) Focus groups are generally 90 to 120 minutes long and are often audio– and videotaped. Edmunds also concludes that before a focus group is conducted a discussion guide should be developed. The guide is a general outline of issues that should be covered in the focus group interview as well as specific questions that should be asked. The discussions may differ in order as conversation flows but it is the moderator or interviewers job to make sure the outline is followed and that everyone in the group has enough time to express their opinions.

2.1.2 When not to use focus groups

Conducting a focus group is not always the best solution to getting feedback. Edmunds suggests (2000 p. 7) that focus groups shouldn't be used when trying to explore sensitive or personal topics because people might not be comfortable to discuss such matters in a group. When trying to answer questions like "how many?" or "How much?" focus groups are not appropriate because focus group results cannot be quantified. Edmunds also suggests (2000 p. 7) that focus groups shouldn't be used when trying to make a final decision. Focus groups are exploratory and are not statistically valid, they should be considered as part of the decision making process, not the final decision

2.2 Observation

> The distinctive feature of observation as a research process is that it offers an investigator the opportunity to gather 'live' data from naturally occurring social situations. In this way, the researcher can look directly at what is taking place *in situ* rather than relying on second-hand accounts. (Cohen; Manion & Morrison 2007 p. 396.)

According to Cohen, Manion and Morrison (2007 p. 396) observation can be of facts, such as the number of books in a classroom or focus on events as they happen in a classroom, such as off-topic conversation among students. They suggest that observation is

popular due to the fact that people sometimes do not do what they say they do and observation can therefore be a reality check. Another suggestion in favor of observation is that it records behavior that might otherwise go unnoticed or get taken for granted. The fact that some people might prefer an observer to an interview or questionnaire is also in favor of observation as research method.

2.2.1 Recording observations

There are different methods to recording an observation. Regarding the observation of children Sharman, Cross and Vennis list five of these methods (1995 p. 3-7).

- Narrative/free description
- Checklists/pre-coded categories
- Time sampling/structured description
- Tracking/structured description
- Pie and bar charts/structured description

A narrative description involves watching children and noting down what you see. You should remember that your interaction with the children could affect their behavior so being as quiet as possible and not drawing attention is key. The narrative or free description usually covers a short period of time and is written in the present tense because you are recording things as they happen. Checklists can be used on a single child or a group of children and needs to be prepared in advance. This forces you to think about what kind of information you are looking for. The time sampling method consists of written records at intervals, for example: 10.01 a.m. The child is sitting quietly, 10.02 a.m. The child is concentrating on a picture being shown. If you are observing a child over a longer period of, say a day, minute-by-minute recording is not necessary. Tracking involves following a child around for a longer period of time. This form of observation is either written down or recorded on a diagram where the area where the child will be working is drawn out to better see the movements of the child. Pie and bar charts are used to show results of a whole class. You could for example arrange some sort of test and using the charts you can easily show the results of the test, how many children

passed, did not pass and so on. If children play with a certain toy more often than other toys this could also be something to put in a chart.

2.2.2 Participant observation

Participant observation differs from the abovementioned observation in the way that the observer actively participates in the activities. Participant observation is most commonly used by anthropologists when trying to learn more about a new culture. This kind of observation involves living in the context for a longer time, learning the language and partaking in daily routines (Musante DeWalt & DeWalt 2002 p. 4). Regarding this thesis participant observation can be applied as well.

> At its most basic, observation is just that: the researcher explicitly and self-consciously attending to the events and people in the context they are studying. (Musante DeWalt & DeWalt 2002 p. 68.)

As a participant observer of children you would have to do what they do and try and see things their way. This becomes difficult as the children probably see the observer as an authority figure, however being involved in what the children are doing could get them to open up more about their thoughts and ideas.

2.3 Surveys

> Survey research is widely regarded as being inherently quantitative and positivistic and is contrasted to qualitative methods that involve participant observation, unstructured interviewing, case studies, focus groups etc. Quantitative survey research is sometimes portrayed as being sterile and unimaginative but well suited to providing certain types of factual, descriptive information- the hard evidence. (De Vaus 2002 p. 5.)

One of the earliest types of surveys is the census, usually conducted by governments and is a systematic attempt to count an entire population. The purpose of censuses is often for taxation or political representation (Groves; Fowler; Couper; Lepkowski; Singer & Tourangeau 2009).

There are two distinguishable features to surveys according to De Vaus (2002 p. 3-5). The first is the form of data. In surveys data is collected about the same variables from at least two, usually more, cases and is inserted in to a data grid. The data can be collected by questionnaires, which is perhaps the most common way, but other ways of data collecting are interviews, observing and extracting information from records. De

Vaus (2002 p. 4) points out that the case in a survey need not be people. The case could be a year, a country or anything as long as one collects attributes of that case. The other distinguishable feature to surveys is methods of analysis. A survey researcher is not only interested in the characteristics of a case, but also the cause. Getting to the cause of a phenomenon can be done by comparing variations in different cases, for example comparing how people vote in elections in different social classes.

2.3.1 Conducting surveys

When conducting a survey you have think of the design and sample. Fink (2006 p. 5) explains that the design of a survey refers to the number of times the survey takes place, this can range from only once to over time or cross-sectional. The design also includes if the participants are selected at random and how many groups are included in the survey. The sample is the number and characteristics of people in the survey. Fink does not go into how surveys can be done without people as the case, but that is not relevant to this thesis as our case is going to be children.

Planning is very important when conducting a survey. Questions that you should ask yourself according to Fink (2006 p. 6) are:

- Will you compute percentages? (Example: Of the total sample, 50 % reported that…)
- Will you produce averages? (Example: The average age of the respondents is 56,4 years)
- Will you compare groups? (Example: A total of 60% of the men, but only 20& of the women…)
- Will you look for relationships? (Example: The survey found no connection between how liberal or conservative…)
- Will you look for changes over time? (Example: Since 1997, statistically significant differences…)

After you have finished planning your survey it should be tested. A pilot test or a tryout is important to find out if the participants understand your questions and if the inter-

viewers themselves can follow your instructions and practical things such as enough space to write down answers. Pilot testing also improves response rates, because poorly worded questions can be eliminated (Fink 2006 p. 6). When the planning and testing phases are done you can conduct the survey. Choosing a survey type is important, table 1 shows certain advantages and disadvantages of the different types of surveys.

Table 1. Advantages and disadvantages of different survey types (Fink 2006 p. 9)

	Self administered			Interviews	
	Mailed	On site	Online	Telephone	In person
Advantages	- Can reach large geographic areas. - People are used to these surveys and can complete them anywhere.	- Immediate answers. - Respondents can ask questions as they arise.	- Worldwide - Data can be automatically analyzed - Respondents can get links that help with unfamiliar words.	- Questions and difficult words can be discussed with the respondent	- Same advantages as with telephone interviews
Disadvantages	- Needs motivated respondents - Respondents have to know how to read and write	- Responses limited to those who are on site - Respondents have to know how to read and write	- Needs reliable Internet access - Requires browser knowledge and browser support	- Needs trained interviewer	- Must find suitable place to conduct the interview

2.4 Eye tracking

Eyetracking is simply following the trail of where a person is looking. With current technology, it is fairly easy to observe the path where users look on a computer screen. Eyetracking equipment can be built into the computer monitor, and eyetracking software can keep track of what's displayed on the screen while the user is looking at it. (Nielsen & Pernice 2010 p. 3.)

Eye tracking is not necessarily a common method of getting feedback but by knowing what someone is looking at on a computer screen you can learn what is interesting and "eyecatching" and what can be developed further.

According to Stellmach, Nacke and Dachselt (2010) "visual gaze analysis in threedimensional virtual environments still lacks methods and techniques for aggregating attentional representations". This was only two years ago, now according to the tobii

website (www.tobii.com) eye tracking of games and virtual worlds is very possible and tests have been done with the computer game Killzone 3. The purpose of the test was to show the Killzone 3 developer Guerilla Games the possibilities of this research methodology.

2.5 Interviews

All of the above mentioned methods of getting feedback involve interviews in one way or another. There are however different ways of conducting qualitative interviews. Lindlof and Taylor (2002 p.176-183) describe five interview types. The first one is ethnographic interviews also known as the informal conversational interview. This kind of interview happens in the "field" and is often spontaneous and can be as short as an exchange of remarks or questions. Lindlof and Taylor write that an ethnographer needs to stay alert to situational cues where a research question is appropriate. The second interview type is the informant interview. Informants are people who "inform the researcher about key features and processes of the scene…" (Lindlof & Taylor 2002 p. 176). Informant interviews can last up to an hour or more and vary in feedback depending on the experience of the informant. If you are using more than one informant, the questions should be organized so that comparisons of the answers can be made for the data analysis and write-up (Lindlof & Taylor 2002 p. 176). The third interview type is the respondent interview. Respondents are often asked to talk about an issue or explain how they feel about their social world. The respondent interview is different from the informant interview in the way that informants comment on the world surrounding them and respondents speak only for themselves (Lindlof & Taylor 2002 p. 178). Respondents are chosen based on their experience in the field that is being studied. The fourth type is the narrative interview. "Narrative interviews capture and explicate the 'whole story,' unlike other types of interviews, which take stories apart and reassemble the parts for their own analytic purposes" (Lindlof & Taylor 2002 p. 178-179). The researcher's goal is to find a comfortable ground for people to tell their stories and also to try and not control the conversation only encourage. The fifth and final interview type is the focus group interview, which was covered in chapter 2.1.1. It is different from the other types because the interview is conducted in groups rather than one-on-one.

3   DIFFERENCES IN GETTING FEEDBACK FROM CHILDREN AND ADULTS

Children communicate with us through their eyes, the quality of their voices, their body postures, their gestures, their mannerisms, their smiles, their jumping up and down, their listlessness. They show us, by the way they do things as well as by what they do, what is going on inside them. When we have come to see children's behavior through the eyes of its meaning to them, *from the inside out,* we shall be well on our way to understanding them. (Cohen; Stern & Balaban 1997 p. 6.)

One research question in thesis is if there is a difference in getting feedback from children as opposed to adults. The answer to that question seems to be yes. When trying to get useful feedback from children one has to take into account other things than just what they are saying. Children often leave things out in their speech and communicate with their hands or feet, this is something a researcher has to pay attention to (Cohen; Stern & Balaban 1997 p. 5). Mercer (2009) states that children have different needs, abilities and ways of looking at the world than adults do. She also says that children are not only different from adults they are different from children of other ages than their own as well, a seven-year old can be vastly different from a ten-year old.

Punch (2002) suggests that ethical issues are the central difference between research with children and research with adults. Parental control limits the researcher's access to children and children can be vulnerable to unequal power relationships between researcher and participant. Christensen and James (2000 p.15) agree that ethical issues is an important part of research with children and they think research should be done in a way that is respectful to children and their cultural context.

The research methods used can also vary in research with children and adults. According to Punch (2002) a combination of traditional methods such as participant observation and interviews and methods more suitable for children such as visual aids is an effective way of carrying out research. This way you are not patronizing the child with "silly" games but it still doesn't get to be too serious and intimidating.

4   FEEDBACK ENVIRONMENT

The environment in which you conduct your method of feedback retrieval is very important. The research in the different methods of getting feedback has shown that the

surroundings are essential to getting the most out of a feedback situation. In focus groups Morgan (1997 p.54) concludes that "there is little use for sites where participants will not be comfortable or where it is not possible to record the session". When observing children Cohen, Stern and Balaban (1997 p. 12) explain that a child can behave completely differently in one environment as opposed to another. A child can be comfortable in a familiar classroom but on edge in an unfamiliar place. The school environment may well be a place where children learn and can feel comfortable but it is also, according to Punch (2002) an environment controlled by adults and research here might pressure children into giving "correct" answers. It is important to assure the child that there are no right and wrong answers. In survey situations the environment cannot always be influenced, if for example the survey is conducted by telephone or is a mailed questionnaire. If the survey is conducted in person the same rules apply: make the participant as comfortable as possible and make sure they know that no answer is wrong.

5   FEEDBACK FRAMEWORK

The feedback framework or model that is going to be used while the children are testing the virtual world, and after, will be a mix of certain feedback methods that have been covered in the earlier chapters. The mix of the methods is because only using one method would not generate enough useful information.

Based on the research into the different methods I have found that a few smaller groups are better than one big group of children. In the focus group chapter it was said that focus groups should be conducted several times with similar participants and this can be achieved with several smaller groups rather than with one big group. This means that the feedback situation will occur in groups of about three to four children with a total of four groups. Even if the groups are small, group interaction can still occur, which according to chapter 2.1 was important to focus groups. It was also said in chapter 2.1.1 that audio- and videotaping was recommended and this will be done while the children are testing the virtual world so that reactions to the world can be examined afterwards. A certain amount of participant observation is needed to help the children with problems that can occur with the world, but otherwise traditional observation should be used to gather reactions to the game. A narrative recording method is sufficient to record the

observations, like it was said in chapter 2.2.1 the observer's interaction could affect the children's behavior so the participant observation should be kept to a minimum. The fact that some people prefer an observer to an interview or questionnaire, covered in chapter 2.2, is helpful if the children do not feel comfortable being interviewed later. While surveys are a good way of getting feedback, a questionnaire or an online survey is not the most effective way of getting the feedback that we need for this project. The on-site survey can be used but that would be practically the same as an interview. After the children have finished testing the world an interview should be done to get to know their thoughts about the world. An informal conversational interview combined with a focus group interview would be appropriate, because it is a good method to use on children according to Punch (2002). Gubrium and Holstein also say (2001 p. 183) that group interviews grow directly out of peer culture, as children construct their meanings collectively with their peers. The children can talk with each other and the researcher and the researcher can discuss with the children while asking questions about the world. A certain amount of questions should be planned ahead but the conversation should be allowed to take its own course. The eye tracking software, while being an interesting way of getting a different, new kind of feedback, is not possible to use in this test because of practical reasons, such as not having access to the specific tobii software at Arcada.

Research with children as opposed to adults was found to be different in chapter 3 and we have to take this into account when we are in the feedback situation. Remembering that children can communicate differently from adults and that they have a greater need to feel comfortable in their environment are important. The testing of the virtual world model and the feedback situation will be held at Arcada. This is probably new and unknown territory for the children, which is not ideal in terms of getting the children to feel comfortable but it is the best practical solution, because computers and video- and audio equipment are more easily available at Arcada.

6 PRACTICAL PLAN FOR TESTING THE FRAMEWORK

In the previous chapter the feedback aspects which are most relevant to the Snowcastle Valley test were covered. In this chapter the practical parts of the feedback framework

will be covered, what equipment is needed and other details that are important to the test. This chapter is specifically for the researchers that are going to do the test with the children and obtain the feedback.

6.1 Equipment needed for the test

The following is a list of equipment of what will be needed for the actual feedback session with children.

- 3-4 video cameras and tapes/memory cards for the cameras, depending on how the computer lab is organized, one camera per child. Set the camera up so that you see what is on the screen and also the side profile of the child. This allows the researcher to see the child's reaction and also what the child is looking at on the screen. It would be preferable if the cameras are small and not too noticeable so the children won't be too distracted by them. According to Edmunds (2000 p. 12) focus groups are usually videotaped and Cohen, Stern & Balaban (1997) say that children often communicate with their bodies and videotaping the session is helpful in seeing this kind of communication.
- Notepads and pens for the researchers. Notes should be taken while the children are trying out the game. Take the notes as quietly as possible. The researcher's behavior could affect the children so be as natural as possible and don't draw attention to yourself as you take the notes during the time when the children are playing, as was mentioned in chapter 2.2.1.
- Some snacks for the children after they have tested the game. Juice or lemonade and some cookies will be enough. It will help get the children feel more comfortable and relaxed for the interview. The feedback environment covered in chapter 4 states that the participants should feel safe and comfortable and the snacks will help with that and it brings a certain familiarity which was found to be important according to Cohen, Stern & Balaban (1997 p. 13).

6.2 Trying out the game and getting reactions

When meeting up with the children for the session it is important to stay relaxed and be clear about what is going to take place. You are testing a new virtual world and you want to know what the children think about it, Punch (2002) said to not patronize the children but also not to be too intimidating. Don't rush the session, let the children take their time with the world. It's difficult to estimate how long the children should try out the world. It depends on how much there is to explore in the world and how easy it is for the children to figure out how it works. All four different sessions do not need to be of the same length, as long as the same topics are covered and all the children have done roughly the same amount of exploring. This is so you can compare the results better, a technique used in survey research covered in chapter 2.3 when you want to get to the cause of something for example the reactions to a virtual world.

Try and see how the children are acting. Are they getting restless, noisy or bored? This could be a sign that they need a break or that they have finished exploring the virtual world. Look for the alternative kinds of communication mentioned in chapter 3. If one child gets restless but the others are still playing actively the researcher should use the participant observation technique and ask that child if he or she has tried all of the features and if he or she feels they have gotten a good view of the whole world. If the child has not done these things the researcher should encourage the child to keep going until the whole world is explored. While the researchers should stay as unnoticeable as possible when taking notes they should also check on the kids from time to time asking if they feel they are done testing or if there is something they are wondering. It was said in chapter 2.2.2 that children might feel more inclined to open up if the observer gets involved. When all the children feel they are done the researchers can proceed to the interview session.

A total of two or three researchers should be in the room with the children as they are playing the game, any more and the children might feel intimidated. Unequal power relationships could affect the children according Punch (2002). One researcher should be the one checking on the children and asking them how they are doing while the others take notes.

6.3 Getting the feedback

After the children have finished trying out the virtual world it is time for an interview. Keep the children together and discuss in a group what they thought about the game. "The group setting is also important for minimizing the power differential between the researcher and those being studied" (Gubrium & Holstein 2001 p. 183). It was also said in chapter 2.1 that the focus group interview could produce more in-depth answers. The researcher should keep the questions simple enough, not too silly and not too intimidating as mentioned in chapter 3, and if the children start to discuss another topic regarding the game that is fine. As it was mentioned in chapter 2.1.1 it is the interviewer's job to follow the outline and give everyone a chance to express themselves. The group interview should be casual and the children can have the snacks provided.

Here is a list of questions to ask the children:

- Was the game fun? What makes it fun? What was not fun?
- Was it easy or difficult to navigate in the game?
- Was it easy or difficult to understand the game?
- What did you like most about the game?
- What didn't you like?
- What would you like more of?
- What could be left out?

The questions don't need to be asked in this specific order and since some of the questions are similar the same answer can apply to more than one question. Feel free to ask any follow up questions regarding the children's experience and reactions to the game. "The length of an interview depends on the participant's interest and availability, and the topic of the interview" (Daymon & Holloway 2010 p. 232).

Videotaping the interview session and keeping notes helps to get all the information from the children, one camera facing the children is enough. One or two researchers are enough for the interview. The children could get nervous around too many adults asking questions.

6.4 Processing the feedback

Review the video material and take more thorough notes of the reactions of the children. Look at the expressions and gestures during the gaming session and the interview session, read their body language. From the material collected you should find what worked in the virtual world and what did not. Write up a text detailing what the children thought and what their reactions were and pass it on to the rest of the project team. This information is important in the further development of the Snowcastle Valley project so be thorough and precise in the text.

The video material shouldn't be seen by anyone who is not part of the project considering the young age of the participants.

7 CHECKLIST

- Read the feedback framework and the practical plan.
- Prepare and acquire the equipment needed.
- Set up the computer lab as explained in the practical plan.
- Meet the children and take them to the computer lab.
- Explain what you are going to do and what it is for.
- Start up the virtual world and the camera equipment.
- Assign one researcher to participate with the children and the rest to take notes.
- Hand out snacks when the children are done playing.
- Set up camera for the interview session.
- Interview the children.
- Take notes.
- Process the feedback.

8 CONCLUSION

Through my research on different feedback models I have found that a mix of the different types of models was the most appropriate for the Snowcastle Valley project test. Just using the focus group method or the observation method wouldn't have given us

the best outcome. The feedback framework and the practical plan for the framework that I based on the research is in my opinion a good way of getting useful feedback from children using virtual worlds. It is easy to apply and can be done anywhere where there is access to video equipment and computers. According to the research I also found that it would make a difference if our focus was on adults and not on children. Since children react and communicate differently from adults it is important for the researcher to take this into consideration when performing the tests.

I am confident that my feedback framework and practical plan are a good way of obtaining feedback from children using virtual worlds. Although I could not test the framework myself I believe that it will work and I look forward to hearing the feedback from the group who are going to test the framework.

REFERENCES

Christensen, Pia M. & James, Allison. 2008. *Research with children: perspectives and practices.* 2nd edition. Abingdon, Oxon: Routledge, 290 p. ISBN 0-203-96457-8.

Cohen, Dorothy H.; Stern,Virginia & Balaban, Nancy. 1997. *Observing and recording the behavior of young children.* 4th edition. New York: Teachers College Press, 253 p. ISBN 0-8077-3575-2.

Cohen, Louis; Manion, Lawrence & Morrison, Keith. 2007. *Research methods in education.* 6th edition. Abingdon, Oxon: Routledge, 656 p. ISBN 0-203-02905-4.

Daymon & Holloway. 2011. *Qualitative Research Methods in Public Relations and Marketing Communications.* 2nd edition. Abingdon, Oxon: Routledge, 416 p. ISBN 0-203-84654-0.

De Vaus, David. 2002. *Surveys in social research.* 5th edition. Oxfordshire: Routledge, 422 p. ISBN 0-415-26857-5.

Edmunds, Holly. 2000. *The Focus Group Research Handbook.* New York: McGraw Hill, 288 p. ISBN 0-658-00248-1.

Fink, Arlene. 2006. *How to conduct surveys: a step-by-step guide.* 3rd edition. Thousand Oaks, California: sage Publications, 120 p. ISBN 1-4129-1423-X.

Groves, R.M; Fowler, F.J.; Couper M. P.; Lepkowski, J. M.; Singer, E. & Tourangeau, R. 2009. *Survey Methodology.* 2nd edition. Hoboken, New Jersey: John Wiley & Sons, Inc., 488 p. ISBN 978-0-470-46546-2.

Gubrium, Jaber & Holstein, James. 2001. *Handbook of Interview research: Context & method.* Thousand Oaks, California: Sage Publications, Inc., 1000 p. ISBN 0-7619-1951-1.

Kirkland, Karen & Manoogian, Sam. 2003. *Ongoing Feedback: How to Get It, How to Use It.* Greensboro, North Carolina: Center for Creative Leadership, 22 p. ISBN 1-932973-00-1.

Krueger, Richard A. & Casey, Mary Anne. 2000. *Focus Groups: a practical guide for applied research.* 3rd edition. Thousand Oaks, California: Sage Publications, Inc., 215 p. ISBN 0-7619-2070-6.

Lindlof, Thomas R. & Taylor, Bryan C. 2002. *Qualitative Communication Research Methods.* 2nd edition. Thousand Oaks, California: Sage Publications, Inc., 357 p. ISBN 0-7619-2493-0.

Morgan, David L. 1997. *Focus groups as qualitative research.* 2nd edition. Thousand Oaks, California: Sage Publications, Inc., 80 p. ISBN 0-7619-0342-9.

Musante DeWalt, Kathleen & DeWalt Billie R. 2002. *Participant observation: a guide for fieldworkers.* Walnut Creek, California: AltaMira Press, 285 p. ISBN 0-7591-0045-4.

Nielsen, Jakob & Pernice, Kara. 2010. *Eyetracking Web Usability.* Berkeley, California: New Riders, 456 p. ISBN 978-0321-49836-6.

Sharman, Carole; Cross, Wendy & Vennis, Diana. 1995. *Observing children: a practical guide.* 3rd edition. London: Continuum, 157 p. ISBN 0-8264-7238-9.

Stake, Robert E. 2010. *Qualitative research: Studying how things work.* New York: The Guilford Press, 244 p. ISBN 978-1-60623-545-4.

Stewart, David W.; Shamdasani, Prem N. & Rook, Dennis W. 2007. *Focus groups: theory and practice.* 2nd edition. Thousand Oaks, California: Sage Publications, Inc., 200 p. ISBN 0-7619-2583-X.

DIGITAL REFERENCES

Mercer, Jean. 2009. *How Much Alike Are Children and Adults?* [www] Visited 27.3 2012. Available:
http://www.psychologytoday.com/blog/childmyths/200907/how-much-alike-are-children-and-adults

Punch, Samantha. 2002. *Research with children – The same or different from research with adults?* [www]. Visited 27.3.2012. Available:
http://www.dreamscanbe.org/Reasearch%20Page%20Docs/Punch%20-%20research%20with%20children.pdf

Stellmach, Sophie; Nacke, Lennart & Dachselt, Raimund. 2010. *3D Attentional Maps – Aggregated Gaze Visualizations in Three-Dimensional Virtual Environments* [www]. Visited 28.3.2012. Available:
http://hci.usask.ca/uploads/188-2010-AVI-ShortPaper-GazeVis.pdf

Tobii Visited 27.3 2012. Available:
http://www.tobii.com/en/eye-tracking-research/global/research/
http://www.tobii.com/eye-tracking-research/global/library/videos/all/video-game-user-experience/

APPENDICES

Appendix 1. Snowcastle Valley Project Outline

Overview

Almost all the educational use and pedagogical research about virtual worlds has been externally directed. By this I mean that research has tended to look at how virtual worlds can be used in distance learning; how they can be used to simulate group tasks; how they can be used to overcome problems and issues of sociality; what effects they may have on social interaction; and so on.

Other research has looked at the boundaries between the real and the virtual. Some of this relates to the emotional relationship people develop with their avatar: whether they see it as transparent, as a version of themselves, or as a different entity entirely.

This research concerns the use of a virtual world for internally directed activity: as a diary, a mental gym, a tool for self-reflection and a tool for exploring the differences between the private and the public.

The research forms the final part of my doctoral research, and (hopefully) brings together various practical and theoretical concerns.

The Tool

We are working with a class of ten year olds in Helsinki to develop something they have called Snowcastle Valley. This is a USB-stick containing a specially configured island created in OpenSim. It is viewed using a customized version of the Imprudence viewer with much of the interface removed. The island is 16 sims big and contains a series of discreet spaces.

Every child has their own USB stick and every child has the same island. The island can be carried in their pocket and is usable from any modern Windows computer.

Later we will add a social island, run from a server. This will have exactly the same topology and buildings as the private islands. Everyone with a private island will be able to teleport to the public island. Nobody except the owner will be able to teleport back to their pocket world. Teleporting will be more like 'sliding' or leveling up, since the move from the private world to the social world will be a move from one spot in a world to the same spot in an almost identical world.

The pocket world will be stocked with a variety of objects for exploration and building. The world is intended to yield to playful logical inquiry, and we are currently beginning the process of determining precisely what it should contain.

The pocket world can be regarded as a tool or as an artwork. Certainly, it is a virtual topographical construct within which users can create their own stories, their own open-ended narratives.

The Hypothesis

The project began with an initial set of observations and a resulting hypothesis.

In social online worlds like Club Penguin most of the children that I have watched spend the majority of their time on individual projects and only a small amount of time interacting. (Individual projects include time spent on caring for and nurturing non-player characters and pets like puffles.)

Children are willing to repeat activities either because they are inherently entertaining or because they offer a reward in the form of in-world currency or items. The elements that children claim are missing from the worlds have more to do with creating than consuming.

There are undoubtedly learning processes within these worlds. The important pedagogical question is simply: how generalizable are the results of this learning? The learning might be generalisable in at least two different ways. The content could have relevance

outside the virtual world. The skills and techniques users develop in manipulating the content could have relevance outside the virtual world.

At the age of ten, in Finland, schoolchildren are supposed to be learning a variety of soft skills. These are not explicitly taught in soft skills classes. Rather they are monitored as processes that emerge 'naturally' within other contexts: in games, in group work, and so on. Some of these social skills are also individual skills; that is, to be acted out socially they must first be internalized and rehearsed individually.

The hypothesis is that a virtual world can be developed, in conjunction with the envisaged users, that will act as a game, an entertainment and a creative tool. This virtual world will be a three dimensional private area that can act as a retreat, a quiet space, a mental gym and a playground.

The Theoretical Framework

This hypothesis has many starting points other than simple observation. These include:

1.   The writing of Charles Sanders Pierce;
2.   The writing of Paulo Friere, Ivan Illich and John Holt;
3.   The thinking of Buckminster Fuller and Marshall McLuhan;
4.   Timothy Leary's 8-circuit model of consciousness;
5.   Practical experiments in isolation tanks and John C Lilly's writing about them;
6.   Gestalt therapy, rolfing and transactional analysis;
7.   Connectivism and attempts to locate knowledge with the social sphere;
8.   The 'empty mind' model behind the Getting Things Done philosophy;
9.   Relationships between a knowledge society, continuing education, and continuing play;
10.   The projects Camilla Lindeberg and I worked on between 2003 and 2008 under the Marinetta Ombro umbrella.

I mention these here simply to indicate the initial orientation of the project.

The Next Stages

During 2011 we have worked with a small group of ten year olds in the class that my youngest daughter attends at Kulosaari primary school. We have discussed the worlds they use and we have introduced them to configurations of OpenSim to gauge their reactions.

We have also worked on the technical aspects of the project. We have moved from the initial ideas to a working model of the world. This needs much work and that is planned for the first six months of 2012.

I want to establish an online discussion group to advise me/us as the project develops. I envisage this group as meeting online once every month or two for a synchronous meeting and participating in asynchronous online discussion on a regular basis.

Snowcastle Valley is, in my view, a special case, or subset, of a potential larger project. If my hypothesis is correct and it is possible to build a virtual world that children can use as a personal development tool, then it stands to reason that this approach might also offer techniques that will benefit adults: especially if the increasing need for continual education/learning has, as a corollary, an increasing need for continuing play.

I intend calling this larger project Heart Land Mass, and (should this prove a fruitful line of inquiry) I intend to explore its implications as post-doctoral research one day soon.

Owen Kelly: owen@owenkelly.net

January 1, 2012

Appendix 2. Interview questions for Owen Kelly:

1. What is the purpose of Snowcastle Valley?

The project began when I realized that a number of the open-ended world-like games

that my daughter and her friends were playing had certain features in common, and that these features had (or could have) learning outcomes. I also realized that these types of worlds could be built at Arcada using the experience we had gained from six years of working with Second Life.

The purpose of the project is deliberately open-ended. I believe that the use of these kinds of worlds are under-explored in terms of their potential as tools for learning, and I want to find out more. The best way of doing this seems to involve exploratory research: building a sample world, obtaining reactions to it, and then modifying it in light of the reactions; and repeating this process until a conclusion has been reached. The conclusion will involve a decision about whether to develop the project further or not.

2. Who is the target audience?

Children between the ages of eight and fourteen.

3. Why is the project important?

There are many reasons to think that the role of formal education is undergoing one of its periodic changes. Increasingly we live in a world in which we need to gain new skills and drop old skills. People over thirty learned to use mobile phones as an adult. People over three are currently learning to use which includes learning how they work, what they are useful for and how to consume from app stores. Much of this learning takes place socially and informally, and lot of it has been gamified. Arguing from the other end we can also say that children playing Nintendo games are engaged in genuine learning, and the only real question we need ask is how useful this learning will be for them in the future.

This project attempts to look at how online worlds might be created so that they yield to logical enquiry. Sim City can be (and is) used to learn the social consequences of planning. Can we generalize from this? What can an immersive online world achieve, if anything?

There seem to be three possible answers to this question. It can prove a useful tool through which young people can teach themselves a range of thinking skills and emotional techniques. Or it can prove to be a useless distraction that serves to lower their ability to cope in the real world. Or it proves to be neither of these, and is merely a harmless diversion that is no more or less useful like Afrikan Tahti.

4. Is there anything like Snowcastle Valley already on the market?

Probably, by which I mean not exactly but in the same general area. MovieStarPlanet is an immersive (2D) game which aims to have educational overtones. Club Penguin and Tootsville also claim some weak educational outcomes.

5. What are the advantages and disadvantages of this project?

The advantage is that we will know more at the end of it, if the project is done right. The disadvantage is that Arcada does not have enough resources to ensure that it is done right. The other possible disadvantage is one that exists with all exploratory research. We may find out that there is nothing to find out; the original hunch was wrong and once we have confirmed this we can write it up and move on.

6. When is it intended for this project to be finished?

The project is intended to provide a proof of concept, in a way that might lead to further research and development. I intend this phase to be completed by December 2012. Whether or not the project proceeds to a next stage, involving seeking external funding from Tekes or similar, will be decided then.