LEARNING TO USE COMPUTERS AT A LATER AGE

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ABSTRACT

10 older adults were interviewed about their experiences with computers, as well as their motivations behind learning to use computers at a later age. In addition to the interviews, the elderly were observed as they were using web for information search. The motivations for learning to use computers varied, some were motivated by the possible benefits, some thought they had to learn it, and some had personal reasons for learning. Usually, computer usage felt difficult at first, but when support was available, the elderly were enthusiastic and fearless learners. The main problems in the interaction with web search engines were related to editing the text in the queries, understanding the terminology, and understanding the structure of the web.

1. INTRODUCTION

Several studies present older adults as a major challenge for human-computer interaction: elderly are told to have several cognitive and physiological deficits, their motivation for computer usage is low (especially among females and people who have a lower education), and they fear or feel anxious of computers [*e.g.*, 2, 3, 4, 5].

The pessimistic view presented above is not the whole truth and it is dangerous to think of being old as a synonym of being disabled. The danger lies in a risk of forming stereotypes that can easily affect the designers (seniors can be seen as a group that is too difficult to take into account in the design) and more dangerously, making elderly think of themselves as not being able to learn to use computers any more. This position paper presents a study [1] of elderly who do not have noticeable problems in cognitive functioning and who are enthusiastic and willing to learn computer use at a later age. However, the study emphasizes that elderly novice users need support and training.

This paper focuses on the motivations behind older adults' learning of computer use and the difficulties and positive aspects related to this learning. Additionally, we were interested in the older adults' interaction with web search engines and in the possible problems related to it.

2. STUDY – PARTICIPANTS AND PROCEDURE

10 elderly users (3 females and 7 males, the average age 67.3 years) participated. The participants had all taken computer courses at Mukanetti association [6] which teaches computer usage specifically to seniors. Three participants were more experienced with computers, while the remaining seven were computer novices and had just taken a couple of basic courses offered by Mukanetti. As web searchers, the participants were inexperienced: six had heard about search engines only during a computer course and most of them had never used search engines.

First, the participants were interviewed about background information and about their computer and Internet use. Following this, the participants who did not have experience with search engines were briefly introduced to the Finnish version of Google (http://www.google.fi).

The participants were then given a list of possible search tasks they should try to complete by using the web. The tasks were selected so that they would address a variety of interests, for example, culture, politics, gardening, health, and computers. The participants used the computer independently for the tasks, but they could ask questions and they were assisted if needed. On average, the sessions lasted a little more than an hour.

3. RESULTS FROM THE INTERVIEWS

Three participants had used computers already earlier, when they were still working. These experiences were not considered to help with the current computer use as the early systems were so different from the current ones. In addition, the early experiences were mostly negative as the systems were still unstable and difficult to use.

We got computers at work in the 90's. Although I did not have a computer at that time, they told me at the office that I must not touch the computers because I could break them. This left me a feeling of fear towards computers that only ceased when I took the first course last year.

The motivations for learning to use computers varied, some were motivated by the possible benefits of the usage (*e.g.*, easy to correspond with distant friends), some thought learning was necessary (banks will have their services only through web), and some had personal reasons for learning (*e.g.*, showing others that they can do it).

Most of the participants got a computer from relatives who just brought the computer to the senior and gave very little advice about the possible uses:

My brother brought me his old computer. I asked him what I can do with it. "Play solitaire", he answered. Well, I played solitaire until I was completely fed up with it.

Commonly, the seniors began to really use the computer only after taking a course: learning to use it by themselves was simply too difficult. Furthermore, as the benefits of computer use were not clear, the trouble of learning was just too big to feel worthwhile.

Two participants had participated in a computer course provided by a local adult institute. Although this course was intended for beginners, the teaching was experienced as being far too hasty and confusing. This highlights the importance of the quality of the training: a course designed specifically for the elderly was seen as the best possible way to learn to use computers at a later age.

The participants told that sometimes computer use is confusing, frustrating, and feels chaotic. However, the courses they had taken had helped them to overcome the anxiousness and fear towards computers:

I think that the most important achievement during this two week course was that I do not fear computers any more. The fear of breaking the computer, which I think all elderly people have, has vanished somewhat.

For many seniors, the computer had already become an inseparable part of their daily routines. For these seniors, the computer was mainly a tool for communication through e-mail, an easy way of taking care of banking, a storage place for their own work (*e.g.*, some were writing autobiographies), and a source of information through web.

4. RESULTS FROM THE OBSERVATIONS

Although six participants were complete novices in information search from the web, they all could successfully complete at least a couple of search tasks. This suggests that also novices can use web effectively for information access.

The most serious problems the seniors faced had to do with editing the text in the queries. They had difficulties in noticing when the focus was in the text box, they commonly made typos, and had serious problems in getting the cursor to the right position in a word when correcting the typos. These problems are most likely due to the age-related declines in psychomotor functioning and vision.

The terminology used in dialogs (*e.g.*, warnings about opening certain documents) was not understandable for the seniors. Although the dialogs were written in the participants' native language, their message was not revealed. This result calls for more thorough (albeit simple language) explanations in the dialogs, as well as training users for these special situations.

The problems with understanding the structure of the web were revealed by the difficulties in getting back to the search engine after navigating away from it, difficulties in

understanding the scope of the searches provided in some web sites, and problems in understanding the relationship between the links to a certain page and that page's URL (in search engine's result listing).

5. DISCUSSION

The study presented a group of seniors who were enthusiastic about learning to use computers, although some of them had had negative experiences with computers earlier. However, learning was experienced as challenging and the need for support became evident both in the interviews and during the elderly were observed in using web for information search. The elderly were able to use a search engine successfully after only a couple of minutes of training. However, there were several problems during the search that might have made the seniors quit the task if left alone – and certainly these problems would have made less motivated seniors give up (with possibly a heightened negative attitude towards computers). Younger people typically learn to use computers in close co-operation with other people and we should not expect elderly to learn this demanding skill themselves. Some age-related challenges were also found, for example, difficulties in using the mouse for pointing. However, these difficulties can easily be alleviated by careful design.

6. ACKNOWLEDGMENTS

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