

Protocol analysis for constructing Verbalizing Support System

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Abstract

In this paper, I will show a result of an experiment. The experiment was conducted using voice recorder and the participants was required to report what they think orally. I have been conducting experiments to know how people express their feelings and thinking in their daily lives. Previously, I suggested the basic concept of Verbalizing Support System (in Japanese). However, in this experiment, I tried to show the process of verbalizing people's feelings and thinking. In addition, I'll show the revised concept of Verbalizing Support System compared with the previous paper.

Keywords: Protocol analysis, IADL, Dementia, Verbalizing Support System.

1. Introduction

In Japan, many people are interested in health. As people get older, however, physical activities decrease because of retirement, bereavement, and so on. In addition, there are many people who cannot go outside because of backache, arthralgia, and so on. The Care-nursing Support Website (Kaigo Ouen Net) says that people should look after aged people so that they can become independent. It is important that society as a whole support aged people, but social welfare spending is increasing year by year. Therefore, it is also important that people are not too dependent on society but stand on their own feet.

Generally, aging will be proceed if a person does not communicate with many people or does not often go out. Otake said that “The shortage of social communication is one of the main factor of dementia.[1]” However, when you want to do that, you should take psychological stress into account. For instance, the Music Puzzle is proposed as the way of the brain activation[2]. In this puzzle, people rearrange the sound-cell and complete a song.

However, this method may be difficult to use constantly in daily life.

Therefore I will suggest to support people in the situation of shopping activities. Shopping activities are one of the daily activities, and people (both young and aged) should do that usually by themselves. There are many people who visit a real grocery shop and there are also people who use online shop or delivery service. Moreover, convenient stores are visited not only by young and also by aged recently in Japan, so shopping activities are one of the essential daily activities for many people.

In the following chapters, I will examine the intelligent aspect of shopping activities and propose the Verbalizing Support System

2. Collection protocol

I conducted the following observations to examine that shopping are intelligent activities. In these observations, I asked participants to report orally what they thought. Participants were 3 house-workers. The observation were conducted in the grocery store which each participant

often visit. In the store, I traced participants and collected their utterance on shopping. I asked them in advance to report orally what they thought, for instance, what they would purchase, what they would make as dinner or how they would change their plan.

In previous researches on consumers' behavior, they usually observe consumer in a real grocery store. However, this way of observation may be difficult for observers and for participants. Abe pointed out that "The way of observation in my research requires lots of time and labor, so it is difficult to collect lots of shopping activities data.[3]"

Accordingly, I developed the Shopping Simulator. In this simulator, user can move a character and walk around virtual store. Upper part means a basket which the character has, and lower part means a floor in the virtual store. If you want a particular item, you can drag the picture of item from floor to basket. On the other hand, if you stop purchasing an item, you can drag the picture of item from basket to floor. There are many areas in the virtual store, for instance, vegetables, bakery or snacks. When a character approaches a certain area, user can see information on each item, which information fundamentally consists of name, amount and price.

Participants were 34. 12 of them were house-workers, 11 of them were boarders and 11 of them were home-students. I collected 37 shopping activities data and constructed a corpus based on participants' utterances.

I extracted knowledge about price, judgement about freshness or any other thinking from corpus, and we worked up these thinking into the list.

3. Verbalizing Support System

I aim to extract more active utterances and conversations from participants. In this chapter, I will propose the Verbalizing Support System in which people can perform intelligent activities with shopping. This system consists of the following steps.

First, user can plan their shopping activities. User can input an item name or a menu name by manuscript or voice. In this step, you can communicate with another user. For instance, you can ask "Why will you purchase that?" You can also give useful information or idea to the user, "Now is the best season for Pacific saury", "Today is hot, so how about eating fine noodle?", and so on.

Secondly, user can perform shopping. I recommend that they use Shopping Simulator so that they can chat or converse freely.

Thirdly, user can check the result of their shopping activities. User can use this result in the next step and compare it with plan made in first step.

Finally, user can experience more intelligent activities than the other steps. They can recollect the process of their shopping. They will experience intelligent activities. In addition, they can talk freely, for instance, what they find in shop, what they want to claim about shop, and so on.

4. Discussion

As I mentioned, I want to encourage people to perform intelligent activities. Now, how about the criteria of "intelligent"? I prepare the following definition: when a participant can show the "novel" information about shopping activities to the other participants (or the experimenters), this participant's activities are regarded as "intelligent". In the collection of shopping activities data, most participants perform shopping alone. However, I think their shopping activities should be evaluated by the other people. Accordingly, "novel" information will be discovered by them and chance for utterance or conversation activation will be also discovered.

5. Conclusion

In this paper, I showed a result of an experiment. The experiment was conducted using voice recorder and the participants was required to report what they think orally. In this experiment, I tried to show the process of verbalizing people's feelings and thinking. In addition, I showed the concept of Verbalizing Support System.

References

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Authors Introduction

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He received the degree of Master of Arts from Graduate School of Humanities and Social Sciences, Chiba University.