Coimagination method: sharing imagination
with images and time limit

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Abstract: We propose novel method named coimagination. Participants of the coimagination program bring three images according to the topics of the session in order to share imagination and communicate with them. Each participant has five minutes for talk and five minutes for questions. Number of participants is six, so that one session lasts for one hour. Themes include but not limited to: “favorite things”, “neighborhoods, hometown and travels”, “health and foods,” “jokes and funny mistakes”. We held coimagination program for elderly people successfully. Experimental results suggest the effective activation of cognitive functions, and empirical knowledge for improving quality of life was collected and shared.

Introduction

The number of people suffering from dementia is expected to quadruple by the year 2050 in Japan. Prevention and suppression of the progress of dementia are crucial issues in this century. Original purpose of coimagination is proposing effective method for prevention of dementia. Dementia is one of the psychiatric disorders when its symptom progresses. Common state of psychiatric disorders is that internal world is dissociated with external world. Dementia is not an exception. Our approach is to bridge the internal mental world and external real world consciously in daily life. Coimagination method interfaces internal world and external world of each participant in an appropriate manner through supporting interaction between person and nature, person and society, person and person. In order to achieve the goal, there are two innovations in the method. The first one is participants themselves bring their topics with images including photos, illustrations, sometimes music or real objects based on the theme. The second one is each participant has equal time limit for presentations, questions and comments with pre-defined turn so that all the participants have equal opportunity to participate in the conversation [1]. We name coimagination style conversation when conversation sessions are organized according to the above two conditions. In this paper, we describe the principle of coimagination method and procedure for implementation, present some of the collected stories with images, and discuss the positioning of the method.

Principle of Coimagination method

In this section, the background and aim of each innovation is presented. The first innovation, bringing topics with images according to the theme, encourages interaction between internal world and external world for two times. First time is at the stage of preparation, second time is at the stage of presentation.

For preparing the topics with images, participants may ask themselves what they would like to talk about according to the theme, and explore their internal worlds for determining their own topics. Then, participants search images which represent the topics, and explore the external worlds for taking new pictures. Another way for preparation is to observe the participants’ personal belongings like albums and books, looking for familiar things in external worlds. Participants recall what they are or where they come from so that they can notice their original view-
points, namely, internal worlds. In both ways, participants wonder back and forth between internal worlds and external worlds. Themes are arbitrary, but preferable ones lead participants to pay attention to external world, i.e., favorite foods. They remember the tastes and smells of favorite meals, restaurants that serve favorite dishes, special foods on memorial days or everyday meals which cannot be bored. Then, some may buy favorite sweets. Others may cook their favorite dishes or go to restaurants for taking photos. The thoughts of participants are trapped to external worlds. Retrospective memories are transformed into prospective memories.

For presenting the topics with images, participants express their feelings and thoughts through describing the images. Internal world of each participant is mapped to external world. Internal views of participants from their own viewpoints are projected onto screens. Other participants look into the same scenes from the same directions. In this way, participants can share different perspectives from their own. This leads participants to discover new things in external worlds, which cannot be discovered from their original viewpoints. Participants can extend their viewpoints through sharing the collected views. External worlds originally cropped by one of the participants again mapped into internal worlds of other participants.

The second innovation, each participant has equal time limit for presentations, questions and comments with predefined turn, overcomes major three difficulties which prevent interactive communications.

In everyday conversations, some people have initiative whereas others do not. This causes only a few people who speak a lot or loudly participate in conversations. Most other people listen silently or pretend to listen. In order to avoid such situations, we define the role of speakers and listeners beforehand. The turn of each speaker is in order. Then, people who are not usually trying to speak out have time for speaking, and people who are not good at breaking in on conversations can participate. In this way, all the participants play leading roles in the conversations one after the other.

Another difficulty is to start or stop conversations. It is not easy to start talking, and it is more difficult to stop talking. We feel awkward when someone cannot stop talking when we want to finish. Both speaker and listeners feel embarrassed when one of the listeners interrupts the speaker who talks for hours. For refraining from one-way communication, we define allotted time for each participant. When the time for the speaker is over, not surrounding listeners but rule changes the speaker to the next turn. Listeners do not have to say that the speaker talks too much but just to say it is time for the next speaker.

We need courage to ask questions or give comments. For facilitating discussions, each participant has two turns. For the first turn, speakers present their stories. The second turn is for questions and comments to speakers from listeners. With this rule, listeners focus on listening to the stories at first, and easy to ask questions or give comments afterwards. This is ordinary for technical presentations but not for daily conversations.

Standard Coimagination Program

We designed typical coimagination program which could be acceptable at welfare institutions.

- The program includes five series of sessions.
- Each session is held for an hour per week.
- Theme of each session is different.
- Themes include but not limited to: “favorite things”, “neighborhoods, hometown and travels”, “health and foods,” “jokes and funny mistakes”. 
- Average number of participants is six.
- Average number of images for each participant is three.
- Average allocated time is five minutes for talking, five minutes for questions and comments for each participant.
- First four weeks are for conversations.
- Numbers of comments and reactions are counted during the conversation sessions.
- On the fifth week, the session for memory task is held for evaluation.
- For memory task, images of the series of four sessions are displayed one after the other, and participants guess the owner and the theme of the collected images.

Frequencies of comments and reactions were measured and memory tasks were held for checking whether all the participants participated in the conversations and shared their imaginations.

We successfully provided standard coimagination programs on January, May, October and November in 2007, on January, April, and October in 2008, on January, April, and May in 2009. The program was delivered to 20 groups in total. Experimental single sessions with arbitrary themes were held occasionally. Most of the participants were elderly people but the participants of April and May in 2009 were university students.

**Coimagination Support System**

We developed coimagination support system. The system consists of a laptop computer for the chair of the session, a projector for displaying the images, and a screen.

Before starting the session, the chair of the session scans pictures into the computer and registers them for each participant. Once the session starts, the chair selects the images of the speaker. Images for the group of participants are arranged according to the seating order in the display. The number of participants is six, and allotted time for each speaker is five minutes. When one participant is a speaker, other five participants are listeners. The chair of the session selects images considering the elapsed time. When participant named Mary is a speaker, the chair clicks on the image brought by Mary. The three images brought by Mary are displayed.
The speaker selects one of the three images to talk about, and ask the chair to click on the image to enlarge. The image is enlarged after the image is clicked. After five minutes has passed for Mary, it is time for the next speaker named John. Then, the chair operates the system so as to go back to the initial window, and clicks on the image brought by John. During the period for questions and comments, observer counts the numbers of statements and reactions for each participant so that frequency of comments and reactions is measured. About a hundred of images are collected after the series of four sessions in four weeks. On the fifth week, the fifth session for memory task is held. System for memory task is operated by each participant rather than the chair of the session. The collected images are displayed randomly one after the other. Participants select the owner and the theme of the displayed image. The participant clicks on the "next" button after click on the buttons of the owner and the theme. Different images randomly appear until the all images are displayed. The scores of the memory task are recorded so as to be analyzed after the session.

**Conversation Interactivity during Coimagination Program**

We show one of the typical experimental results during coimagination programs. The number of comments which evoked reactions was counted during the sessions. Active and passive nonverbal reactions were scored for each participant by weighting two for number of laughter and one for number of wonders. Active nonverbal reaction is defined as the sum of reactions to the comments by each participant whose role was either speakers or listeners. Passive nonverbal reaction is defined as the sum of reactions to comments by all participants during the period for discussion of each speaker. Figure 1 shows the change in active and passive nonverbal reaction of each participant in one of the groups of October 2008, group B, whose average age was 70. The scores during the second, third and fourth session are plotted. We name six participants from B1 to B6 in the graph. Both active and passive nonverbal reaction scores of B2 were 0 for the second session, which end up to 4 and 6 in the fourth session. The scores of B5 were high from the beginning, 5 and 8, which also improved to 13 and 17 in the end. Both scores progressed for every participant in this group. The conversation of the beginning session was inactive while that of the ending session was active so that all participants enjoyed interactive communications. Cognitive activities of each participant emerged effectively through coimagination.

**Collected Stories with Images via Coimagination Program**

We show some of the interesting stories with images which are collected via coimagination programs. Theme was “neighborhoods, hometown and travels”. Figure 2(a) was presented with the story of “White Prince Cicada”. One of the participants strolled around the neighborhood early in the morning, and found the newly-molted cicada. It looked like white prince and he took picture for sharing the impression. The beauty also implies the prince cicada have a very short time to live, only one week is left on the average. Other participant found “Stick Insect” on the front door of his house (Figure 2(b)). It looked like stick, stayed for a day but finally disappeared in the evening because it was the insect. Figure 2(c) and (d) describe the story of “Lotus Flowers”. There is a famous large pond in neighborhood which is full of weeds on the shore. Pity lotus flowers were chased by weeds to offshore (Figure 2(c)). Then, she decided to...
visit another pond with lotus flowers in full bloom (Figure 2(d)). She said it was little wonder that lotus flower symbolizes heaven in Buddhism. All stories raised a lot of questions, comments, wonders and laughter. These stories were provided by participants, which enrich other participants’ lives. Such empirical knowledge is a key to improve the quality of life especially for people living in the region.

Figure 2 Collected images for describing stories during coimagination session: (a) White Prince Cicada, (b) Stick Insect on the Front Door, (c) Lotus Flower of the Pond in Neighborhood, (d) Lotus Flower in Full Bloom

Discussion
In this section, we describe the applications of coimagination style to reminiscence [2]. Then, we discuss the characteristics, philosophies, and synergies of reminiscence and coimagination.

The use of photos and videos has been popular for initiating and activating conversations during personal or group reminiscence therapies. Cohen developed “video biographies”, which included interviews with relatives, family snapshots, old videos and favorite stories. His preliminary study suggested that agitation was reduced and mood was improved during the intervention for individuals with dementia [3]. Yasuda et al. developed “personalized reminiscence photo video” and validated its effectiveness [4]. One of the conditions for coimagination is to bring their images. This may be difficult for people with dementia, and may need help of families or caregivers. People with MCI may be able to look for photos by themselves. Such photos will help families and caregivers for understanding the patients, even after the symptoms progresses.

Traffic control of conversation by time limit and predefined turn is applicable to group reminiscence therapies. Both people who are not good at speaking and who speak too long have equal opportunities to participate in the session. Listeners may help asking questions to each
speaker if allotted time is too long for the speaker of few words. People who are not good at speaking tend to be good speakers who involve many listeners in the conversations.

The theme of coimagination is arbitrary. Coimagination session approaches to reminiscence one when we select themes such as “childhood”, “school days”. However, the themes which force to look out of internal worlds are preferable, rather than those force to look into internal world. This is because the original goal of coimagination is to extend each participant’s viewpoint through sharing viewpoints of participants rather than to know the personal histories or personalities themselves which form their original viewpoints. We would like to use the method for maintaining and enhancing the ability of bridging internal world and external world of each participant. Sharing viewpoints opens new window to external world.

As is well known, there are prospective memories and retrospective memories. Past is not always the thing for looking back. Present is also a past from the viewpoint of future. Through coimagination, we can create present for the future. Participants prepare for the sessions in the future. The images are materials of past at the time for presentation, but they were of present or future at the time for preparation. We would like to nurture participants’ confidence in looking at present and preparing for the future.

Coimagination method originates in Japanese traditional culture such as haiku, the shortest poem in the world expressing subtle beauty in nature and life. We identify ourselves through the interaction of internal world and external world, especially Mother Nature. Implicit identity is typical in Japanese culture and coimagination method is rooted in such a tradition, although the method was proposed by the author in 2006. Reminiscence in western culture may be based on the explicit self-identity from the viewpoint of God. We believe a greater synergy among coimagination and reminiscence, by combining implicit and explicit self-identification for appropriate recognition of past, present and future.

Conclusion
We proposed coimagination method towards prevention of dementia through supporting interactive communication with images and time limit. Characteristics of the method are described as follows: Coimagination method supports interactive communication through bringing feelings with images according to the theme; Allocated time for each participant is predetermined and participants take turns so as to play either role of speaker or listener. We explored principle of coimagination method, standard coimagination program, coimagination support system, conversation interactivity and collected stories with images via coimagination program. Then, we discussed the extension of coimagination method to reminiscence, and pointed out differences in principle and cultural backgrounds for effective synergy. Future work includes evaluation of the method through direct measurement of the cognitive functions and neural activities, and human resource development so that longer follow-up to observe its effects on everyday function is possible.

References