

Construction of an Information-Presenting Chat System and Its Validity

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Abstract

In the process of communication via the Internet, there often occurs what social psychologists call the “group polarization” and the “flaming” phenomena. In this study, we will first propose a chat system containing an information-presenting device designed to help minimize the occurrence of these phenomena. We will then examine the validity of the device referring to the results of an experiment conducted with it. The results show that there were smaller degrees of self-disclosure by the participants and fewer “emotion laden” words uttered by them during their chat interactions. These results suggest that the device we propose is capable of reducing the occurrence rates of the above-mentioned phenomena.

1. Introduction

Due primarily to its reliance on written language, Computer Mediated Communication (hereafter CMC) is relatively free from the restrictions of time and place. This feature of CMC in turn seems to make it possible for participants to have more casual interactions than those in face-to-face, interpersonal communication. These interactions often deviate from socio-cultural norms. The axiom “easy come and easy go” seems to be the rule in the world of cyberspace. In other words, while people can quickly develop an intimate relationship with others, they can sever the relationship easily and quickly as well. In addition, as CMC often proceeds with a lack of personal information of the parties involved such as name, age and occupation, it provides the participants with a situation where they can easily reveal

themselves. It is reported that there are some people who, while reticent in face-to-face communication, can express themselves more openly in communications that are mediated by the computer. In extreme cases, one can trust only individuals whom he or she has met in cyberspace. Along with many the obvious advantages, CMC seems to have disadvantages as well that need to be explored.

2. Two Major Problems in CMC

There are at least two issues that have been raised as the problems associated with CMC. The first issue is called "Group Polarization" where people go to extremes in opinion when discussing a matter. It is reported that this extremism is easily facilitated in CMC (Siegel, Dubrovsky, Kiesler & McGuire, 1986). To give an example, there is a case of a housewife who initially was just grumbling at her husband but eventually lead to two extreme conclusions: one being that "she must kill her husband" and the other that "there is no choice but to commit suicide."

There exist several theories that serve to explain the dynamism of Group Polarization. One is what Burnstein and Cinokur (1977) call "Persuasive Arguments." The core idea of this theory states that one is tempted to stress where he or she stands when there appear an increasing number of similar opinions. Another theory is called "Social Comparison" as proposed by Goethals and Darley (1987). This theory explains the psychology of Group Polarization, saying that an individual tends to strive to become more radical in opinion when he or she encounters others with certain radical opinions concerning an issue. While the proponents of this theory did not take into account the Internet when they explored it, the explanatory power of the theory seems to increase when it is applied to CMC where one can easily post some radical opinions.

One other theory is the one that Wetherell (1987) proposed; namely, the theory of "Social Identity." This theory states that, as the identify of a group becomes defined, opinions held by its members tend to coalesce in a radical form; thus, serving to draw a clear line of demarcation between in-group and out-group. In the domain of the Internet, communicative interactions proceed by the means of BBS, chat, or e-mail. Small groups formulated through these means often become exclusive and closed. As the sense of camaraderie among particular members becomes strengthened, they tend to reject others with different opinions. This would also contribute toward giving rise to group polarization. The theories we have just overviewed have been discussed in some detail from a variety of perspectives (Kiesler, Siegel & McGuire, 1984; Spears, Lea & Lee, 1990; and Lea & Spears,

1991.).

The second issue recognized is “flaming,” which refers to an act of defamation during the discussion process. In the case of CMC, as mentioned earlier, individuals rely mostly on text-based communication. This means that there are few, if any, nonverbal cues to accurately contextualize one’s written messages. As is often said, it is no easy task to communicate only by verbal means.

In addition, people often fail to examine thoroughly what they have written before sending e-mails. This would serve to increase the chances of one’s becoming misunderstood. When discussing a serious matter, some people tend to become verbally aggressive and become critical of both the opinions and personality of others. When these people become emotionally involved, flaming often results.

Generally, flaming is said to result from a lack of socially reduced cues. If there are some nonverbal means to convey subtle meanings, or if one can obtain demographic data of others such as age, sex and occupation, he or she would be able to communicate in a more socially accepted manner. In the process of CMC, however, these cues and data are not easily accessible; thus, giving rise to a manner of communication that is impolite and even rash.

One may argue that these indiscretions stem simply from a lack of common sense and are therefore a matter of morality. But it should be noted that CMC situations encourage human drives to come out on the surface--drives to seek stimuli and to behave aggressively. One serious social problem today regarding the Internet concerns the dispatch of information that is essentially anti-social, such as pornography, racism, violence and defamation. We contend that this problem may have been caused, at least partially, by the two issues mentioned above: group polarization and flaming.

In this present study, we will first explore an information-presenting devise for chat that graphically demonstrates the frequency of exchanges and the direction or flow of talks. With this devise, we hope, users of BBS and/or chat can locate themselves in an objective fashion as they dispatch their opinions. We will then examine the possibility of controlling the contents of utterances with the devise. This will be done by referring to the results of an experiment that we conducted with the devise.

3. Construction of an Information-Presenting Chat system

Generally, communications through the Internet take place in one of the following forms: BBS, chat, or e-mail. What follows are some features of each form.

- a)BBS The user can post his messages, read posted messages and respond to the messages whenever he wants. While the interactions through BBS are less immediate, it allows the user to post messages to many and unspecified people.

- b)Chat This gives the most immediate and intimate communication to the users who access the Internet at the same time. In chat communications, there is no restriction as to the number and nature of people with whom one can interact. They can be many and unspecified people or certain specific group members. One can also interact with one specific person. One drawback of chat is that the amount of information one can send at a time is much less than what BBS and e-mail can provide. Chat gives the user immediacy at the sacrifice of the amount of information.

- c)E-mail This is a means to communicate with certain specific others. Unlike the two other forms, e-mail is not suitable for many and unspecified people to interact at the same time. E-mail, however, has an advantage that the others do not: it allows the user to send and receive a large amount of text information along with graphic and audio files.

While interactions through each of the above forms need to be scrutinized in order to better understand the nature of “group polarization” and “flaming,” we will focus solely on chat because the immediacy it provides is suitable for the purpose of this preliminary study, which is to explore the possibility of controlling the contents of utterances in a “real time” situation.

In the chat system, one usually expresses the will to participate anonymously before entering a chat room. In order to indicate the receiver of one’s messages during chatting, the following indicator “>○○” is often used. When a message is directed to all participants, “>All” is in use. While this method is not a stipulated rule, it is a commonplace practice for a chatter to indicate who is to receive his or her messages.

In the process of chat interactions, which proceed with the above indicators, there often occurs a disproportion in the frequency of exchanges among participants. In addition, more than one topic will often be discussed simultaneously in a chat room when the number of participants becomes larger. We would expect that these complications might contribute toward the group polarization and the flaming phenomena mentioned earlier. The devise

we propose here is designed to show each participant the frequency of his or her exchange with every other participant and indicate what topic is most current. This evaluation of topics is achieved through a third party subjective interpretation.

3-1. Presentation of the Frequency of Exchange

The frequency of exchange among all the participants was presented in the Member Matrix as follows. The matrix below indicates that there are five participants. It also indicates that there are 35 exchanges between Participant 1 and Participant 2. While we used figures as indicators in this present experiment, it is possible to use a graphic representation.

Table 1. The Frequency of Exchange Among Five Participants

	Participant 1	Participant 2	Participant 3	Participant 4	Participant 5
Participant 1	—	35	12	42	20
Participant 2	35	—	30	22	14
Participant 3	12	30	—	15	6
Participant 4	42	22	15	—	20
Participant 5	20	14	6	20	—

With CGI, we constructed a chat system that contains the above matrix. The following figure represents the basic structure of our information-presenting chat system.

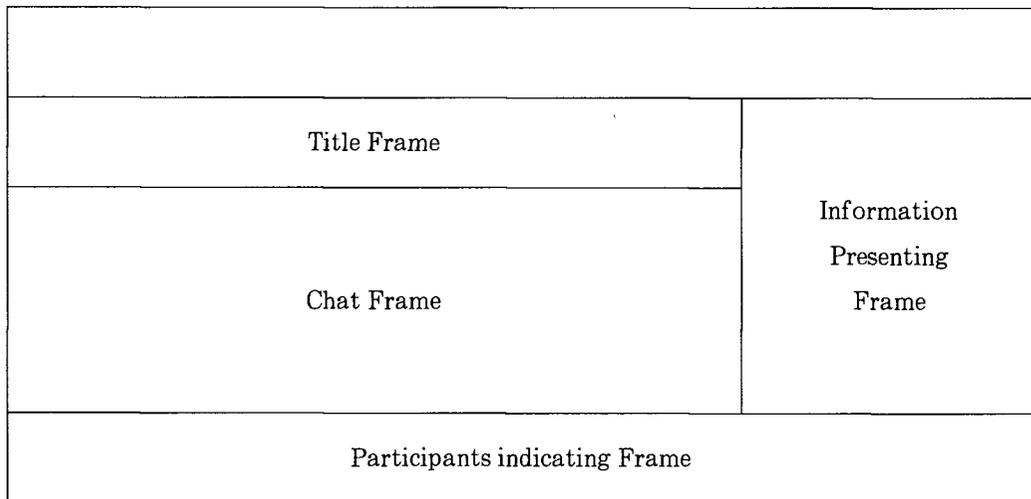


Figure 1. The Basic Framing of a Proposed Chat System

3-2. Assessing the change of topics

When the number of participants in a chat room becomes large, multiple topics will often be discussed simultaneously. When one is in such a situation, it would be nice to know

which topic group he or she belongs to, how influential his or her opinion is and so on. For this present experiment, one individual in a chat group, acting as a steering committee, occasionally reminded other members of “what is currently being discussed” by subjectively regulating on-going topics.

4. Method of Experiment

For the purpose of comparing the two types of the chat systems—an ordinary, conventional system and one with an information-presenting devise—experiments were conducted with five different groups discussing identical topics. Each group was composed of five married women in their 30s. Five different topics were used for the experiments. Those topics were obtained through a questionnaire where all the participants were asked before the experiments to provide topics they wanted to explore. The topics chosen were five most favored ones among the participants:

- 1) Problems associated with child rearing
- 2) Inconstancies
- 3) “What I want to say to my husband”
- 4) Reconciliation between business and family life
- 5) Care for the elderly

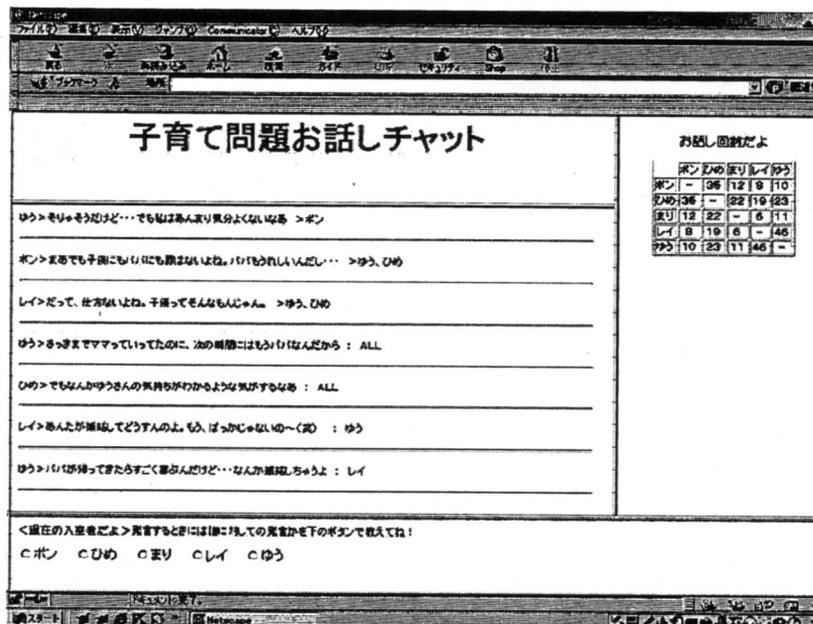


Figure 2. An example of the actual chat page.

Members of each group were asked to gather in a chat room at an appointed time and to have chat interactions on the given topics for two hours. Figure 2 is an example of the actual chat page.

5. Results and Discussion

Table 2. shows the average frequency of emotion laden words used by the participants for each topic session in the two chat systems; one with the information-presenting devise and the other without the devise. By “emotion laden words” we mean those words which advance aggressive feelings toward and or libel the receiver

Table 2. Frequency of emotion laden words

Theme	Without devise	With devise
1	864	722
2	1023	671
3	721	596
4	689	602
5	1255	856

While it is advisable not to offer a definite conclusion with only the results of the average frequency, we are tempted to say that the devise does seem to make a difference. In the chat system with the information-presenting devise, there was reduction in the average frequency of emotion-laden words for each and every topic session.

In order to obtain an overall impression of the chat sessions in the both systems mentioned above, the researchers asked a group of 10 individuals to rate 10 items on a scale of 5, with 1 being the “least applicable” and 5 being the “most applicable.” The group included 5 males and 5 females between the ages of 20 and 49. The 10 items are as follows:

1. Interactions went smoothly.
2. Messages of an aggressive nature were often exchanged between the participants.
3. A particular person(s) became the object of aggressive talks.
4. The participants had heated discussions.
5. Each participant was actively involved in chatting.
6. The participants often threw in radical opinions.
7. The atmosphere was friendly.

8. The participants often offered good points.
9. Some participants talked too much while others talked too little.
10. What the participants said often got off the track of the discussion topics.

Table 3 indicates that between the two chat systems there are noticeable differences in the ratings of the items 3, 6, 9 and 10. While we did not conduct any statistical analyses because of the small number of individuals who rated the items, the differences appearing between the two systems are obvious. In what follows, we offer our interpretation of this finding from the perspective of “double framing.”

Table 3. Evaluation of the two chat systems

Item	Without devise	With devise
①	3.7	4.2
②	2.6	2.1
③	3.1	2.0
④	4.1	4.3
⑤	4.4	4.5
⑥	3.8	2.3
⑦	3.5	3.7
⑧	4.0	4.3
⑨	4.2	2.8
⑩	3.9	2.2

In the world of the Internet, which is said to be virtual as opposed to real, double framing easily occurs. We hold that the larger the degree of detachment in the virtual reality of the cyberspace from the reality of daily living is, the stronger the force of double framing becomes. When this occurs, people behave and communicate differently from how they do in the real world. Based on this observation, we thought that constantly providing the chatters with pieces of information designed to remind them of the real world would help them to minimize double framing or at least to lessen its force, making it possible for them to behave toward others in ways similar to those in everyday life. In fact, this is exactly what happened in the chat system with an information-presenting devise. To be specific, the participants seemed to become more considerate of other members. And this in turn contributed toward distributing the fairly equal opportunities for each participant to voice his or her opinions. Also, the contents of their opinions became more relevant to the topics that were being discussed.

As seen above, only a small amount of information, such as the average frequency of exchanges and short comments on the contents of opinions, would serve to restrict the phenomena of group polarization and flaming occurring. In order to further explore this interesting finding, a more systematic study is needed.

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