It is the paper published as:

**Author:** Mei-Mei Wu and Ying-Hsang Liu

**Title:** On intermediary’s inquiring minds, elicitation styles and user satisfaction.

**Journal Title:** Journal of the American Society for Information Science & Technology

**ISSN:** 1532-2890  **Year:** 2011  **Volume:** 62  **Issue:** 12  **Pages:** 2396-2403

**Abstract:** Building upon previous research on the concepts of inquiring minds and elicitation styles (Wu, 2005; Wu & Liu, 2003), this study aims to identify the relationships between the theoretical constructs of elicitation behavior and user satisfaction in terms of the relevance, utility and satisfaction of search results, search interaction processes and overall search activities. Descriptive statistical analysis is applied to compare the user satisfaction ratings with respect to the concepts of inquiring minds and elicitation styles. The results suggest that the stereotyped elicitation style received the lowest user satisfaction ratings compared with functionally and situationally-oriented styles. It is suggested that the intermediary takes into account the characteristics of search questions, and accordingly, applies a professional mindset in search interview situations; that is, using an inquiring mind in the query formulation process as default mode with functional and situational styles of elicitations would be helpful for enhancing the user’s satisfaction ratings. Future research is suggested to better understand and to improve professional talk in information services.


**Author Address:** yingliu@csu.edu.au

**CRO Number:** 27073
On Intermediary’s Inquiring Minds, Elicitation Styles and User Satisfaction

Mei-Mei Wu*
Graduate Institute of Library & Information Studies, National Taiwan Normal University
162, Sec. 1, Ho-Ping East Road, Taipei, Taiwan 10610
Phone: +886-2-7734-5431
Fax: +886-2-2351-8476
E-mail: meiwu@ntnu.edu.tw

Ying-Hsang Liu
School of Information Studies, Charles Sturt University
Boorooma Street, Locked Bag 588, Wagga Wagga NSW 2678, Australia
Phone: +61-2-6933-2171
Fax: +61-6933-2733
E-mail: yingliu@csu.edu.au

*Corresponding author
Abstract

Building upon previous research on the concepts of inquiring minds and elicitation styles (Wu, 2005; Wu & Liu, 2003), this study aims to identify the relationships between the theoretical constructs of elicitation behavior and user satisfaction in terms of the relevance, utility and satisfaction of search results, search interaction processes and overall search activities. Descriptive statistical analysis is applied to compare the user satisfaction ratings with respect to the concepts of inquiring minds and elicitation styles. The results suggest that the stereotyped elicitation style received the lowest user satisfaction ratings compared with functionally and situationally-oriented styles. It is suggested that the intermediary takes into account the characteristics of search questions, and accordingly, applies a professional mindset in search interview situations; that is, using an inquiring mind in the query formulation process as default mode with functional and situational styles of elicitations would be helpful for enhancing the user’s satisfaction ratings. Future research is suggested to better understand and to improve professional talk in information services.

Keywords: Elicitation behavior, Search interview, User satisfaction, Information retrieval interaction
Problem Statement

The intermediary’s assistance to users during search interviews not only contributes to the search performance but also demonstrates as one of the indicators of the professional identities in library and information services. Previous research has addressed the professional talk of the intermediary, such as Taylor’s five filters (Taylor, 1968) and Dervin’s neutral questioning (Dervin & Dewdney, 1986) in the early days. More recently, literature related to reference practice (e.g., Lankes, Gross & McClure, 2003; Luo, 2007; McClure, Lankes, Gross, & Choltco-Devlin, 2002; Shachaf & Horowitz, 2008; Tyckoson, 2011) as well as professional standards for professional practice (RUSA, 2003, 2004, 2010) express a paramount concern with the intermediary’s professional performance in terms of interactions with the users.

Among the extensive literature and the standards of professional practice developed in relation to reference services, yet little is known about how well this professional practice works for the users of information services. The more recent empirical research is concerned with the classification of question types (Kwon, 2007; Numminen & Vakkari, 2009) and interactional complexities (Epperson & Zemel, 2008) in virtual reference services. More specifically, there are distinctive features in information seeking conversations, as opposed to casual conversations and domain constrained conversations in professional settings, such as doctor-patient and teacher-student interactions (Foster, 2009; Mandelbaum, 1996; Mokros & Aakhus, 2002; Mokros, Mullins, & Saracevic, 1995; Solomon, 1997). The intensive analysis of different aspects of elicitation and the notion of elicitation as micro-level information seeking in this thread of research (Wu, 2005; Wu & Liu, 2003) has received considerable attention in information seeking behavior research (Foster, 2009; Kelder & Lueg, 2011; McKenzie, 2009; Urquhart & Yeoman, 2010; Westbrook, 2008; Wyatt,
Henwood, Hart, & Smith, 2005), mediated searching (Wilson, 2005), virtual reference services (Radford, Connaway, Confer, Sabolcsi-Boros, & Kwon, 2011; Westbrook, 2009) and interactive information retrieval system design (Kumar & Lang, 2007; Lan, Ho, Luk, & Leong, 2008).

The view that the use of linguistic forms is shaped by our language in action has been suggested in human-computer interaction literature by Winograd and Flores (1986) in their proposal of a theory for designing computer systems that could facilitate human work and interaction. Similarly, Suchman’s (1987) notion of interaction between people and machines (particularly computational artifacts) implies shared understanding. Winograd & Flores’ (1986) approach attempts to incorporate some rules and background knowledge in the basic conversation for action, whereas Suchman’s (1987) approach emphasizes that the structure of conversation is an emergent product of situated action. Both theories suggest that structure of conversation as symbolic representations of human action emerges from the situated use of language. Mainly drawing on speech act theory in linguistics, Dewdney and Michell (1997) suggest that the key to using why questions to successfully elicit the user’s information need can be based on a theoretical understanding of the linguistic form and communicative function of these questions in their social contexts. These perspectives and their theoretical applicability have provided insights into the study of linguistic forms and conversation structure and language as action in the context of information retrieval interaction.

To enhance our understanding of how the intermediary constructs user models during search interviews, our previous research has revealed that elicitation as micro-level information-seeking behavior is a dynamic question negotiation process that can be characterized by the concepts of inquiring minds and elicitation styles (Wu, 2005;
Wu & Liu, 2003). Wu and Liu (2003) analyzed the intermediary’s elicitations in three dimensions: linguistic forms, utterance purposes and communicative functions. The concepts of elicitation styles and inquiring minds were derived from the quantitative analysis of elicitation utterances and the qualitative analysis of interactional cases, respectively.

An inquiring mind refers to the intention that one wishes to know something about an issue. Such intention can be identified through one’s questioning behavior. Three approaches of intermediaries’ inquiring minds were identified by Wu and Liu (2003): for information problem detection, which is characterized by the intermediary’s frequency use of elicitation related to the user’s information problem to diagnose the user’s real information need; for query formulation process, which is the situation when the user’s complex search question is difficult to express, the intermediary tends to focus the elicitations on the formulation of the proper search terms; and for database instruction, where the intermediary considers the search interview as a database instruction course.

As for elicitation styles which have been identified through chi-squared statistical results, namely, situationally-oriented, functionally-oriented, and stereotyped. The chi-squared statistical results indicated that intermediaries’ elicitations could be adaptable to different contexts considering the distribution and grouping of linguistic dimensions of elicitations: linguistic forms, communicative functions and purposes. The situationally-oriented set was characterized by the use of different questioning strategies when facing users with different information needs. The functionally-oriented set refers to the fact that the intermediary has the tendency to use specific communicative functions when encountering different users. The
stereotyped set refers to the use of similar questioning strategies even with different users and user needs.

The concepts of inquiring minds and elicitation styles have been useful for characterizing the dynamics of the information negotiation process in the context of professional talks. However, users’ perceptions of the information negotiation process and their influence on information seeking outcomes have not been clear. In this paper we aimed to examine the relationship between an intermediary’s elicitation behavior and user satisfaction.

The present study represents an attempt to advance our understanding of the evaluation issues in interactive information retrieval (IIR) research from a holistic viewpoint. A holistic view concerns the search results beyond topical relevance and includes utility as well as interaction processes with respect to user perception. Our approach is considered holistic because system-oriented IR research has been concerned with the retrieval of relevant documents in a ranked order in laboratory environments, without particular reference to the evolution of users’ information problems during information search processes.

Since the boundaries of IR systems have become harder to define, and laboratory testing of an interactive IR system involves different levels of analysis, including queries, search sessions and information problem levels (Belkin, 2008; Robertson & Hancock-Beaulieu, 1992), user satisfaction as a whole is used to assess the overall impact of the cognitive and communicative aspects of user-intermediary interactions. User satisfaction is assessed from the following dimensions: the relevance, utility and satisfaction of search results, search interaction processes and overall search activities. More specifically, this study has focused on the intermediaries’ elicitation styles and inquiring minds and their relationship at the level of the information problem, in the
perspective of user perceptions of search results and interaction processes during search interviews.

The research questions are:

1. Does the intermediary’s elicitation style relate to user satisfaction?
2. Does the intermediary’s inquiring mind relate to user satisfaction?

Related Work

In this paper, the terms intermediary and librarian are used interchangeably. In the context of information retrieval, the term intermediary is used to reflect the mediated nature of search interviews in which the librarian searches for information on behalf of the users. The librarian’s questioning ability has been identified as one of the important factors that affect the user’s satisfaction with respect to the quality of reference services (Hernon & McClure, 1987; Saxton & Richardson, 2002). To understand the communication process during the reference interview, previous research has focused on the librarian’s questioning behavior by examining the communicative function of open and closed questions (Lynch, 1978) and the use of why questions in their social contexts, with particular reference to speech act theory (Dewdney & Michell, 1997). This thread of research has suggested that a better understanding of the communicative functions of questions in social interactions could alleviate the miscommunication incidents. However, this approach has not been formally evaluated in relation to the user’s perceptions in the context of information-seeking dialogues.

From a user’s perspective, the effectiveness of reference services has been concerned with the service outcome in relation to the user’s information problems or the interaction processes. More specifically, the question, whether the user has
obtained the needed information in terms of the accuracy and completeness of answers, was used as an outcome measure (e.g., Bunge, 1984; Kwon, 2007), whereas the interaction processes referred to the socio-emotional aspect of the interaction processes in interpersonal communication (e.g., Radford, 1996, 2006). Another overall measure based on the user’s perceptions was the user’s willingness to return to the same librarian at a later time (e.g., Dewdney & Ross, 1994; Durrance, 1995). These studies have suggested that a holistic framework that considers the interpersonal communication processes and resolution of information problems from the perspectives of users and librarians would be useful for understanding questioning behaviors within information-seeking dialogues.

To model the user’s information-seeking contexts and information problems in interacting with information retrieval systems, research has focused on characterizing the nature and function of user-intermediary interactions during search interviews. For instance, using discourse analysis, Belkin (1987) specified the functions performed in user-intermediary interactions. Other related studies have characterized the purposes of elicitation (e.g., Wu, 1993), the question’s content objective (White, 1998), and the linguistic dimensions of elicitation: linguistic form, communicative function, and utterance purposes (Wu & Liu, 2003). Overall, these studies have suggested that mediated searching involves a great deal of modeling user’s characteristics, information problems, and situations. However, these studies have made no connections between the cognitive and communicative aspects of questioning behavior and user perceptions related to the interaction processes and search outcomes.

In the development of evaluation methodologies for information retrieval systems, various criteria, such as relevance, utility and user satisfaction have been
proposed as measures of system effectiveness (e.g., Cooper, 1973; Mizzaro, 1997; Saracevic, 1975; Soergel, 1976). Because research within this area has focused on the improvement of system effectiveness in a laboratory environment, relevance-based objective evaluation measures, such as precision and recall, as well as their variants, have been widely used in information retrieval experiments. More recently, research has been concerned with the relationship between user-oriented measures, such as user preferences and user satisfaction, and system effectiveness measures (e.g., Al-Maskari & Sanderson, 2010; Sanderson, Paramita, Clough, & Kanoulas, 2010; Wacholder & Liu, 2006, 2008). Despite the complexities of putting users in the loop of information retrieval evaluation, some research has been concerned with identifying appropriate measures for interactive IR system evaluation (Su, 1992; Tague & Schultz, 1989) or, proposing the simulated work task situation for evaluating interactive IR systems (Borlund, 2000; Borlund & Schneider, 2010). Ingwersen and Järvelin’s (2005) integrated program have provided a analytical framework for conceptualizing the social and cognitive influence in information seeking and retrieval research at different levels of abstraction. One of the major challenges within this area of research is that the introduction of user characteristics, work tasks, and information problems makes it difficult to compare retrieval effectiveness among systems.

More recently, from a system perspective, researchers have presented a case study that specifically used the systematic feedback of a trained intermediary for enhancing search results in an IR user experiment (Lin, Wu, & Abels, 2008). The results suggest that mediated searching can significantly improve search results, with appropriate question clarification strategies and restricted interactions made available to the intermediary. Given the complex and dynamic situation of mediated searching, it is necessary to adopt a holistic approach of evaluation that involves the use of
relevance, utility (value of search), and user satisfaction for understanding the
cognitive and communicative aspects of user-intermediary interaction in real life
settings.

Methods

This study was designed to better understand the interactional processes during
mediated searching in real-life situations. A total of 30 users interacting with five
librarians from five institutions have been observed. Mixed methods, including
observations, questionnaire surveys, semi-structured interviews, and an interaction
corpus, were used to capture the dynamics of user-intermediary interactions in
professional settings. The data collection techniques are briefly described in the
following section. Interested readers are referred to the detailed descriptions of the
study and the questionnaires in relation to user/intermediary demographics,
perceptions of the interaction processes, and user satisfaction in the Appendix of our
first report (Wu & Liu, 2003, pp. 1126-1133).

Participants: The purposive sampling of four university libraries and one
research institute library, all of which have good reputations in providing information
services for academic communities, were invited for data collection activities. A total
of five professional intermediaries (four females and one male) in different age
groups, with varying levels of qualifications and library experiences, from each
institution participated in this study; as such, our intermediary participants were not
representative of the population and the data should be considered exploratory in
nature. Thirty users with real information needs were recruited from academic bulletin
board systems and invited by volunteer intermediaries at the reference service desk.
Thus, they were a self-selected group of users who may not be representative of the
population. Two researchers were trained in administering research materials and interviewing techniques for post-search interviews.

**Interaction corpus:** Dialogues in pre-search interviews, interactions during online database searching and post-search interviews were all recorded and transcribed for data analysis. The total length of interaction time during online database searching was 1,199 minutes with an average of 40 minutes (min = 13, max = 76, median = 37) per encounter.

**Field notes:** The researchers kept notes on the interaction processes from the beginning of the pre-search interviews to the completion of the search tasks.

**Questionnaires survey:** Four questionnaires were administered. A user questionnaire in relation to user/intermediary demographics, search questions, and expectations of search results was filled-out prior to pre-search interviews. Following the completion of the search task, another user satisfaction questionnaire was applied covering five dimensions of user satisfaction in the context of IR interaction. These included the relevance and utility of retrieved documents, the search interaction processes, search results, and overall search activities. A search interview interaction questionnaire was also administered to both the user and the intermediary for comparative and triangulation purposes.

Because this exploratory study was designed and conducted in real-life situations with a self-selected group of users and intermediaries, one potential threat to the generalizing power is that the participants and situations may not be representative of the larger universe they are intended to represent (Krathwohl, 2009). The study was conducted in a Chinese socio-cultural context with Mandarin Chinese native speakers. Although the role of socio-cultural factors in user-intermediary interactions is an interesting research topic in itself, our study has not specifically addressed the issue in
research design. Nonetheless, the theoretical constructs of linguistic forms and communicative functions from the fields of linguistics and communication have demonstrated certain core elements in the analysis of questions across different languages (e.g., Angles, Nagatomi, & Nakayama, 2000; Freed, 1994; Li & Thompson, 1981; McCawley, 1994). The generalizability of this study is limited to the specific social-cultural context in professional settings.

This report focuses on how the intermediary’s search interviews influenced user satisfaction in information retrieval interactions. The question items designed for measuring the five dimensions of user satisfaction are listed below:

1. Relevance of retrieved documents: Regarding the search results, please mark the ratio that is relevant to your search question.

2. Utility of retrieved documents: Regarding the search results, mark the ratio of usability.

3. Search interaction processes: Mark your satisfaction level relevant to the search processes.

4. Search results: Mark your satisfaction level relevant to the search results (e.g., whether these results provide some clues to the question).

5. Overall search activities: Mark your overall satisfaction level to the search as a whole.

Post-search interviews: Users were asked to provide reasons for their ratings of the assessment items and what their criteria were for the ratings of satisfaction in relation to the interaction processes. Clarification questions were selected to complement the researcher’s observations during the interaction processes.
The data analysis involved the identification of utterances and elicitations from the interaction corpus. An utterance was operationalized as a speech sequence by one participant in conversation, and an elicitation was a verbal request for information (Wu, 1993). Each elicitation was also coded according to the dimensions of linguistic forms, purposes and communicative functions. The concept of *inquiring minds* was developed from a qualitative analysis of elicitation coding whereas *elicitation style* was derived from a quantitative analysis of the linguistic dimensions of elicitations. Given that our participants were selected by purposive and convenience sampling methods, descriptive statistical analysis was performed to characterize the relationship between the concepts of inquiring minds and elicitation styles, and user satisfaction with respect to the relevance, utility and satisfaction of search results, the search interaction processes, and overall search activities.

**Findings**

A total of 2,112 elicitations have been identified from the 12,541 user-intermediary utterances. There was an average of one elicitation in every six utterances, suggesting that elicitation behavior could be a significant phenomenon in information retrieval interactions. The intermediary’s 1,364 elicitations accounted for 65% of the total 2,112 elicitations, whereas the user’s 748 elicitation utterances represented 35%. The average number of elicitations for intermediaries and users was 46 and 25, respectively, revealing that the intermediary plays a more active role in asking questions or obtaining information than the user does.

*Does the intermediary’s elicitation style relate to user satisfaction?*

The results in Table 1 indicated that there is large variability in the relevance of search results across different types of elicitation styles, with the largest standard deviation for both situationally-oriented ($SD = 21.51$) and functionally-oriented ($SD = 13.21$) styles.
19.22) elicitation styles among the dimensions of user satisfaction. The stereotyped elicitation style shows a relatively large variability for both the relevance of search results and the utility of retrieved documents.

**Insert Table 1 here**

The functionally-oriented elicitation style had the highest average satisfaction ratings according to the relevance of search results, followed by situationally-oriented styles. The stereotyped set received the lowest satisfaction ratings. In general, the satisfaction with the search processes and overall satisfaction received higher ratings than other test items did; these ratings were consistent across different types of elicitation styles.

*Does the intermediary’s inquiring mind relate to user satisfaction?*

The results in Table 2 indicated that the inquiring mind of information problem detection shows noticeably lower user satisfaction ratings overall than do other types of inquiring minds, particularly in the dimensions of the relevance of search results and satisfaction with the search processes. Users were generally very satisfied with both query formulation and database instruction types of inquiring minds in all of the dimensions of user satisfaction.

**Insert Table 2 here**

Discussion and Conclusions

In the present study, the total number of intermediary elicitations ranged from 10 to 100, with an average of 46 in 30 search interview encounters. It is worth noting that the intermediary’s average number of elicitations was 23, as reported in Wu’s earlier study (Wu, 1993, 2005), exactly half of the average number in the current study. It was suspected that this may be due to a lengthy elicitation case in the current study;
however, the exclusion of the lengthy case does not make a substantial difference in the average number of elicitations. The average number is 44 if the lengthy case is excluded. Another possible explanation could stem from language issues in different socio-cultural contexts. The earlier study was conducted in an English-speaking environment while the current study was in a Mandarin Chinese-speaking environment. The findings have supported the view that the use of linguistic forms is an emergent product of language in action within situated social interactions, such as conversations in information seeking contexts (e.g., Epperson & Zemel, 2008; Mandelbaum, 1996; Winograd & Flores, 1986). To advance our understanding of the significance of elicitation quantity in information retrieval interactions, the sociolinguistic differences between the two languages in professional settings, with particular reference to elicitation behavior in search interviews, need further exploration.

Elicitation styles, manifested as the differences in the use of linguistic forms, communicative functions and purposes, during information retrieval interactions reflect the dynamic nature of information negotiation processes. Previous research has suggested that individual differences and situational variables had a significant impact on elicitation behavior (Wu, 1993, 2005). Our present study has developed the concepts of elicitation styles at the level of communicative acts in the context of professional talk, and further explored the relationship between elicitation behavior and search results from a holistic perspective in information retrieval evaluation. In that sense, this work represents a thread of research with an integrated approach to information seeking and retrieval research (Ingwersen & Järvelin, 2005). Specifically, the dynamic nature of work and search tasks and information negotiation processes have been captured and analyzed through the interaction corpus, and the evaluation
measures have been extended to task fulfillment and user satisfaction. The results have revealed that stereotyped elicitation styles received the lowest user satisfaction ratings, compared with functionally and situationally-oriented styles (Table 1). This suggests that the formation of user models in information retrieval interactions is a dynamic process in the sense that to obtain relevant search results as perceived by users, intermediaries are thus suggested to apply different questioning strategies in view of users with different types of search questions.

With respect to the inquiring minds on user satisfaction, information problem detection resulted in remarkably lower user ratings in terms of the relevance of search results and satisfaction of search processes than did the query formulation process and database instructions. For the intermediary who used query formulation inquiring mind, the user’s ratings of the relevance of search results and the utility of retrieved documents were both higher than database instructions (Table 2). Overall, these results suggest that the intermediaries take into account the characteristics of search questions and adapt the mindsets to the search interview situation accordingly. Using the inquiring mind of query formulation process as a default mode would be helpful for enhancing users’ satisfaction ratings.

The results from this study have demonstrated the dynamic interactions among users, intermediaries and information retrieval systems. Specifically, the findings provided important implications for intelligent IR system design in terms of the relationship between human actions and communication. Following the premise that purposeful actions are inevitably situated actions, the theory of situated action specifically stresses the dynamic and emergent characteristics of communicative actions, “between actors, and between actors and the environments of their action” (Suchman, 1987, p. 179). From this perspective, plans are people’s symbolic
representations of their intended actions. Moreover, the notion of interaction between people and machines (particularly computational artifacts) implies a shared understanding or mutual intelligibility. The analysis of professional talk as situated action extends previous research concerning the functions performed by intermediaries and the semantic aspects of questions in information-seeking conversations (e.g., Belkin, 1987; Wu, 1993, 2005; White, 2008).

This research concludes that the intermediaries' inquiring minds and elicitation styles relate to the user satisfaction ratings. It makes clear between users' perceptions of the information negotiation processes and information seeking outcomes. The naturalistic study of user-intermediary interactions in search interviews yields a rich environment for understanding the applicability of user-oriented measure of user satisfaction in interactive information retrieval. It also points to the research direction in support of the search interview as a professional talk. That is, an intermediary’s intended communicative action together with the standards of professional practices contributes to the formation of professional identity. This research characterizes Ingwersen & Järvelin’s (2005) integrated approach to information seeking and retrieval research in the study of domain constrained information seeking conversations from the linguistic and communicative perspectives within a cognitive framework.

Future Research

This study has explored the concepts of intermediary’s elicitation styles, inquiring minds and the ratings of user satisfaction. Yet, for further understanding and the confirmation of the phenomenon of professional talk in information retrieval interaction, more research are recommended:
1. The search interview is a complex communicative process. There may be different interview flows for the same user with different search questions. The intermediary may behave differently when interacting with different users. Thus, to confirm the findings of this study and identify the relationships among an intermediary’s elicitation behavior in terms of inquiring mind, elicitation styles and the types of user search questions, further research that uses probability sampling methods is suggested.

2. The intermediary’s elicitation purposes could be analyzed by the time they occurred in conversation, such as before, during or after the search interview, in order to understand whether elicitation behavior could be characterized by stages. In addition, the question arises: Is there any relationship between the sequence of elicitation purposes and the user ratings with respect to the satisfaction of search results? For the interview encounters with high user ratings, what is the distribution of elicitation purposes? For those cases with low ratings of user satisfaction, further investigation is needed.

3. During user-intermediary interactions, there are many factors which influence user satisfaction, including: individual and situational factors as well as their possible interactional effects. Future research should investigate the factors affecting interaction processes and outcomes using a much larger sample size.

4. Since the professional standards have been widely applied across cultures, the comparison of professional talk in different language environments deserves further investigation. The study of professional talk in different language and cultural settings would enhance professional training and mutual understanding in information service provisions.

Acknowledgements
Authors thank the two anonymous reviewers’ useful comments that have significantly improved the manuscript. Also thanks to the five volunteer intermediaries, their institution libraries, and the 30 anonymous patrons for participating in this study. Ms. Hsin-Jung Chiang’s assistance in data analysis is very much appreciated. This research has been assisted by a grant from the National Science Council, Taiwan, ROC. Grant Number: NSC 89-2413-H-003-079.
References:


Elicitation Satisfaction


