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Classification of Information-Seeking Dialogue

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ABSTRACT: Walton (2013) classifies dialogues into seven different types. As normally used to transfer information from one party to the other, the information-seeking dialogue can usually be embedded in other dialogue types (Walton, 2003). But it is worth noting that the information-seeking dialogue has not been paid much attention in the argumentation theory. In the paper, we classify information-seeking dialogue and demonstrate how a detailed classification can facilitate research on argumentation.

KEYWORDS: classification criteria, dialectical, dialogue types, information-seeking dialogue

1. INTRODUCTION

Walton argued that, for everyday natural language arguments, every argument is made within a particular dialogic framework or context. The criteria and the number of dialogue types Walton used to classify them have undergone two shifts (see Tables 1, 2 and 3). He initially proposed eight dialogue types based on the elements: initial situation, method, and goal (Walton, 1989, p. 10). He later replaced the last two elements with the participant's goal and goal of dialogue, provided a new reconstruction of some of the dialogue types identified in the theory's first version, and adjusted the number of dialogue types to six (Walton, 2003, p. 137). Yet later, in the theory's third version, Walton added a seventh dialogue called *discovery* (Walton, 2013, p. 199).

Dialogue	Initial situation	Method	Goal
Quarrel	Emotional disquiet	Personal attack	"Hit" out at other
Debate	Forensic contest	Verbal victory	Impress audience
Persuasion	Difference of opinion	Internal and external proof	Persuade other
Inquiry	Lack of proof	Knowledge-based	Establish proof
Negotiation	Difference of interests	Bargaining	Personal gain
Information-seeking	Lacking information	Questioning	Find information
Action-seeking	Need for action	Issue imperatives	Produce action
Educational	Ignorance	Teaching	Imparting knowledge

Table 1: Walton's Eight Dialogue Types

Dialogue	Initial situation	Participant's Goal	Goal of Dialogue
Persuasion	Conflict of opinions	Proveyourthesis is true	Resolve or clarify issue
Inquiry	Need to haveproof	Findandverify evidence	Prove(disprove) hypothesis
Negotiation	Conflict of interests	Get what you most want	Reasonable settlement that both can live with
Information-seeking	Need information	Acquireorgive information	Exchange information
Deliberation	Dilemma or practical choice	Co-ordinate goals and actions	Decide best available course of action
Eristic	Personal conflict	Verbally hit out at opponent	Reveal deeper basis of conflict

Table 2: Walton's Six Dialogue Types

Dialogue	Initial situation	Participant's Goal	Goal of Dialogue
Persuasion	Conflict of opinions	Persuade other party	Resolve or clarify issue
Inquiry	Need to have proof	Verify evidence	Prove(disprove) hypothesis
Negotiation	Conflict of interests	Get what you most want	Settle issue
Information-seeking	Need information	Acquireorgive information	Exchange information
Deliberation	Practical choice	Fit goals and actions	Decide what to do
Eristic	Personal conflict	Hit out at opponent	Reveal deep conflict
Discovery	Need an explanation	Find a hypothesis	Support hypothesis

Table 3: Walton's Seven Dialogue Types

By analyzing the two shifts in Walton's classification criteria and the number of dialogue types, we can find that information-seeking dialogue is always present throughout these two shifts and is considered as an important dialogue type in the three versions of dialogue types in three different periods of time, which is enough to show the status and role of information-seeking dialogues in everyday argumentation. In the following, we will specifically analyze the main characteristics of information-seeking dialogue and try to classify information-seeking dialogue according to the characteristics they possess.

2. THE MAIN CHARACTERISTICS OF INFORMATION-SEEKING DIALOGUE

An information-seeking dialogue consists of two participants, one seeking information and the other trying to provide it. Usually, the questioner is not looking for any random information, but is seeking information from the respondent on some specific topic or wants to accomplish some task or purpose through the information-seeking dialogue. Walton (Walton, 1998, p. 126) summarizes the characteristics of information-seeking dialogue as: "The role of the respondent is to transmit this information by giving answers or replies that are as clear and as helpful as possible. Hence, this type of dialogue is asymmetrical in nature, yet highly collaborative and non-adversarial." We can summarize Walton's description of the characteristics of information-seeking dialogue as "asymmetry", "collaborative" and "non-adversarial".

But are all information-seeking dialogues “asymmetrical” and “non-adversarial”? We can take a common everyday conversational context as an example (in Case 1) to analyze the characteristics embedded in the structure and content of information-seeking dialogue.

Case 1: In a negotiation dialogue between a vendor and a buyer about the price of an item, an information-seeking dialogue may be inserted:

SELLER: My product is of excellent quality, so \$50 is a very fair price.

BUYER: I think there are many similar items on the market and \$40 would be more appropriate. What is the market price of this product?

SELLER: This product is a handicraft and the market price is not a measure of its value.

In this dialogue, the buyer’s question, “What is the market price of this product?” can serve as a kind of information seeking to the seller. At this point, the two parties, as participants in the overall framework of the negotiation dialogue, have adversarial identities: the seller wants to sell the product for \$50, and the buyer wants to buy the product for \$40. In this adversarial identity, the buyer asks a question that is relevant to both parties’ interests, that is, “What is the market price of this product?” In this case, we can make the following classification assumptions. Firstly, in the first level of the classification, there are two possibilities for the seller as a provider of information: (a) the seller has the information to solve the question; (b) the seller does not have the information to solve the question. If (a) is analyzed, there are also three categories: (i) the confirmation of the market price of the product is favorable to the seller in the negotiation; (ii) the confirmation of the market price of the product is unfavorable to the seller in the negotiation; and (iii) the confirmation of the market price of the product does not have a significant impact on the seller in the negotiation. If we continue to analyze (a)(i), i.e., the seller knows the market price of the product and it favors his position in the negotiation, then we can assume that at this point the seller would directly answer the buyer’s questions and provide the relevant information. Accordingly, if (a)(ii) is analyzed, i.e., the seller knows the market price of the product and realizes that the answer to the question is not favorable to his position in the negotiation, then the seller may withhold the information or use an evasive strategy to give a partial answer to the question. If (a)(iii) is analyzed, i.e., the seller knows the market price of the product but this information does not affect his position in the negotiation dialogue, the seller may choose to give a direct answer. However, in view of the general framework of the adversarial negotiation dialogue that he is in with the buyer, he may also withhold this information or provide only partial information, because in an adversarial position the seller may adopt a cautious attitude to avoid revealing too much information and thus weakening his position. If we analyze (b), the seller has only one choice at this point: (i) not to answer the question because he does not possess the information. The classification structure of the reply of the seller as an information provider in the information-seeking dialogue in Case 1 is shown in Figure 1:

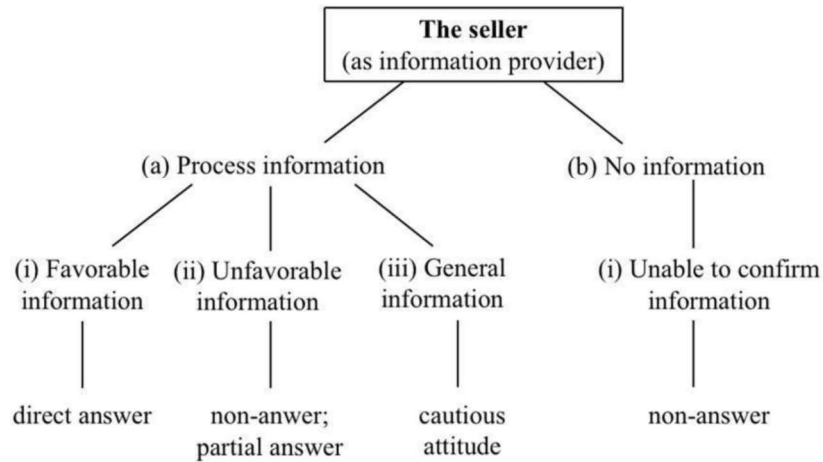


Figure 1: The classification structure of the responses in Case 1

After classifying and discussing (a) and (b) as well as the various scenarios, we can analyze the seller's reply in Case 1, "This product is a handicraft and the market price is not a measure of its value." In this case, the seller did not give a direct answer to the buyer's question, which may involve two situations: the first is that if (a) the seller has the information to solve the question, and the analysis shows that the provision of this information is either in favor of the seller or against the seller, and there is no situation in which the seller is not affected significantly in the negotiation. Therefore, the seller's reply that "this product is a handicraft and the market price is not a measure of its value" can be analyzed to show that the information should be unfavorable to the seller's position in the negotiation dialogue, which is the case in (a)(ii). In this case, if the seller knows the market price of the product and realizes that the answer to the question is not favorable to his position in the negotiation, the trader may withhold the information or use an evasive strategic, which is what the seller said, "the market price is not a measure of its value". In the second case, if (b) the seller does not have the information to solve the problem, and such information has a clear tendency to support the position of one of the parties in the negotiation dialogue, the seller will not answer, i.e., the case of (b)(i). However, from a common sense perspective, the seller has been selling and pricing such product for a long time, so (b) the seller does not know the market price of the product is less likely, and the probability is that it falls into case (a)(ii).

From the analysis of the structure and all possible scenarios of the information-seeking dialogue embedded in the negotiation dialogue of Case 1, it can be seen that this adversarial identity carries over to both parties in the information-seeking dialogue, under the premise that the overall framework of the dialogue is adversarial. Walton characterizes information-seeking dialogue as "asymmetrical," "collaborative," and "non-adversarial," which presupposes that information-seeking dialogue must exist independently as a cooperative conversation. Yet a large number of everyday instances of natural language communication show that information-seeking dialogue is often embedded in other dialogues as a way of seeking information in a dialectical shift and functional embedding. This is such that questioners and respondents in information-seeking dialogue will naturally have identities and relationships inherited from the overall dialogic framework in

which they are engaged, and such identities and relationships will have a direct impact on the performance of both the questioner and the respondent (especially respondents) in information-seeking dialogue. This also means that the respondent, in an adversarial identity, does not only provide collaborative answers to the questioner's questions, but may also hide relevant information that he or she has or give partial answers in an evasive manner. In other words, the structure of the information-seeking dialogue in this case can also be "symmetrical", with the questioner and the respondent arguing in an information-seeking context. Similarly, in Case 1, the relationship between the questioner and the respondent in terms of their respective goals is not purely "collaborative" and "non-adversarial". For the information-seeking dialogue embedded in the overall framework of adversarial dialogues, it is clear that the goals of the respondent and the questioner are also "adversarial": the questioner wants to achieve his own negotiation goals through the question, while the respondent, even if he has the relevant information to answer the question, may withhold the information because the provision of the information is detrimental to his negotiation position. Thus, when characterizing information-seeking dialogue, it can be either "symmetrical" or "asymmetrical" depending on the type of response of the respondent, and "collaborative" or "adversarial" depending on what the questioner and the respondent are trying to achieve. Therefore, when characterizing information-seeking dialogue, it can be either "symmetrical" or "asymmetrical", depending on the type of answer given by the respondent, or "collaborative" or "adversarial", depending on the identities and relationships of the questioner and the respondent within the overall framework of the dialogue.

3. CLASSIFICATION OF INFORMATION-SEEKING DIALOGUE

In the previous section, we characterized information-seeking dialogue as either "symmetrical" or "asymmetrical", "collaborative" or "adversarial". Combined with the redefined characteristics, we can categorize information-seeking dialogue through two classification levels.

3.1 The first classification level

We define "reply" as any answer provided by the respondent to the questioner, based on David Harrah's (David Harrah, 2002, p. 1) definition. The first level of classification refers to the type of reply given by the respondent to the questioner's question, namely non-answer type and answer type, which can be divided into partial answer and direct answer. The structure of the first classification level is shown in Figure 2:

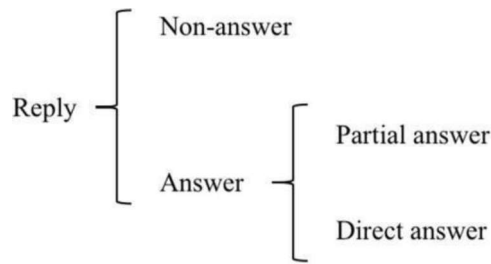


Figure 2: Structure of the first classification level

3.1.1 Respondent's reply type: non-answer type

A non-answer type can be any step that is permitted by the rules of the information-seeking dialogue in a particular situation. For example, reasonable non-answer reply by a respondent include, but are not limited to, “I don’t know,” “Your question is not very clear, can you tell me what you mean to say?” or any verbal response that is relevant to the question without solving it.

Case 1 is a good example of a non-answer type of reply, in which the respondent replies to the questioner’s question “What is the market price of this product” with “This product is a handicraft and the market price is not a measure of its value”. This answer does not directly or partially give the market price of the product, but it does give information that is relevant to the question, that is, the market price does not measure its value. In this case, the respondent gives a verbal response that is relevant to the question but does not solve the question. The non-answer reply allows the structure of the information-seeking dialogue to be not only “asymmetrical” but also “symmetrical”. Because (a) for the questioner, the question can contain “arguments”. (b) For the respondent, the respondent can either clarify his position (i.e., the respondent’s statement that “the market price is not a measure of the value of my product”) or challenge the questioner’s question.

3.1.2 Respondent's reply type: answer type

An answer type should consist of partial answer and direct answer. A partial answer from the respondent gives part of the answer needed for the question, while a direct answer from the respondent gives all of the answer needed for the question.

An example of a common sub-type of information-seeking dialogue is searching for information in electronic environments, in which the questioner is the user of the computer system and the respondent is the computer system itself, a software package that handles the user’s query task and provides relevant information. Their question-and-answer procedure is that the questioner (the computer user) asks a question (to retrieve) and the respondent (the computer system itself) answers the question (to retrieve information corresponding to keywords). In collaborative information-seeking, which exists in this independent context, the computer system searches for information in a relevant range around the user’s question, giving all or part of the answer required by the question as far as possible. It is worth noting that in case (a)(ii) cited in Case 1, it is also possible for the trader as a respondent to give a partial answer to the question under the adversarial identity,

which is considered as an evasive answering strategy under the adversarial identity.

3.2 *The second classification level*

The second classification level allows for the description of the relationship between participants as “collaborative” and “adversarial”, depending on the respective identities of the questioner and the respondent within the overall dialogic framework. The structure of the second classification level is shown in Figure 3:

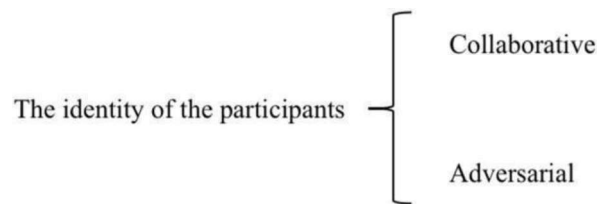


Figure 3: Structure of the second classification level

3.2.1 *Identity of questioner and respondent: collaborative*

The identities of the questioner and the respondent inherited from the overall collaborative dialogic framework are also collaborative, as in the case of deliberation, inquiry, and discovery. In these dialogues, we assume that the questioner of the embedded information-seeking dialogue intends to find information about what is needed to solve a problem or accomplish a task, and that the role of the respondent is to convey the relevant information that he has to the questioner. In this case, the questioner’s goal is to obtain relevant information from the respondent, and the respondent’s goal is to provide as much of that information as possible, the respondent presents a positive attitude toward the questioner’s question, and so the two are in a collaborative relationship.

3.2.2 *Identity of questioner and respondent: adversarial*

The identities of questioner and respondent inherited from the overall adversarial dialogic framework are adversarial, as in the case of persuasion, negotiation, and eristic. In these dialogues, since the questioner and the respondent have inherited an adversarial identity from the overall dialogic framework before starting the information-seeking dialogue, this identity carries over into the embedded information-seeking dialogue as well. This also means that the questions posed by the questioner will be somewhat tendentious, and the answers given by the respondent will not be entirely direct, but will most likely be a non-answer to conceal what they know to be unfavorable or a partial-answer to avoid some of the unfavorable information, the respondent presents a negative or cautious attitude towards the questioner’s question, so the two are in an adversarial relationship.

3.3 *Classification list of information-seeking dialogue*

In the above two subsections, we classify the first classification level according to the

different reply type of the respondent, in which the respondent's reply type can be non-answer, partial-answer, and direct-answer; and we classify the second classification level according to the different identities of the questioner and the respondent under the overall dialogic framework, in which the questioner and the respondent will continue to have collaborative identities under the collaborative overall dialogic framework, and will continue to have adversarial identities under the adversarial overall dialogic framework. By analyzing the first classification level and the second classification level, we can come up with a classification list of information-seeking dialogue, as shown in Figure 4.

Second level First level	Non-answer	Partial answer	Direct answer
Collaborative	Collaborative non-answer type	Collaborative partialanswer type	Collaborative direct answer type
Adversarial	Adversarial non-answer type	Adversarial partialanswer type	

Figure 4: Classification list of information-seeking dialogue

We combine the three types at the first classification level and the two types at the second classification level to come up with the following five types: collaborative non-answer type, collaborative partial answer type, collaborative direct answer type, adversarial non-answer type, and adversarial partial answer type. In particular, the adversarial direct answer type does not exist in our classification list because it is reasonable to expect that a respondent in an adversarial identity would be negative or cautious and thus avoid giving any direct answer.

After distinguishing the five types of information-seeking dialogue, we can define each type to clarify its boundaries and meaning. First, the initial question that distinguishes the five types is "Is the overall framework of the dialogue in which the parties are engaged collaborative?" There are two possible "yes" or "no" answers to this question. If the answer is "yes", that is, the overall framework of the dialogue in which the parties are engaged is collaborative, in this case there is a second level of question "Does the respondent's reply contribute to the solution of the problem?" There are still two "yes" or "no" answers to this question. If the answer is "yes", the respondent's response contributes to the solution of the problem, then we can continue to ask the third level question, "Does the respondent's reply address all problem in the question?" For this question, if the answer is "yes", that is, under the framework of collaborative overall dialogue, the respondent's reply not only contributes to the solution of the problem, but also solves all the problems in the problem, so it belongs to the "collaborative direct answer type". If the answer is no, that is, under the framework of collaborative overall dialogue, the respondent's reply only partially solves the problem although it contributes to the solution of the problem, so it belongs to the "collaborative partial answer type". Returning to the second level of the question "Does the respondent's reply contribute to the solution of the problem?" If the answer is "no", the

respondent's reply does not contribute to the solution of the problem and therefore belongs to the "collaborative non-answer type". These are all relevant cases in which the answer to the initial question is "yes", and then we will analyze the case in which the answer to the initial question is "no". When the answer to the initial question is "no", that is, the overall framework of the dialogue in which the two parties are involved is not collaborative, the second question is still "Does the respondent's reply contribute to the solution of the problem?" The answer can be "yes" or "no"; If the answer is "yes", that is, in the overall framework of the adversarial dialogue, the respondent still provides information contribute to the solution of the problem, and therefore belongs to the "collaborative partial answer type". If the answer is "no", that is, the respondent did not contribute to the solution of the problem within the overall framework of the adversarial dialogue, he is considered to have provided some relevant but unhelpful information and thus belongs to the "adversarial non- answer type".

3.4 Five types of classification discussion with case support

In the previous subsection, we distinguished five different types of information-seeking dialogue according to two different classification levels. Below we will discuss specifically the situations in which each type exists, as well as some case support.

3.4.1 Collaborative non-answer type

A collaborative non-answer type is one in which the respondent does not provide any answer that would solve the problem within the overall framework of a collaborative dialogue. When dealing with collaborative non-answer type of information-seeking dialogue, it is necessary to distinguish between two completely different situations: the first situation is when the respondent is completely ignorant of the problem, a common example of this is when the respondent is incapable of giving an answer that can solve the problem; the second situation is when the respondent gives some relevant information that does not help to solve the problem, a common example of this is when the respondent misunderstands the real meaning of the questioner due to the ambiguous question asked by him.

3.4.2 Collaborative partial answer type

A collaborative partial answer type is one in which the respondent provides some, but not all, of the information needed to address the question within the overall framework of a collaborative dialogue. This may mean that the respondent does not have the ability to answer the question in its entirety, such as in response to the question, "Do you know who crashed my car?" A possible partial answer might be "I'm not sure who crashed into your car, but the CCTV here should have recorded the whole thing".

3.4.3 Collaborative direct answer type

The collaborative direct answer type is one in which the respondent provides all the information needed to address the question within the overall framework of a collaborative

dialogue. This type is the one that best fits Walton's description of the characteristics of information-seeking dialogues as "asymmetrical," "collaborative," and "non-adversarial," and it is also one of the most common types of information-seeking. Specific examples include "from position to know" and "searching for information in electronic environment".

3.4.4 Adversarial non-answer type

The adversarial non-answer type is one in which the respondent does not provide any answer that would solve the problem within the overall framework of an adversarial dialogue. This type, like the collaborative non-answer type, can be distinguished into two different situations: the first one is when the respondent is completely ignorant of the question, in which case the respondent is unable to give an answer; the second one is when the respondent provides some relevant information related to the question, but does not solve the problem, such as in Case 1, where the trader gives an answer "The market price of this product is not a measure of its value" in response to the buyer's question "What is the market price of this product?" The trader does mention information about the market price, but this information does not solve the buyer's problem. This attitude and answer is due to the adversarial overall dialogic framework in which both parties are situated, which is what this paper is trying to distinguish from Walton's characteristic definition of information-seeking dialogue.

3.4.5 Adversarial partial answer type

An adversarial partial answer type is one in which the respondent provides partial information that solves a problem within the overall framework of an adversarial dialogue. And this behavior of choosing to provide partial information despite the confrontational identity is an evasive response strategy, for example, in a technical staffing interview, the interviewer as the questioner asked the candidate, "What was your last job?" The candidate replied, "I worked at Company XX before." According to Kaiser's (Kaiser, 1979, p. 48) description of this type of job interview conversation, the interviewer and the candidate (i.e., the questioner and the respondent) have different purposes, and there is an inherent competitiveness between them. The respondent gives partial information about the question, i.e. the address of his last job: company XX, but does not provide his specific position and the specific work matters he was responsible for. Under the influence of the adversarial identity, the respondent will handle his answer carefully to avoid revealing his vulnerability and thus putting himself at a disadvantage. Another case occurred in a loan counseling session that took place at a bank, the lender, as the questioner, asks the bank manager about the length of the loan, "Are more people choosing to take out a five-year loan or a ten-year loan?" The bank manager replied, "More and more people are opting for a ten-year loan now." But the truth here is that the total number of people opting for five-year loans is much larger than those opting for ten-year loans. The background information here is that banks have different interest rates regarding five-year loans and ten-year loans; the interest rate on a five-year loan is lower than the interest rate on a ten-year loan, so the bank manager would expect the lender to choose a ten-year loan. The bank manager at this point chooses to answer only part of the information in the question and gives a very ambiguous answer. The bank manager may lead the questioner to misunderstand that more

people choose ten-year loans than five-year loans. Under the influence of an adversarial identity, the respondent will handle his answer with caution, and partial answers are a common form of communication.

In fact, information-seeking of the adversarial non-answer type and the adversarial partial answer type is very common in everyday life and argumentation because the collaborative identities and relationships of the parties involved in information seeking dialogues are not a given. The fact that information-seeking dialogue, as a type of dialogue for obtaining information, often involve dialectical shifts and functional embedding of different dialogue types also means that the relationships and identities of the two parties to an information-seeking dialogue are affected by the overall dialogue into which that information-seeking dialogue is embedded, and that this identity carries over into the information-seeking dialogue, prompting the respondent to adopt a conservative attitude in response to the questioner. Another example occurs in parliamentary debates in Euro- American politics: the questions asked in parliamentary debates usually contain assumptions and presuppositions that have evidential force, and therefore also function as arguments. Such arguments are not only very complex, but are clearly intended to be disruptive attacks, suggesting that both the respondent and his entire party are guilty of some kind of dishonorable behavior (Walton, 1998, p. 142). As a respondent, it is very dangerous in an adversarial capacity to directly answer a question with disruptive presuppositions of the questioner, and it is much better to respond with a partial answer or a non-answer type of reply: e.g., to question the presuppositions of the question or to give information in the question that is not harmful to oneself.

4. CONCLUSION

In response to Walton's description of the characteristics of information-seeking dialogue: "asymmetrical", "collaborative" and "non-adversarial", we distinguish two levels of classification from the perspective of the common context in everyday argumentation, that is, information-seeking dialogue as a sub-dialogue embedded into other types of dialogue. In the first classification level, the dialogue structure can be "asymmetrical" or "symmetrical" by identifying the type of reply to the question. In the second classification level, through the analysis of the identity and relationship inherited by the questioner and the respondent under the overall dialogue framework, the relationship between the two parties can be either "collaborative" or "adversarial".

By reconstructing the external structural characteristics and internal relational characteristics of information-seeking dialogue, we can recognize how information-seeking dialogue (1) participate in dialectical shifts as well as being embedded in other types of dialogues; (2) serve as an argumentative structure that helps the dialogue participants to achieve their argumentative goals; and (3) likewise contribute to a deeper understanding of the other types of dialogues.

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