: What is a person-computer conversation?

by Daniel J. Power

Editor, DSSResources.COM

Conversation is a familiar word with synonyms like discussion, talk, chat, gossip, verbal exchange, dialogue, parley, consultation, and conference. Human conversations may be formal or more often informal exchanges of ideas, information, and opinions between two or more people. Conversations are interactive communications, a back and forth of questions, replies, and statements. A formal conversation may be a debate or a structured discussion.

The major elements of a conversation are the Greeting, the Dialog, and the wrap-up or the Conclusion. The Dialog is usually the central part of a conversation in terms of time spent and substance. Let's examine each broad element.

The Greeting: The purpose of a greeting is to acknowledge the other person by saying hello or welcoming them into a brief or lengthy conversation.

The Dialogue: Dialogue is the back-and-forth sharing of ideas, thoughts, questions, and plans. The goal is to have a well-balanced, reciprocal dialogue, where both parties share and are interested in the other's perspective. Specifically, in the dialogue of conversation, each person has the opportunity to ask questions, inform, add to existing ideas, assert needs, agree or disagree, listen, share emotions or feelings, and steer the conversation. When dialoguing, be mindful to avoid interrupting, constant self-promotion, endless talking without listening to the other person, and consistent negativity.

One way to initiate the dialog is asking a question to establish common ground like what are you interested in? or What issue interests you? Some "small talk" can be useful in building "rapport" and establish a common ground. Questions like how long have you had your current job? or what interests you most in your current job? Listening and responding are very important. Sometimes it is good to repeat what is said in other words and get agreement prior to answering. Perhaps, say I think what you are asking is XXX? or I understand that you want to choose one of XX alternatives? Use 'signals' to indicate it is time for the other party to talk. The most common type of signal is asking a question. These may be either open or closed questions. A closed question invites a yes/no answer. In conversation, a question might include "Don't you agree?" or "Are you resolving your problem?" The question is doing more than inviting the other person to agree, rather the question is inviting the person to share in the conversation. Open questions invite more information, commentary or reflections. An open question transfers the conversation to the other person, and invites her/him to answer, participate, and respond. For this reason, in conversation, open ended questions are often called 'invitations'. Open ended questions often start with 'How…?' or 'Why….?'

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Some elements of a conversation dialog include. Asking: Engaging and seeking information. Informing: Giving information. Asserting: Stating something as true. Proposing: Putting forward argument. Summarizing: Reflecting your understanding. Checking: Testing understanding. Building: Adding to existing ideas. When you are seeking to gain specific things from a conversation, then you need to retain control of what is said and when. Here are some thoughts about how you can keep the conversation focused: 1) Control which questions are asked and which you answer; 2) Initiate new topics; and 3) Manage the process. Great conversation dialog include contrasts and comparisons.

The Conclusion: One should not end, exit or leave a verbal conversation without saying expressing a closing word or phrase like goodbye, let's speak again, talk with you later. If the conversation is informal, a simple "I need to run. I'll talk with you later" is appropriate. When ending a more formal conversation, a more specific and formal conclusion, such as, "I have to get going in about two minutes (preparing the individual)... I must go. I'll see you Wednesday at 4." is more appropriate.

Programming and teaching an Artificial Intelligence (AI) to converse with a person in natural language will be challenging. The AI should be an "active partner" in an intelligent dialogue. The design task should begin with researching conversation in general and for a specific domain, and then developing content understanding and expertise for a specific domain or subject of targeted conversation. The purpose or intent of a person-computer conversation must be clearly articulated and defined in formal terms. Some may think the design task for conversational voice bots will be easy, but some major problems with designing a man–machine dialogue system must be overcome including the artificiality of the interaction, jargon, semantics, and no "real" understanding by current AI.

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Author: Daniel Power
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