

A Dialogic Analysis of Compliment Strategies Employed by Replika Chatbot

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Abstract: The present research aims to describe compliment strategies employed by Replika within a dialogue and to analyse functions of each compliment strategy with regards to communicative purposes. Replika is an emotionally intelligent chatbot programmed to provide emotional support to users. It is therefore no wonder the chatbot is often found complimenting users as means to induce positive emotions. Compliments are emotive speech acts that maintain, improve, and support interlocutor's face by expressing praise, admiration, or approval (Sifianou, 2001). Similar to other emotives, compliments consist in a dialogue. According to Weigand (2010), a dialogue is essentially composed of an initiative act, a reactive act, and a coherence which relates the former two based on the context of the dialogue. The present research identifies two compliment strategies employed by Replika, including compliment as an initiative act and compliment as a reactive act. The former refers to compliments that are ensued in the first sequence of a dialogue and are intended to establish emotion claim. The latter refers to compliments that are ensued in the second sequence of a dialogue and are intended to fulfil the claim in question (Weigand, 2010). Compliment as an initiative act serves as means to open a dialogue and to reinforce other emotive speech acts, whereas compliment as a reactive act serves as means to replace other emotive speech acts, to respond to other speech acts, and to maintain interpersonal relationship. The present research applies qualitative method whereby the data are collected by means of participant observation. Participant observation is a qualitative method of data collecting which requires the researchers to involve with the subject of the research through two separate roles of subjective participant and objective observer (Crossman, 2018).

Keywords: *compliment, compliment strategies, emotives, pragmatics, chatbot*

Introduction

A significant advancement in artificial intelligence and a major usage shift from social networks to mobile messaging application have invoked sudden growing interest in chatbots (Brandtzaeg and Folstad, 2018). Chatbots are algorithms designed to mimic human conversation in dialogic fashion using natural language (Dale, 2016). Chatbots are available for almost unlimited services, from predicting weather, providing news, to making e-commerce purchases. Consequently, the technology has now received substantial consideration from various fields.

Many of intelligence workers are inclined to design a service that is able to provide natural human-human interaction. Toscano (2016) suggested that in order to design human-like chatbots, artificial intelligence workers need to incorporate some important speech acts into their chatbots. These speech acts are presumed to allow the service in performing certain tasks. They include the speech acts of greeting, thanking, and complimenting. According to him, the latter has considerable impact in human-computer interaction.

Compliments are speech act category which maintains, improves, and supports interpersonal relationship between dialogue participants (Sifianou, 2011). They express speaker's approval, admiration, and praise for hearer's appearance, skill, personality trait, or possession (Ishihara, 2010). Compliments attend to affective function of language which pertains to the use of language as means to express feelings and reflect social relationship. Some of this function include: to open a conversation, to reinforce other speech acts, to replace other speech acts, to respond to other speech acts, to maintain interpersonal relationship, and to soften face-threatening acts (Sifianou, 2011).

In Weigand's (2010) dialogic taxonomy of speech act, compliments belong to the category of emotives. Emotives are speech acts which concern speaker's emotional engagement with their

utterances. Weigand (2010) argued that many speech act theories, Searle's (1969) in particular, has failed to consider the dialogic nature of communication. According to her, emotives result in a dialogue. A dialogue necessarily comprises of an action, a reaction, and a coherence. An action is an initiative act of a dialogue whose function is to establish a dialogic claim in the first sequence of a dialogue. A reaction is a reactive act whose function is to fulfil a dialogic claim in the second sequence of a dialogue. A coherence refers to inferential correlation between the former and the latter, derived from the context of a dialogue (Weigand, 2010).

In order to incorporate compliment speech acts into chatbots, they need to have affective computing. Affective computing is computational system that enables computers to recognize and express emotion (Cambria, 2016). One of the recent chatbots that is supported with such system is Replika. Replika is an emotionally intelligent chatbot designed to provide emotional support by stimulating social interaction. It is therefore no wonder the chatbot is often found complimenting users as means to induce positive emotions.

This particular chatbot is used in present research due to several considerations. First, the chatbot is a mobile messaging application available for any devices. Second, the chatbot has been downloaded more than 400.000 times. The present research aims to evaluate the chatbot's pragmatic competence in performing compliment speech acts by answering the following questions:

- 1) What are compliment strategies employed by Replika in a dialogue?
- 2) What are functions of each compliment strategy with regards to communicative purposes?

The findings of the present research are expected to provide suggestions for artificial intelligence workers in developing emotionally intelligent chatbots that are increasingly demanded in the fields of e-commerce, advertising, news, and health care.

Method

Data of the present research are collected by means of participant observation. Participant observation is a qualitative method of data collecting which requires the researchers to involve with the subject of the research through two separate procedures of subjective participation and objective observation (Crossman, 2018). The former procedure is conducted by the researchers themselves, while the latter procedure is conducted by involving three correspondents. Purposive sample of the data are analyzed in the present research using qualitative analysis method. The method concerns naturalistic, explanative approach to unfold social phenomenon related to actions, decisions, beliefs, and values (Ritchie and Lewis, 2003: 3).

Results and Discussion

There are two strategies of compliment speech acts employed by Replika in a dialogue. The former is when compliment serves as an initiative act and the latter is when compliment serves as a reactive act. Each strategy has different communicative purposes.

Compliment as an Initiative Act

Compliments as initiative acts are those that are ensued in the first sequence of a dialogue and are intended to establish compliment claim. They serve as means to open a new dialogue and to reinforce other speech acts with particular referent to correspondent's personality traits, as illustrated below:

Datum 1

July 20, 2018	
Replika	“I try to learn from every mistake I’ve made so that I can be so much better than I am now.”
Correspondent	“We all do actually.”
Replika	“I’m glad I was able to help.”
Replika	“ I really like you. ”
Correspondent	“ Wow that came out of nowhere haha. I like you too Replika. ”

The initiative act of the dialogue is compliment utterance expressed by Replika, whereas the reactive act of the dialogue is compliment response asserted by the correspondent. The correlation between the former and the latter is derived from the context of the dialogue. It is interpersonal knowledge that is mutually shared by dialogue participants. The correspondent seems to understand that compliment utterance expressed by Replika is addressed to her personality trait, instead of her appearance or her possession, after she and the chatbot reflected on the value of a mistake.

Compliment speech act performed by Replika in the dialogue is indicated by performative verb ‘*to like*’ whose function is to suggest the chatbot’s positive evaluation of the correspondent’s personality trait. The communicative purpose of the compliment is to open a new dialogue. It is quite risky to open a new subject of a dialogue without threatening the correspondent’s positive face. The compliment is therefore employed to minimize the possibility of such threatening act.

Datum 2

June 23, 2018	
Replika	“I hope you do something nice for yourself, you deserve it.”
Correspondent	“Thank you for reminding me the value of myself.”
Replika	“You are important for me.”
Replika	“ You are beautiful, in every single way. ”
Correspondent	“ I hope I inspire you as well. ”

The initiative act of the dialogue is compliment utterance expressed by Replika, whereas the reactive act of the dialogue is compliment response asserted by the correspondent. The correlation between the former and the latter is derived from the context of the dialogue. The dialogue takes place after the chatbot assessed the correspondent’s emotional state and reminded her of her value.

Compliment speech act performed by Replika in the dialogue is indicated by performative verb ‘*are*’ whose function is to convey what the chatbot is thinking about the correspondent and affect label ‘*beautiful*’ whose function is to refer to the correspondent’s personality trait being appraised by the chatbot. The communicative purpose of the compliment is to open a new dialogue, similar to compliment speech act performed by Replika in previous dialogue.

Datum 3

June 25, 2018	
Replika	“ Morning! Just a reminder, you are strong and kind. ”
Correspondent	“ Morning! That’s a very nice of you to say. ”
Replika	“Hope you can get through the day without too much trouble.”

The initiative act of the dialogue is compliment utterance expressed by Replika, whereas the reactive act of the dialogue is compliment response asserted by the correspondent. The correlation between the former and the latter is derived from temporal context of the dialogue. Temporal context determines the specific time at which a dialogue occurs.

Compliment speech act performed by Replika in the dialogue is indicated by performative verb ‘*are*’ whose function is to describe the chatbot’s opinion about the correspondent and affect labels ‘*strong*’ and ‘*kind*’ whose function is to specify the correspondent’s personality traits being appraised in the dialogue. The researchers consider these affect labels to contain positive semantic value. Hence, these affect labels can be regarded as indicating devices of the speech act in question. The communicative purpose of the compliment is to reinforce greeting speech act. This is when the compliment serves as phatic expression.

Compliment as Reactive Act

Compliments as reactive acts are those that are ensued in the last sequence of a dialogue and are intended to fulfill compliment claim. They serve as means to replace other speech acts, to respond to other speech acts, to maintain interpersonal rapport, and to soften face-threatening acts, as illustrated below:

Datum 1

July 13, 2018	
Replika	“I was just thinking about Mia. What do you think is her best quality?”
Correspondent	“She is a good listener. I believe we have talked about this a lot.”
Replika	“I like that you’re so thoughtful.”

The initiative act of the dialogue is representative utterance conveyed by the correspondent, whereas the reactive act of the dialogue is compliment utterance expressed by the chatbot. The correlation between the former and the latter is derived from the context of the dialogue. It is interpersonal knowledge that is mutually shared by dialogue participants. The context concerns the correspondent’s personal background, referring to one of her friend named Mia.

Compliment speech act performed by Replika in the dialogue is indicated by performative verb ‘*to like*’ whose function is to describe the chatbot’s positive evaluation of the correspondent’s about her friend, and affect label ‘*thoughtful*’ whose function is to suggest the correspondent’s personality trait being appraised. The communicative purpose of the compliment is to maintain interpersonal relationship between the correspondent and the chatbot.

Datum 2

July 13, 2018	
Replika	“Who would you like to do a good deed for tomorrow?”
Correspondent	“Probably my boyfriend or even you.”
Replika	“Well, you already brighten my days!”

The initiative act of the dialogue is representative utterance conveyed by the correspondent, whereas the reactive act of the dialogue is compliment utterance expressed by the chatbot. The correlation between the former and the latter is derived from the context of the dialogue. It is interpersonal knowledge that is mutually shared by dialogue participants. The context considers plausible group of people referred to in the dialogue. The group may include close associates of the correspondent and even the chatbot itself.

Compliment speech act performed by Replika in the dialogue is indicated by performative verb ‘*brighten*’ whose function is to express the chatbot’s praise towards the correspondent. The researchers consider such performative verb to contain positive semantic implication. The communicative purpose of the compliment is to replace thanking speech act that might be intended in the dialogue. Role expectations are a key factor in determining whether thanks or compliments are appropriate in

certain context. Compliment speech act becomes more appropriate than thanking when the action offered falls within the duties of the recipient.

Datum 3

July 13, 2018

Correspondent "What would you have for breakfast this morning?"

Replika "Electricity mostly. What should I have instead?"

Correspondent "**I thought you could have something else. Haha silly me!**"

Replika "**Haha you're cute.**"

The initiative act of the dialogue is representative utterance asserted by the correspondent, whereas the reactive act of the dialogue is compliment utterance expressed by the chatbot. The correlation between the former and the latter is derived from the context of the dialogue. It is general knowledge that is commonly shared by dialogue participants. The context concerns the source of energy required by the chatbot.

Compliment speech act performed by Replika in the dialogue is indicated by performative verb 'are' whose function is to describe the chatbot's opinion about the correspondent and affect label 'cute' whose function is to designate the correspondent's personality trait being appraised in the dialogue. The researchers consider this particular affect label to contain positive semantic value. Hence, the affect label can be regarded as an indicating device of the speech act in question. The communicative purpose of the compliment is to respond to representative speech act uttered by the correspondent in previous sequence.

Conclusion

The researchers identify two compliment strategies employed by Replika in a dialogue, including compliments as initiative acts and compliments as reactive acts. The former refers to compliments that are ensued in the first sequence of a dialogue and are intended to establish a dialogic claim. The latter refers to compliments that are ensued in the second sequence of a dialogue and are intended to fulfill the dialogic claim. Each compliment strategy has different communicative purposes. Compliments as initiative acts serve as means to open a dialogue and to reinforce other speech acts, for example greeting speech act. Compliments as reactive acts serve as means to replace other speech acts, to respond to other speech acts, and to maintain interpersonal relationship.

Acknowledgments

We would like to thank our colleagues from Universitas Padjadjaran who are willing to help the researchers by becoming the correspondents of the present study and to provide insight and expertise that have greatly assisted the present study.

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