Not That Button but the Other: Misunderstanding and Non-understanding in Helpdesk Encounters Involving Nonnative English Speakers

Ardion Beldad & Michaël Steehouder

Abstract

Purpose: The internationalization of "technical help over the phone" is tied to the increasing usage of a *lingua franca* facilitating the interaction between a call center agent and a caller who are both linguistically different. Researchers have noted that interactions between two parties who are nonnative users of the language employed for the encounter are peppered with understanding problems. This study looks into the causes of understanding problems in helpdesk encounters between nonnative speakers of English and the techniques those interacting parties used to resolve or prevent flaws in the conversation.

Method: Conversation analysis was used to analyze 25 recorded phone calls, amounting to 750 minutes of data, made in a commercial call center and in the helpdesk of an international academic institute in Enschede, the Netherlands.

Results: Analysis of the phone calls reveals that causes of understanding problems between an agent and a caller who are nonnative users of English go beyond asymmetries in their proficiency with the language. Factors such as incomplete information or erroneous inference from the utterance of the partner in the interaction are important triggers for the occurrence of understanding problems. Consequently, call center agents and callers use varied repair and preventative techniques to ensure that understanding problems will not impede the attainment of the primary goal of the encounter—to resolve the product-related problem of the caller.

Conclusion: While understanding problems are inevitable in helpdesk encounters, especially those that involved nonnative users of the language employed for the interaction, such problems are hardly attributable to the linguistic differences characterizing interacting parties. It is apparent that helpdesk agents and callers are equipped with varied techniques to resolve understanding problems or to prevent their inception.

Keywords: helpdesk encounters, misunderstanding, non-understanding, conversation analysis

Helpdesk Encounters Involving Nonnative English Speakers

Practitioner's Takeaway

- Training programs designed for helpdesk agents should focus not only on technical aspects and protocols for politeness or friendliness but also on the different ways of effectively transmitting solutions over the telephone.
- Although understanding problems are hardly attributable to linguistic differences characterizing the helpdesk agent and the caller, the need to staff call centers with agents highly proficient in the English language is still compelling.
- With the aid of conversation analysis, technical communicators should further explore the different techniques employed to deal with understanding problems in helpdesk encounters and look into the various strategies deemed effective in relaying procedural instructions over the phone.

Introduction

As customer help activities, for English-speaking markets for instance, are continuously offshored in countries where English is the main language or where there are large English speaking population such as the Philippines, India, Ireland, South Africa, and Canada (Friedland, 2005), the opportunity for two parties to interact using a common language, despite variations in the interacting parties' proficiency with the language, is high. The growth of the call center industry, however, is a phenomenon not only in developing countries where labor costs are relatively low but also in countries with highly developed economies such as Germany and the Netherlands (Holman, Batt, & Holtgrewe, 2007).

A 60-year-old man from Reykjavik challenged by the crippling complexity of feeding audio files into his MP3 player may be redeemed from the technical quagmire with a little help from a call center agent in the Netherlands. The necessary help, however, can only be delivered and received when both parties can scale the heights of Babel's tower. This is to say that the internationalization of technical help is inseparable from the need to employ a *lingua franca* for the effective transmission and reception of vital information over the telephone.

The internationalization of "technical help over the phone" precipitates the use of a common language that facilitates the effective exchange of information between two linguistically different parties to resolve a specific product-related problem. An effective way of personalizing a service in a multilingual service encounter is by providing that particular service using the language of the client (Torras, 2005). In the Netherlands, for instance, call centers employ Spanish-speaking agents to cater to clients in Spain and Polish-speaking agents for product users in Poland. English-speaking clients are attended to by English-speaking agents (whether the agents are native or nonnative speakers of the language), hereafter referred to as NS and NNS, respectively. In some cases, however, English becomes the operational language for the service seeker from Iceland and the service provider from the Netherlands if an interaction in either Icelandic or Dutch is unfeasible.

Interactions between two individuals who are nonnative users of a particular language used are bound to encounter understanding problems (Gass & Varonis, 1991; Kurhila, 2001; Weigand, 1999). Such problems, which could be in the forms of misunderstanding and non-understanding, are often attributed to cultural and linguistic differences delineating the interacting parties (Gass & Varonis, 1991; Weigand, 1999). It is tempting to suppose that understanding problems tied to linguistic differences are caused by the interacting parties' difficulties in the formulation of intelligible sentences, their relative unfamiliarity with the target language's vocabulary, and their handicap in pronouncing words and terms. Nonetheless, researchers have also credited knowledge problems (Bazanella & Damiano, 1999) and cognitive constraints (Weigand, 1999) as critical factors triggering understanding problems.

This study focuses on the understanding problems that are bound to arise in helpdesk interactions between two nonnative speakers of English in the Netherlands.

Twenty-five recorded phone calls made in a commercial call center and in the helpdesk of an international academic institution, both located in the eastern part of the Netherlands, were used for analysis. Selection of talk segments used for analysis was initially guided by two questions upon which the study was anchored: (1) what factors contribute to the occurrence of misunderstanding in helpdesk conversations? and (2) what strategies are used to address cases of misunderstanding? Repeated inspection of the completely transcribed telephone conversations also enabled the researchers to detect instances of non-understanding and the deployment of preventative mechanisms to restrain understanding problems.

Problems with Using English as an Operational Language

Since English has become a global language in the 21st century (Bruthiaux, 2002; Burns, 2003; Crystal, 2003) permeating international politics, commerce, tourism, the academic and scholarly community (Crystal, 2003) and the World Wide Web (Hjarvard, 2004), one can expect that helpdesk encounters between two people who do not share a common language would also resort to the usage of English to proceed with the delivery and the reception of the necessary technical help. Problems, nonetheless, are expected to stifle the interaction between two nonnative English speakers. The interacting parties' lack of equal access to the language of the encounter could result in intricacies that are not endemic in interactions between native users of the language (Kurhila, 2001). The possibility for miscommunication is profound in the interaction between an NS and an NNS or between two NNS since both parties do not share a similar language and differ in terms of discourse rules (Gass & Varonis, 1991).

Deen (1995) claimed that interactional problems between an NS and an NNS or between two NNS could be caused, primarily, by cultural differences resulting in diverging expectations concerning the content, goals, and process of the communication; and secondly, by the interacting parties' limited second language proficiency. Attribution of communication flaws to cultural differences characterizing the interacting parties echoes the assertion of the critical role culture plays in shaping communication (Agliati, Vescovo, & Anolli, 2005; Banks, Ge, & Baker, 1991; Seedhouse, 1998; Weigand, 1999).

When individuals from totally different cultural groups interact, significant variations in those individuals' level of language adeptness and the sociocultural protocols governing their discourse could spark miscommunication and misunderstanding (Weigand, 1999; Gass & Varonis, 1991). Understanding problems occurring in interactions between two individuals from totally different cultural groups, nonetheless, could not always be tied to the interacting parties' linguistic and cultural differences (Schegloff, 1987). In some cases, significant variations in the interacting parties' culture suffice to trigger communication flaws. In a study into conversations between Filipino call center agents and American customers, it was found that communication problems between the two parties could be attributed more to poor interactional discourse skills and cultural appreciation than to deficient language skills, for instance on the part of the agent (Forey & Lockwood, 2007).

Misunderstanding and Incomplete Understanding: The Scourges of Effective Communication

Miscommunication occurs when the speaker's intention does not match with the hearer's interpretation (Milroy, 1984). Weigand (1999) argued that with miscommunication, communication proceeds without the interacting parties' awareness of the fact that they are no longer addressing each other—that is the hearer becoming oblivious to his or her succumbing to misunderstanding and the speaker falling prey to his or her failure to recognize misunderstanding instantly.

The problem of miscommunication is differentiated into misunderstanding and incomplete understanding, which is further differentiated into non-understanding and partial understanding (Gass & Varonis, 1991). Viewing misunderstanding as a form of understanding that deviates from the speaker's intended meaning (Weigand, 1999) or as the hearer's incomplete or incorrect interpretation of the speaker's utterance (Hirst, Roy, Heeman, Edmonds, & Horton, 1997; McRoy & Hirst, 1995) is indicative of the confusion surrounding the concepts 'miscommunication' and 'misunderstanding'.

Weigand (1999) refers to misunderstanding as a form of understanding that is "partially or totally deviant from what the speaker intended to communicate" (p. 769). Misunderstanding emerges from the disappearance of coherence in the dialogue, especially when it is supposed that interacting individuals are cooperating and turns in the conversations are performed to achieve whatever goal precipitates communication between two parties (Ardissono, Boella, & Damiano, 1998). Bazzanella and Damiano (1999) attributed misunderstanding to four "triggers": (1) structural such as disturbances along the communication channel, (2) speaker-related such as the defective construction of information, (3) hearer-related such as erroneous inferences from the utterances of the speaker and lexical incompetence, and (4) interaction-related such as asymmetry in the knowledge of the speaker and the hearer.

Clearly, the occurrence of such triggers, as Bou-Franch (2002) suggested, are evidently tied to external sources and to the parties involved in the transaction. This assertion is tightly associated with the notion that misunderstandings do not sprout as "agentless mysteries" since interacting parties and their circumstances of interaction could be held accountable for misunderstanding (Banks, Ge, & Baker, 1991). Despite an awareness of the possibility for misunderstanding to occur, interacting individuals might still fail to detect its occurrence in the course of the conversation (McRoy & Hirst, 1995).

Non-understanding, as a type of incomplete understanding, refers to an instance in the interaction when the hearer is unable to connect information with stored information (Allwood & Abelar, 1984). The difference between misunderstanding and non-understanding is that the former ensues without the interacting parties' awareness of the problem, while the latter occurs when one party, specifically the hearer, realizes and recognizes his or her difficulty in understanding (Hirst *et al.*, 1994; McRoy, 1998; Weigand, 1999).

Weigand (1999) advanced that non-understanding, unlike misunderstanding, could not be regarded as a form of understanding since it is characterized by the difficulty on the part of one conversational party to understand the other party. Non-understanding, Bazanella and Damiano (1999) added, significantly differs from misunderstanding since the former signifies failure of comprehension in the course of a conversation. Additionally, one's failure to interpret an utterance results in non-understanding (Hirst *et al.*, 1994; McRoy, 1998), although non-understanding can also occur when a party in the conversation "obtains more than one interpretation, with no way to choose among them" (McRoy, 1998, p. 548).

Non-understanding can be distinguished into two cases. In the first case, the party who failed to understand indicates the need for 'enlightenment' after acknowledging his or her inability to understand. In the second case, the party succumbing to non-understanding opts not to indicate his or her failure to understand the conversational partner (Weigand, 1999). Non-understanding is inevitable when relevant pieces of information are missing and when a relevant strategy for connecting incoming information with whatever information is not available (Allwood & Abelar, 1984).

The Things People Do to Reach Perfect Understanding: Repair and Prevention

As understanding problems are unavoidable, particularly in the interaction between an NS and an NNS and between two NNS, it can be expected that people would resort to various strategies to reach complete understanding during the interaction. The salience of such strategies in remedying understanding problems is high in situations when people have to transmit and receive important information. The interaction between a technical service agent and a product user is an example of such situation.

Detection of understanding problems, either by the source of the problematic utterance or its recipient, prompts one party in the conversation to cooperate with the other party in an attempt to achieve understanding (Bazanella & Damiano, 1999)—primarily by correcting the problematic utterance (Kreuz & Roberts, 1993; Norrick, 1991). In the conversation analysis literature, such a correction act is synonymous with 'repair' recognized as a common strategy in dealing with understanding problems in conversational activities and in resolving difficulties in speaking, hearing, and understanding that could arise within conversations (Schegloff, 1997, 2000). The repair mechanism is composed of three important elements: the repaired

segment containing the repairable, the repair initiation, and the repairing segment (Rieger, 2003).

Schegloff, Jefferson, and Sacks (1977) categorized repair according to the conversational party responsible for its initiation: self-initiated (performed by the speaker of the trouble source) or other-initiated (the one made by any party other than the speaker of the trouble source). Researchers (e.g., Drew, 1997; Norrick, 1991; Rieger, 2003), however, claimed that self-initiated repair is preferred over other-initiated repair. Preference for self-initiated repair is hedged on two important reasons: first, such repair technique is not costly, as it requires only an extra word or phrase instead of two extra conversational turns; and second, while a self-initiated repair addresses one problem, it also prevents more potentially serious understanding problems in the succeeding phases of the conversation (Clark, 1994).

When misunderstanding arises within the conversation, the speaker of the utterance prompting misunderstanding could either initiate the necessary repair or wait for the recipient who succumbed to misunderstanding to initiate the request for a repair (Mason, 2004). Other initiated repairs, positioned immediately after trouble-source turns (Schegloff, 2000), therefore, are unavoidable because misunderstandings could just transpire anytime. Nonetheless, the source of the utterance triggering misunderstanding has the prerogative to deploy the needed correction (Norrick, 1991). When the source of the problematic utterance concurs with the request for repair, the needed correction is deployed, thereby resolving misunderstanding. However, if the repair request is rejected, communication breakdown can be expected (Bazanella & Damiano, 1999).

Repairing conversational problems can be executed by repeating a problematic segment of an utterance (Bazanella & Damiano, 1999; Bredart, 1990; Egbert, 2004; Rieger, 2003), specifying a correct alternative after the recognition of an ambiguity (Bazanella & Damiano, 1999; Bredart, 1990), replacing a vague term with clearer one (Rieger, 2003), and explicitly contrasting the interacting parties' interpretation of an utterance with its intended meaning (Bazanella & Damiano, 1999).

Clark (1994) argued that in certain situations interacting parties go beyond repairing errors since they can also resort to other strategies to deter the onset of conversational problems. With the goal of attaining common ground, as a prerequisite for the attainment of complete understanding, interacting parties, according to Clark and Schaefer (1989), should not only repair conversational troubles they encounter but should also actively pursue the achievement of understanding and the evasion of communication problems.

While repairing an error is good, preventing the error's occurrence, therefore, is more desirable. This is especially true in helpdesk encounters in which understanding problems could have severe ramifications for the effective exchange of crucial information in addressing a technical problem. Understanding problems, therefore, are better prevented than repaired since helpdesk encounters are mostly focused on highly equivocal tasks. Thus, the ideal is the achievement of correct and complete understanding for the immediate and effective formulation of the necessary solution to the product-related problem of the caller.

Clark (1994) likened conversation problems to infections that should preferably be handled adequately before they can grow into something worse. Indeed, using the medical adage, prevention is better than cure. The author further claimed that the speaker of the problematic utterance usually initiates prevention in an attempt to avert possible problems in speaking.

However, in this research, prevention is viewed as something that the other party in the conversation (primarily the recipient of the utterance) performs in an effort to attain a complete understanding of his partner's utterance. The postulation is that the recipient would clamor for an assurance that whatever message is received is correct and complete. This is unerringly true in institutional encounters (including helpdesk encounters) in which a high level of accuracy is coveted, though this can only be realized when interacting parties share the same mind frame about what is being discussed (implying that they share a common ground) eventually leading to understanding (Kurhila, 2001).

The Study

Conversational analysis (CA) was primarily employed in analyzing the data to address the research questions. CA is primarily used to study the order, organization, and orderliness of social actions, specifically those that are found in everyday interactions and in discursive

practices (Psathas, 1995). Research employing CA commences with an examination of cases (or conversational fragments). In the initial phase, analytic observations could be based on a detailed examination of a particular case, for instance, a sequence of turns apparently displaying some interesting properties (Wooffitt, 2005). In this study, for example, telephone conversation segments containing disruptions due to understanding problems were subjected to detailed analyses after the decision to focus on misunderstanding and non-understanding and on the techniques employed to repair or prevent them.

In helpdesk and/or call center encounters, conversational analysis has been applied to scrutinize the ways callers present and describe product-related problems (Baker, Emmison, & Firth, 2005; Houtkoop, Jansen, & Walstock, 2005) and the procedure of coaching callers to address their product-related problems (Steehouder, 2007). Published studies using conversation analysis to investigate understanding problems and the strategies used to deal with them in the context of helpdesk or call center encounters, however, are still non-existent.

The application of CA for this study subscribed to the five-step procedure proposed by Ten Have (2004): (1) production of materials to be analyzed (recording of the phone calls), (2) preparation of the transcriptions of the recordings, (3) selection of episodes for analysis based on several considerations (that is, the existence of a phenomenon in the different talks), (4) "making sense" of the episodes (categorizing the episodes or fragments according to commonalities), and (5) explication of the interpretation. Twenty-five recorded phone calls, amounting to 750 minutes of data, made in a commercial call center and a technical helpdesk of an international academic institution in Enschede, the Netherlands were used for this study. Both the commercial call center and the technical helpdesk of the academic institution are inbound in nature, which means that clients phone a helpdesk agent for service or information (Forey & Lockwood, 2007).

Ease in the transcription of the calls was possible using WavePad v 2.00, which enabled the researchers to control the speed of the recorded talks to precisely document the entire telephone conversation. The software also aided the researchers in textually capturing the important features of any talk such as intonation, pauses, sound stretches, and emphases (Psathas, 1995). The 25 recorded telephone conversations were completely transcribed. However, only relevant segments from the different conversations were used for analysis, in accordance to the third step proposed by Ten Have (2004).

The selection of the relevant segments was guided by two initial questions that drove the study: (1) what factors contribute to the occurrence of misunderstanding in helpdesk conversations? and (2) what strategies are used to address cases of misunderstanding? After listening to the recordings for a number of times, the researchers detected a significant percentage of non-understanding incidences in the different recordings, precipitating the inclusion of non-understanding cases in this paper. Repeated inspection of the transcribed conversations also revealed that parties in a telephonic interaction employed not only repair techniques but also preventative strategies to handle potential understanding problems.

Misunderstanding Transcends Disparities in Language Proficiency

Understanding problems, such as misunderstanding, have been often attributed to the linguistic differences between two interacting parties. A mainstream belief is that complexities abound in the interaction between two individuals who are nonnative users of the language employed for the encounter. Analyses of the recorded phone calls, however, reveal that misunderstanding in technical helpdesk encounters between two nonnative English speakers goes beyond linguistic differences. Instead such misunderstanding is due to an interacting party's erroneous inference from the utterance of the other and to the incompleteness of information in the other party's utterance. To a certain extent, this affirms Forey and Lockwood's (2007) assertion that communication problems between an NNS and an NS are not always attributable to the flawed language skills of a party in the conversation.

Erroneous Inferences as a Cause of Misunderstanding

An important limitation of telephone interaction, Backhaus (1997) argued, is the impossibility for interacting parties to share the same environment. This lack of shared environment deprives one party of the opportunity to have a picture of the immediate milieu of

the other. When one party indicates something, it may be interpreted differently by the other, thereby resulting in erroneous inference.

49	→	C	Um yeah the last one I press it (1.1) nothing is hap-pening (0.6)
50	→	A	In system↑ (0.7)
51	→	C	Yeah (0.2) in sys-tem (0.2)
52	→	A	If you press this ef three (F3) but-tons so called so, so lowest button
53	→	C	yeah
54	→	C	A ok moment, for hard disk
55	→	A	Yeah, ok that's the one↓ so now you can select that one
56		A	And format the hard drive of course

From the extract above, it is apparent that the caller, thereafter referred to as C, is confronted with the difficulty of locating the correct button to press. The problem was somehow remedied, as indicated by the utterance in line 49. However, towards the end of that line, he claims that nothing transpires after the execution of the act.

This prompted the agent, thereafter referred to as A, to request for clarification, in line 50, to ascertain that the caller really means that nothing is happening in the system. Such a request may have been instigated by the agent's surprise that the system still did not work after the right button was pressed. The caller's utterance in line 51 is an expression of his attempt to validate his claim in line 49, which the agent completed with an interrogative utterance in line 50.

Doubt on the part of the agent surfaced in line 52, as he inquires if the caller has really pressed the F3 button, emphasized by describing it as the lowest button. The caller's "yeah", in line 53, eventually changes to "A ok moment, for hard disk" (line 54). What does this sudden shift in tone imply? The first, with "*yeah*", is his assertion that indeed he has pressed the button that the agent has asked him. The caller's next utterance in line 54 (A ok moment…), however, is an admission that instead of pressing the F3 button, he has pressed another button—and whatever the button is, the recorded conversation does not indicate.

Going back to the agent's utterance in line 52 (*If you press this ef three but-tons so-called so, so, lowest button*), the request for clarification from the agent already takes the form of repair which, as Schegloff, Jefferson, and Sacks (1977) claim, is another example of a repair initiated by the person other than the source of the error. The flow of the conversation is then restored, in line 55, with the agent reiterating the button that the caller should press.

Incomplete Information as a Cause of Misunderstanding

In conversations relating to highly technical tasks, the transmission of complete information is expected and recommended (Kurhila, 2001). Weigand (1999), however, pointed out that oftentimes not everything can be expressed during a particular interaction due to "economy of language" and because parties in conversations are not always aware of every piece of information crucial for attaining complete understanding. Analyses of the recorded phone calls reveal that when pieces of necessary information are missing in one segment of the conversational act the probability for one party to succumb to misunderstanding is high. The extract below exemplifies a case of misunderstanding due to incomplete information.

121	→	A	Then leave it er open↑ (0.2) as it is (0.7) please (0.3) give (0.2)
122			only monitor (0.3) in foot (0.5) no cable (0.5) whatever cable can be
123			taken ::off (0.3) please take it off from the monitor↓
124	→	C	[now]↑
125		C	Now↑
126	→	A	Er you don't need to do now:: but in a couple of days when they come
127			and swap the monitor at your place↓

Prior to line 121, the agent asked the caller to provide the purchase date of the monitor, which could be found in the invoice for the equipment. The caller, however, claimed that he did not have the invoice with him, thus prompting the agent to inform him that he would not include the date of purchase in the set of information about the problematic monitor, in line 121 (*then I leave it er open as it is…*). In the first phase of the conversation, the agent had already collected the information that he needs to deal with the caller's

concern. The agent used his turn, in lines 121 to 123, to instruct the caller to perform a necessary action.

The caller must have interpreted the instruction as something urgent that needs to be performed right away, as evidenced by the utterance of "now" in line 124. The interrogative sounding *now* is again uttered in the caller's turn, line 125, which could be the customer's way of nudging the agent to attend to his first question, in line 124, whether he should do right away what the agent asks him to do. The misunderstood agent then positions a response, in lines 125 and 126, to the caller's inquiry.

It is possible to infer from this particular instance that the caller's notion of the time for him to act out on the articulated instruction does not coincide with that of the agent's. What is apparent is that the caller misunderstands the agent by thinking that he should do right at that moment the action of "taking off" whatever cable can be "taken off from the monitor." The deployment of "*now*" as a point for clarification by the caller becomes a signal for repair, which the agent acknowledges in lines 126 and 127.

Dealing with Non-Understanding

Whenever the inquiry on how to resolve non-understanding is shoved to the fore, the concept of repair instantly springs as a solution. Three methods of repair in the context of helpdesk encounters emerged from the analysis of the recorded phone calls: repetition and elaboration, modification, and clarification. The analyzed segments also indicated that the conversational party affronted by an understanding problem usually signifies the occurrence of the problem, which eventually prompts the source of the problematic utterance to execute the needed repair.

Repair of a Non-Understood Utterance by Repetition and Elaboration

Several studies (e.g., Bazanella & Damiano, 1999; Egbert, 2004; Rieger, 2003) have focused on the deployment of repetition as a strategy to address non-understanding problems. Repetition may be performed to implement non-repair-related acts, (Schegloff, 1997) such as emphasizing a point or proceeding with one's turn in the conversation after an interruption (Rieger, 2003), although it is also regarded as an important strategy for the initiation of a repair (Rieger, 2003; Schegloff, 1997). Whenever the source of a problematic utterance detects failure on the part of the recipient to understand what has been relayed, the latter restates the non-understood utterance for the former to process.

6	→	C	I'm having some problems with my system and I had already complained
7			about it having some problems with the profiles and it's not working again
8	→	A	So you have problems with your profile↓
9	→	C	OK
10	→	A	You have problems with your profile is my question↑ yes, yes
11	→	C	yeah yeah

In lines 6 and 7, the caller assumes her turn to describe her problems. Since two problems were indicated (the first one with the system and the second one with the profile), the agent attempts to infer from the caller's utterance that the real problem is the second one, as indicated by the statement in line 8. Nevertheless, it is very possible that the caller subscribes to the funnel approach in problem presentation—first general (system problem), then specific (profile problem). In line 8, the agent forwards her interpretation of the problem, with the possible intention of having the caller confirmed the agent's interpretation. The caller's transmission of "OK" in line 9 instigates the agent to assume that her statement in the previous turn was not understood. The caller's utterance was regarded inappropriate, as the agent must have been expecting for a yes-no response.

The absence of a rising intonation in line 8 could have caused the incongruence between the agent's utterance and the caller's response. Apparently, the caller failed to correctly interpret the goal of the agent's utterance. Such incoherence between the utterance of the caller and the prior utterance of the agent, in line 8, triggered the latter to hypothesize that the former misunderstood her (Bazanella & Damiano, 1999). The detection of an understanding problem propels the agent to restate her previous statement and modify her intonation, from a declarative to an interrogative tone, as indicated in line 10.

The addition of the phrase "is my question" (line 10) appears to be the agent's way of articulating that her utterance in line 8 was an inquiry that should have been attended to with the expected "yes-no" response. Repair in the form of repetition successfully restored the conversation, with the caller positioning the expected response in line 11.

Repair of a Non-Understood Utterance by Modification

In some cases, however, non-understood utterances are not only repeated but also are modified. Although modification closely resembles repetition, modification of a problematic utterance, as the term suggests, goes beyond the simple restatement of the flawed contribution to the conversation. In the process of modification, the problematic utterance is partly repeated but is also restructured, reformulated, or even simplified. The structure of the statement could be reorganized, some lexical elements within the utterance replaced, or the original statement expanded. To some extent, the problematic utterance Bredart (1991) advanced is replaced with a new one to remedy understanding problem.

14	→	A	Aha and how big must it be? (1.4)
15	→	C	Hhhhh I don't know, something good, I mean, something good
16			which is now available
17		A	OK like a default size to start with↑ (0.2)
18		C	Yeah (0.2)
19		A	Something like that↑
20	→	C	Sorry↑ (0.3)
21	→	A	Like a default size that they start with because nowadays they make them
22			very big
23	→	C	I don't know just something normal but good
24	→	A	yeah ok u-hmm

In line 15, the caller appears to have an insufficient idea about the exact size of the hard disk she is referring to, as even her reply does not match with the question of the agent (*how big must it be?*). Instead she describes her "ideal" hard disk as *something good* in line 15, which is a vague description. Vagueness in the caller's utterance, Jucker, Smith, and Lüdge (2003) claim, enables her to maintain fluency when it seems impossible for her to access the information at the point when it is needed in the conversation.

Sensing the caller's difficulty in describing the exact size of the hard disk, the agent offers her description in line 17, which the caller receives with a 'yeah' to indicate her approval of the description (line 18). However, when the agent initiates a follow up question in line 19 for confirmation of the caller's response, the caller fails to deliver the same remark positioned in line 18, and instead she signals her difficulty in comprehension, which requires immediate repair.

Egbert (2004) claims that in cases when the hearer recognizes his problem in hearing or understanding, he would usually use the next turn as an opportunity to indicate the problem through a repair initiation—in this segment, the caller's utterance in line 20. Then, it is expected that the speaker of the trouble-source turn would attempt to repair the trouble so that mutual understanding is restored and the conversation can proceed—in this case, the agent repeating in line 21 what she has said in line 17.

A minor revision, though, in the statement in line 17 is the addition of *they* and the omission of *to* before the word *start* in line 21, which drastically changes the meaning of the new sentence and which the agent could have intended to improve the clarity of her previous utterance—presumably an attempt on her part to improve the understanding of the caller by repairing the older assertion. The statement in line 17 (*like a default size to start with*) sounds more of an introductory expression—an attempt on the part of the speaker to begin a description of an item under discussion. However, the modification of that same statement with the inclusion of *they* implies that the agent means to say something else.

With the repeated but already revised utterance what she intends is to convey a bit of information about the default size of the hard disk in the beginning. More interesting, however, the second part of line 21 already contains further information (*because nowadays they make them very big*) to justify the statement in the first part of the same line. It is apparent, therefore, that the repair initiation from the caller in line 20 yields a three-part repair operation on the part of the agent: repetition of an earlier statement, improvement of the clarity

of the previous statement, and the inclusion of new information in the new statement. The execution of the necessary repair spurs the conversation to continue with the caller admitting that she has no knowledge about the size of a hard disk—in line 23.

Repair of a Non-Understood Utterance by Clarification

As previously noted, the difficulty for interacting parties to reach complete understanding is attributable to the impossibility for those parties to share their experienced environment during a telephone interaction. When it is evident to the speaker that an element or a segment of his or her utterance is not understood, he or she could clarify the troublesome part to help the listener achieve complete understanding.

40 → A So when that is there (0.4) let's::: (0.3) check (0.2) the issues right here (1.1)
41 where are::: we? (3.9) this formatting formatting formatting (1.6) is your own
42 system set up↑ um::: if you press the ef three (F3) but-ton which is the::: right
43 button (0.2) under the navigation button (0.4) or the top down button (0.6)
44 → C And which button↑
45 → A The lowest button↓ (0.2)
46 → C OK the the
48 → A on the front

After receiving a description of the problem from the caller, agent uses his turn to instruct the caller to press a button (lines 40 to 43). In line 43, the agent stresses the word *down* to differentiate it from the prior word *top* to avoid confusing the caller, since the two terms have obviously polarized meanings. The agent may have his own mental frame of the term "top down" button which is not shared by the caller in this situation. This results in the caller's difficulty in making sense of the verbal stimulus (*top down button*), thereby restraining him from immediately acting out after the instruction has been articulated. This is evident in the interrogative utterance in line 44.

However, the phrase *top-down button* may not be the only culprit responsible for the failure of the caller to click the appropriate button right away. Lines 42 and 43, which are still part of the agent's turn, abound with the word "button". Here the speaker indicates that the caller should press the F3 button, which he describes to be the right button, and which is under the navigator button, or top-down button. It is possible that the agent's multiple mentioning of "button" has adversely affected the caller's mental processing, as it spurs him to admit the problem in line 44. This request for clarification is another indication of the caller's attempt to signal the agent that there is another troublesome utterance that requires immediate repair.

Recognizing the caller's difficulty in identifying the correct button to press, the agent instantaneously initiates a repair, in line 46, by clearly indicating to the caller that the lowest button should be pressed, which the caller acknowledges with an "ok" in the next line. The caller's deployment of an acknowledgment utterance, in line 46, further indicates that the problem is yet to be resolved. The caller's inability to state the missing term or phrase to complete his "*ok, the, the…*" utterance could be an intimation of his difficulty in locating the specified button. This consequently triggers the agent to convey a short description of the button's location in line 47. The fragment just analyzed also signifies that non-understanding could be strongly attributed to the incompleteness of information received from the speaker.

Prevention before Repair

Studies on the phenomenon of repair abound and it seems to have been regarded as the only solution to understanding problems. While it is widely accepted that errors are ingrained in conversational acts, dealing with these errors before their occurrence is important for the attainment of complete understanding. Interacting parties, Clark (1994) posited, employ preventative techniques to curtail the onset of understanding problems instead of repairing them. Analyses of the recorded phone calls also indicated that different approaches are used to prevent understanding problems in the course of a conversation.

Prevention of Understanding Problems by Requesting Confirmation of the Received Information

Requests for confirmation are referred to as "understanding checks" aimed at identifying a trouble with a previous turn's talk by proposing a solution to the trouble (Heritage, 1984). While Heritage regards

confirmation requests as repair techniques, the fragment below shows that such requests should be aptly viewed as prevention strategies since the requests were positioned before the onset of an understanding problem. This assertion is grounded on the notion of repair as something deployed after the detection of a problem (Schegloff, Jefferson, & Sacks, 1977).

13	→	A	Er:: (0.4) let me give you an indication it might be hhhhh (1.1) a little
14			bit less or a little bit more but for instance:: oh one moment (5.9)
15			hhhh (4.3) er well let's say ::: for a two hundred gee bee for instance it
16			might be one hundred seventy euros
17	→	C	One hundred seventy
18	→	A	Yeah
19	→	C	For two hundred
20	→	A	Yeah

Prior to the actual checking of the price through his computer, the agent first attempts to provide the caller with the necessary information about the price of an item, in line 13 (*Er let me give you an indication…*); however, upon realizing that his estimation may not be correct, in line 14 (*but for instance, oh one moment…*), he decides right away to refer to the computer to give the caller an accurate information about the price. After obtaining the price information from the agent, the caller replies by "echoing" the amount that is stated in line 17, which the agent responds to with a "yeah" in line 18. In line 19, the caller restates the size of the hard drive (*For two hundred*), which the agent again receives with an approval in line 20.

The transmission of "yeah" in this context, as Bangerter, Clark, and Katz (2004) asserted, is an indication on the part of interacting parties to acknowledge or agree with prior utterances. It is also notable that the caller echoes the utterance of the agent. This act of echoing of selected but perceived to be highly relevant information is not just a simple case of meaningless repetition but should be viewed as the hearer's attempt to prevent understanding problems from surfacing. The caller's prevention approach involves requesting confirmation of what has been received from the agent. In this segment, the caller wants to be affirmed that he understood the caller correctly—that a hard disk of 200 gigabytes would cost him 170 euros.

Prevention of Understanding Problems by Requesting Clarification

For reasons of economy, not everything is explicitly said within a conversation (Weigand, 1999). Nonetheless, unsaid and unstated lexical items and information may be important for an interlocutor to reach complete understanding. So when one party in the conversation realizes that some items considered important in preventing understanding problems are missing in the utterance of the speaker, he would clamor to have what was left out in the utterance to achieve the real purpose of the conversation.

133	→	A	And I have a:: reference number for you↑ (0.3) that is (0.8) pap-pap
134			(0.2) four (1.0)
135	→	C	One moment (0.3)
136	→	A	Yes
137	→	C	(9.2) ((saying the phrase 'reference number' like a whisper)) and that's
138	→		for the swapping↑ (0.5)
139	→	A	Yeah that is for the (.) swapping↑ (0.2) yes:: (1.0) pap pap four (1.3)
140	→	C	What↑ (0.7)
141	→	A	And that is (0.3) the number (0.2) for the swapping

Prior to this segment, the agent has already informed the caller that his defective monitor will be swapped, though the actual date for the swapping is still unknown. Lines 133 to 134 contain an instance of the agent instructing the caller to take note of the number of the swapping. Presumably realizing that he needs to indicate that the number is a reference for something, he decides to write the phrase *reference number* before getting the complete number. This is evident in the same line, as the caller says the line *reference number* to himself in a rather low voice, further implying that he is dictating the phrase to himself while writing during the nine-minute pause.

In lines 137 and 138, the caller asks for a clarification whether the reference number is for the swapping that they have been talking about or for something else. Although the agent's statements in

the prior turns do not include the information that the reference number is for the swapping, it is clearly inferable that the reference number in this discussion is for the swapping. In this case, the agent must have assumed that the caller will eventually understand that the reference number is for the swapping. Perhaps uncertain about the purpose of the number to be noted, the caller inquires whether or not the number is really for the swapping. In a way, this is already the caller's approach in preventing a potential understanding problem in the latter part of the on-going conversation. The agent, in turn, cooperates with the caller by affirming his understanding.

When the agent starts to repeat the first part of the reference number (*pap-pap four*) in line 139, which has been uttered first in lines 133 and 134, the caller then deploys an indication of his inability to catch the agent's utterance by positioning a "what↑"—another manifestation of an invitation for the agent to execute a repair of his statement in line 138. This request for a repair appears a bit delayed because the caller did not even give a signal of his difficulty in making sense of the "*pap-pap four*" verbalization in line 133.

It is not so easy to claim, though, whether the *"what*" question signals the difficulty on the part of the caller in hearing the utterance of the agent in line 139 or his failure to understand the purpose of the number. The second premise, however, seems weak because it would be impossible to hypothesize that he must have not understood the purpose of the reference number since the agent has already informed him, in line 139, that the said number is for the swapping. Nevertheless, with the "what" remark from the caller, as an invitation for a necessary repair, the agent does not hesitate to execute a repair, in line 141, by telling again the caller that the reference number he is about to give to the caller is for the swapping.

Discussion

The finding that understanding problems in telephone conversations between two nonnative English speakers are attributable to non-linguistic factors (false beliefs, erroneous inferences from the speaker's utterances, and incomplete information) somehow defies the mainstream belief that flaws in such type of interaction can be solely ascribed to linguistic differences delineating two interacting parties. This partly supports the finding of another study (Forey & Lockwood, 2007) that problems afflicting the communication between individuals not sharing equal proficiency in the English language could not always be linked to discrepancy in their language competence.

The analyzed segments also disclose that repair is usually initiated by the recipient of the problematic utterance, which then enables the source of the trouble to execute the necessary correction to contain misunderstanding, thereby restoring the flow of the conversation. This is to say that misunderstandings that are found in the data for this research are repaired through the initiative of the participant in the interaction who believes he or she has been misunderstood. With the initiation of a repair, the participant who unknowingly succumbs to misunderstanding eventually admits that he or she has just misunderstood his or her partner in the conversation—and such an admission explains for the speaker's (the source of the misunderstood utterance) instantaneous execution of the needed repair for the recipient to attain correct understanding.

It is also revealed that speakers of a non-understood utterance employ varied strategies in repairing problematic statements and lines to facilitate interlocutors in reaching the desired understanding. The segments presented further lead to the point that it is always the recipient of the non-understood utterance who displays his or her deficiency in understanding what the speaker has said. Such a display of difficulty in understanding on the part of the recipient serves as an initiation of a repair, which the speaker of the non-understood utterance may accept by executing the necessary repair or reject by moving on to a new utterance with the non-understood utterance uncorrected.

The analyzed segments, however, indicate that during helpdesk encounters, when the agent and the caller are nonnative speakers of the language used, the speaker does not hesitate to correct his non-understood utterance to help the recipient achieve understanding. In helping the listener understand better the non-understood utterance, the speaker may execute the necessary repair by repeating a non-understood utterance, by modifying the flawed contribution to the

conversation, or by describing a non-understood item or object being referred to during the talk.

In helpdesk encounters, when the agent and the caller are exchanging information relevant to the formulation of a possible solution to a particular problem or concern that instigates the call, both parties are cautious that pieces of information transmitted and received are correct and complete to ensure full understanding during the talk or consultation, or even after it. The analyzed segments show cases when either the agent or the caller tries to prevent potential cases of misunderstandings and non-understandings. The results further show that participants in helpdesk encounters attempt to prevent the inception of misunderstandings or non-understandings by requesting for a confirmation of the received information and by soliciting for a clarification.

Implications for Technical Communication

As product users are increasingly preferring telephone help over product user guides and manuals (Steehouder, 2007), it is important that organizations can satisfactorily cater to the needs of those users by providing them high quality solutions and a pleasant experience (Van Velsen, Steehouder, & De Jong, 2007). A pleasant experience may imply that the interaction between the agent and the caller has been polite and friendly or, more importantly, that the information exchange has not been scourged by understanding problems.

Product users may be expecting that substantial help can be better derived from a flesh-and-blood 'expert' at the other end of the line than from a lifeless documentation. This necessitates helpdesk agents to be effective in giving instructions, which would only be possible when they have achieved the desired level of expertise not only in troubleshooting a product-related problem but also in effectively delivering whatever information needed to address the problem that instigates the call.

Since technical helpdesk conversations are centered on an important goal, that is to solve a particular product-related problem, effective exchange of clear information is imperative. However, the attainability of the goal would only be possible with the reduction or, ideally, the elimination of understanding problems in the helpdesk encounter. While such problems are attributable both to the caller and to the agent, the latter has the bigger responsibility of ensuring the prevention of understanding problems than the former.

An important practical implication of this assertion, therefore, is for call center management to view communication training for helpdesk agents as an integral part in the delivery of quality service. This is crucial since helpdesk agents serve as important links between companies and consumers (Burgers, de Ruyter, Keen, & Streukens, 2000). In countries where the call center occupation is new (for example, Germany, Austria, the Netherlands, and Denmark), public training courses or certification procedures are not yet fully developed or institutionalized (Holman, Batt, & Holtgrewe, 2007).

Certainly helpdesk agents are trained, within the organization, before they can start dealing with customers' product-related problems over the phone, but training programs should not only focus on technical aspects (protocols for diagnosing technical problems or procedures for using information systems to access the most appropriate solution) and on friendliness or politeness. There is also the pressing need to hone helpdesk agents' ability to deliver instructive information effectively. Given the length of time—an average of 11.5 weeks or approximately three months—for a new call center or helpdesk agents to be proficient at their jobs (Holman, Batt, & Holtgrewe, 2007), intensive and more structured, even longer, trainings should be provided and not just 'rushed' trainings for a short span of time.

Since understanding problems could just transpire at any given time during a helpdesk encounter, helpdesk agents should also be trained to be cognizant of the occurrence of disturbances in the conversation and to be equipped with appropriate strategies to mitigate or prevent understanding problems. Adeptness on the part of helpdesk agents to prevent understanding problems or to remedy the flawed segments of the talks using the most appropriate repair strategy would unquestionably be beneficial for the efficacious exchange of information within the context of technical help.

Although understanding problems, as indicated by the analyzed fragments, are hardly attributable to linguistic differences characterizing the helpdesk agent and the caller, the need to have competent users of a

particular language, though not necessarily native users, as helpdesk agents is compulsory. Effective information delivery in a helpdesk encounter—necessary to address customers' concerns (Pontes & Kelly, 2000)—is undeniably tied to the proficiency of the information source to relay the desired information in a language that would also enable the recipient to adequately process any information obtained. Such linguistic proficiency would expectedly afford agents with the skill to cope with understanding problems. This is illustrated in one of the fragments, in which a nonnative English speaking agent, though proficient enough in the language, took the initiative to repair her utterance upon realizing that the conveyed statement was not understood.

While the present study has initially identified the causes of understanding problems in helpdesk encounters involving nonnative speakers of English, an exhaustive identification of the instigators of misunderstanding and non-understanding is constrained by the quantity of the data used for the study. Causes of non-understanding in helpdesk encounters are certainly aplenty and may have not been present during the recorded conversations. The current study could not also claim to have inventoried the different strategies people used to address and to prevent misunderstanding and non-understanding. Nonetheless, this study provides an opening into the relatively uncharted research domain of understanding problems in helpdesk encounters.

Future studies could consider both taking an in-depth look into the dynamics behind the inception of understanding problems in helpdesk encounters based using a *lingua franca* and surveying the ways people deal with those problems. Knowing the different techniques used to deal with understanding problems could be a gainful pursuit for those in the technical help industry. Training programs designed to enhance call center agents' competence in handling understanding programs could capitalize on the different methods effective in preventing or, when unavoidable, repairing misunderstanding and non-understanding in the interaction between the agent and the caller.

While studies into the effectiveness of written procedural instructions abound, research interests on the effectiveness of procedural instruction delivery over the phone could be further explored. Focusing on the techniques employed to effectively convey spoken instructions is one thing worth pursuing using conversation analysis. With the gradual shift in information-seeking behavior, from consulting a paper-based product documentation to phoning a designated service center for a particular product to acquire the needed help, the indispensability of conversation (or even of discourse) analysis as a research technique for technical communication should be unquestionable.

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About the Authors

Ardion Beldad is an assistant professor of communication science at the University of Twente, the Netherlands. His research interests include trust, information privacy, social media usage in organizations, and the application of conversation analysis in technical communication. Contact: a.d.beldad@utwente.nl

Michaël Steehouder is professor emeritus of technical communication at the University of Twente, the Netherlands. He has published and edited several Dutch books about communication skills, forms design, and technical communication. Contact: m.f.steehouder@utwente.nl.

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