

## (UN)INTELLIGIBILITY TALES

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We collected forty-two narratives describing communicative events in English that involved a misunderstanding attributed to pronunciation. The majority of the narratives described exchanges involving either a native speaker and a non-native speaker, or two native speakers. In this paper we report on the kinds of phonological features involved in the miscues in the exchanges, the kinds of repair strategies used, and whether and how participants used context to help them interpret the utterance. We also discuss elements in the narratives that describe the analytical and emotional reactions of participants in these exchanges. Finally, we reflect on the use of stories of (un)intelligibility for pedagogical and research purposes.

### INTRODUCTION

We begin our paper with a story from our data.

*It was my first ever visit to Africa. I had arrived at Kano, Nigeria, the day before, and here I was at the Ahmadu Bello University, Zaria, on Sunday morning, all by myself before my wife and family were due in 6 weeks' time. I went out to survey the garden of the accommodation that had been allocated to me, and was immediately impressed by the colour of the flowers and birds, and so I went back in to fetch my camera. When I came out again with my camera, there was a young Nigerian lady dressed up in her Sunday finery, accompanied by 3 young children. She looked at me and smiled and said, "You snuff me?" I was shocked and bewildered; what on earth was she suggesting? The rising tone clearly meant to me a request or an invitation, but to snuff her!? In front of 3 little children at that? No, she didn't say "sniff," but that itself would have been just too embarrassing and out of the question. I wouldn't dream of trying to appreciate her scent! But "snuff" sounded even worse; what was she hoping I would do in front of the children? Help! I've only just arrived and here was a young lady making a proposition to me!*

*She could obviously tell that I was bewildered, and so she helped me out by pointing to my camera and smiling. Then it struck me! She was asking me to take a photograph of her in her Sunday best; she wanted me to take a snap of her. So overcome with relief, I willingly did so, with the little children in tow.*

*"To snap a person" means to take a photograph of them. Hausa has no /p/; so [f] substitutes in Hausa English. Hausa articulates its /a/ as [ʌ], a mid central vowel. Hence, British English "snap" is produced as "snuff" by a Hausa speaker with limited English. Phew!*

Stories such as this one may have productive uses beyond their role as anecdotes: they may help untangle some of the complexities involved in understanding how intelligibility works.

Stories of unintelligibility reveal several parts of the miscommunication. First, there is the original unintelligible utterance, in this case “snap.” Second, there is the recognition of the problem; in this story, the Nigerian lady shows her recognition by pointing to the camera. And third, stories can allow us to examine any repair that took place; here, the Nigerian lady did not change her pronunciation, although the meaning was resolved. Stories may also capture emotional experiences (frustration, aha moments, etc.) and other relevant details, e.g. "I was dead tired that day." In the story above, we see the storyteller’s bewilderment and eventually relief. We also see that he tries to use context to identify (and discard) possible interpretations of the word in question, and that he eventually uses academic background in phonology in analyzing the event.

As this story reveals, both the speaker’s and listener’s contributions and perspectives are critical to the “intelligibility cocktail” (Zielinski, 2006) – and we posit that stories provide a rich, qualitative understanding of the ingredients.

**RESEARCH QUESTIONS AND METHODOLOGY**

We examined forty-two first-person accounts of “unintelligibility tales” from native and non-native speakers, describing NNS – NS and NS – NS exchanges. Our broad research question was: What patterns emerge related to the elements of unintelligible utterances in NNS – NS and NS – NS exchanges? More specifically, we were interested in:

- The kinds of phonological features involved.
- The kinds of repair strategies used.
- Whether and how participants used context to help them interpret the utterance.

We collected eight stories from international graduate students at the University of Illinois who were in ESL classes; the remainder of the stories came from native or near-native speakers -- our language teacher colleagues, our personal acquaintances, and ourselves. Thirty-two of these stories were written narratives; the remaining eleven were told (or happened) to us, and we transcribed the oral accounts. The prompt for the written narrative is in Appendix A. Table 1 delineates the types of stories we examined, with examples (the misinterpretation is first, followed by the intended meaning).

Table 1. *Categories and Examples of Misunderstandings.*

		NS mishears		NNS mishears
NS utterance	11	gorgeous guy, gorgeous sky She’s engaged, She’s in Ames	6	mammals, Mormons/ marmots condom, condo
NNS utterance	22	meth camp, math camp dog, duck	3	TOEFL, tofu grammar, grandma

## **FINDINGS AND ANALYSIS**

### **Phonological Features**

Bond (1999, p. 61) states, “The most revealing way of describing complex misperceptions is to consider how the phonological shape of the misperception matched or failed to match the target utterance.” To this end, we analyzed the phonological features that contributed to misunderstandings in the words and phrases in our data. Because the numbers of cases of NNSs mishearing NSs and NNSs are relatively low, we focused our analysis instead on cases of NSs mishearing either NNSs or other NSs.

Our classifications were based on Zielinski (2006), in which she summarizes research on segmental and suprasegmental features that can mislead listeners in their attempts to identify spoken utterances. We tagged each utterance in our data according to whether the following features played a role in the miscommunication: vowels, consonants (word-initial, medial, and final positions), occurrence in weak or stressed syllable, syllable insertion or deletion, word or compound stress, and word boundary confusions.

In 65% of the misunderstood utterances in our data, there was more than one phonological feature involved. For example, when a native speaker interpreted a Brazilian speaker’s “Bed time?” as “Bad time?” both vowel substitutions (/æ/ for /ɛ/) and misplaced compound stress contributed to the misunderstanding. When a native speaker’s “in-house test” was heard by another native speaker as “enhanced test,” both vowel (/aw/ - /æ/) and consonant (/s/ - /n(t)s/) features were at play.

For our analysis, we have to rely on the storyteller’s version of how the utterances were pronounced and heard. In some cases, we can be fairly sure that a pronunciation problem caused the misunderstanding. In other cases, it seems more likely that the misunderstanding was due to a mishearing (perhaps due to lack of schema, or lack of attention, on the part of the listener). For example, it is improbable that “She’s in Ames” would be pronounced as “She’s engaged” by a native speaker.

Table 2 summarizes the analysis of phonological features involved in misunderstandings between NNS speakers and NS hearers. Again, the misinterpretation is first, followed by the intended meaning.

Table 2. *Native Speakers Mishearing Non-native Speakers.*

Feature		Examples	Frequency
Vowels	meth	math	(13/22)
	dog	duck	
	patience	passion	
Consonants	one in	one inch	(16/22)
	Ben Folds	Penfolds	Initial: 4 Medial: 3 Final: 9
Stress	impotent	important	(7/22)
	your surname	user name	
Syllable insertion or deletion	reject	register	(4/22)
	two in	twin	Insertion: 1 Deletion: 3
Strong or weak syllables	pork	fork	Strong: 14/22 Weak: 1/22 Both: 2/22
	When <u>is</u> Atsuko due?	What <u>does</u> Atsuko do?	
	passion	patience	
Word boundaries	your surname	user name	(4/22)
	two in bad room	twin bedroom	

In our data, the most commonly problematic vowel sound was /æ/. We note that many non-native speakers of English struggle to produce this sound. We also note that its production is variable and changing among native speakers (e.g. De Decker & Nycz, 2005). These two factors may account for the challenges involved in utterances containing this sound.

Among consonants, we found that stops were more frequently problematic than consonants with other manners of articulation. In addition, consonant deletion was a common cause of misunderstanding. For example, the deletion of final /tʃ/ resulted in “one inch” being interpreted as “one in.” In this data set we had no cases of consonant insertion causing a problem.

In classifying words according to whether the problem occurred in a strong or weak syllable, one challenge arose: When a NNS stresses a syllable that should have been unstressed (e.g. “your surname” for “user name”), how should that be classified? We excluded two such cases from the counts in this category.

Table 3 summarizes the analysis of phonological features involved in misunderstandings between NS speakers and NS hearers.

Table 3. *Native Speakers Mishearing Native Speakers.*

Feature	Examples		Frequency
Vowels	Texas	taxes	(3/12)
Consonants	gorgeous guy you	gorgeous sky you'll	(8/12) Initial: 5 Medial: 6 Final: 2
Stress	inválid	invalid	(1/12)
Syllable insertion or deletion			(0/12)
Strong or weak syllables	in <u>Ames</u> <u>Alan</u> Prasanta	<u>engaged</u> Al <u>and</u> Prasanta	Strong: 6/12 Weak: 8/12
Word boundaries	Super salad	Soup or salad?	(4/12)

It is not surprising that no miscommunications between native speakers involved syllable insertion/deletion. The only word stress miscommunication occurred when a NS misread aloud “inválid” for “invalid.” Proportionately, vowel problems were substantially lower for these encounters compared to our NS – NNS data (though we note that /æ/ was at play in two out of the three cases). Furthermore, word boundary problems were more salient for NS – NS exchanges than in NS – NNS. Interestingly, in looking at all 42 cases, there was only one instance of word boundaries causing a mishearing for a NNS (“To Kill a Mockingbird” was heard as “Tequila Mockingbird”), while word boundary issues affected six exchanges involving NS listeners.

**Repair Strategies**

In addition to investigating the nature of unintelligible utterances, one of our primary goals was to gain insight into how speakers attempted to repair communication breakdowns. For the twenty-two NNS-NS cases with NNS mispronunciations, active repair occurred in nineteen of these cases. Speakers used the following strategies: repetition (63.2%), providing additional information (36.8%), using non-verbal communication, such as pointing (15.8%), one case of spelling (.05%), and one case of paraphrasing (.05%).<sup>i</sup>

These findings differ markedly from Derwing & Rossiter (2002). In their study, subjects self-reported using paraphrase as their preferred repair strategy (56%) and repetition was mentioned as the second favorite strategy (28%). One possible explanation for these differences may be the nature of data collection. In Derwing & Rossiter, subjects were asked to state their preferred repair strategy, while in our study actual use of the strategy is reported. It is possible that Derwing & Rossiter’s subjects could have under-reported a predilection for repetition or over-reported use of paraphrasing. Nevertheless, the almost complete lack of paraphrase by non-native speakers in our study is perplexing. Additional data about the speakers’ level of English and explicit strategy training may have provided valuable insight into the dearth of paraphrasing, but without this information, it is hard to speculate. Additionally, the

exceptionally high percentage of repetition should be tempered by the fact that 33.3% of the speakers using repetition utilized other strategies in conjunction with repetition to clarify the unintelligible utterance. One noteworthy illustration of a NNS using a combination of strategies was related in the account of a NNS shopping for a watch. The watch she wanted had a duck on its face. Her request for the watch with *duck* was heard as *watch with dog*. After repeating *duck* unsuccessfully, the speaker wisely shifted her strategy, providing additional information (“*the duck with wings, not the dog that barks*”) and pointed to the desired watch in the display case. The use of these strategies in combination ultimately led to a successful negotiation of meaning.

The twelve cases of NS-NS miscommunication provide interesting data for comparison. Repair occurred openly in seven of these cases. Here, too, repetition was the preferred strategy, appearing in 100% of the cases. In fact, only one other strategy appeared at all (providing additional information), and it was used only one time and in conjunction with repetition, the native speaker repeating *taxes*—which was misheard as *Texas* and adding the comment “*ya know, IRS*” for further clarification.

In some ways it is not surprising that repetition was the most common strategy for both NS and NNS. It is relatively simple and efficient to try repeating an utterance, especially if the speaker assumes that the second utterance attempt will help overcome potential language barriers, such as noise, listener inattention, or an utterance that wasn’t articulated loudly or clearly enough.

While both NNS and NS relied heavily on repetition, the two groups’ repair sequences were distinctly different. Notably, NSs use of repetition was effective on the first attempt 100% of the time. Thus, repetition sufficed in resolving the misunderstanding. For NNS, the success rate dropped to 33.3% and the NNSs in this study often were unable to channel any strategies beyond repetition. The steep decline in effectiveness of using repetition as a repair strategy can likely be attributed to NNSs phonological shortcomings and lack of ability to produce an utterance with native-like intelligibility even on demand.

### Relevance of Context

A third question we investigated was the role context played in decoding unintelligible utterances. Analysis of contextual information in all forty-two stories yielded four classification categories. Table 4 displays data and examples related to context. In the final column, the misinterpretation is followed by the intended meaning.

Table 4: *Relevance of Context*

Role of Context	Percentage	Context	Utterance
Added to the confusion	34.9	Tailor shop	One in, One inch
Not relevant	18.6	Asking a stranger for directions	Unintelligible, McDonald’s
Should have been useful but wasn’t	32.5	Discussion about housing	Condom, Condo
Useful	14	Computer help line	Your surname, User name

The high percentage of cases in which context contributed to the confusion is noteworthy. In these stories, multiple interpretations of the unintelligible utterance fit with the context. Such was the case in a NS-NNS conversation about a student studying early childhood education. Here, the NS listener pondered whether she has heard “She must have a lot of passion” or “She must have a lot of patience,” both of which are contextually appropriate utterances. Despite the fact that context is not always available or helpful, we still believe that using context to disambiguate meaning is, overall, a productive strategy that listeners should keep in their repertoire of strategies when trying to decode an unintelligible utterance.

## DISCUSSION

Zielinski (2006, p. 25) reminds us that “listeners draw on knowledge including context and syntactic and lexical knowledge to identify words in connected speech.” In the stories we collected, we found instances of these factors playing (or not playing) a role. For example, in both of the “soup or salad” stories, the tellers revealed that unfamiliarity with the script of a sit-down restaurant contributed to interpretation of that phrase as “super salad.” In the nearly all of our examples, what the hearer misheard still matched the part of speech of the original utterance. We also found a number of cases where the original word (or use of the word) was unfamiliar to the hearer, resulting in mishearing, for example, “snuff” for “snap,” and “Daytown” for “Baytown.” Finally, we observed that short answers and elliptical phrases yield less redundancy than their full forms, perhaps leading to ambiguity. An example is this exchange: “What are you doing this weekend?” “Taxes.” “You’re going to Texas?” Here, had the second speaker said, “I’m working on my taxes,” the miscommunication would probably not have occurred.

Indeed, our data confirm the complexities involved in miscommunications. They also elucidate the substantial (yet erratic) role of context. However, we seek to understand all of these elements of the “intelligibility cocktail” (Zielinski, 2006) in part to inform pronunciation instruction and syllabus design, and our data do not yield enough consistent information to make unequivocal, or new, suggestions for prioritizing certain features of pronunciation. While the challenges of /æ/ merit further exploration, we were unable to find any patterns or problems that would indicate the need for pronunciation instructors to focus on specific vowels, consonants, stress patterns, etc.

Our findings on repair strategies may have more pedagogical implications. As noted above, NNSs made extensive use of repetition when they were misunderstood. It may be helpful to teach a variety of repair strategies in order to make learners aware of other options. A sample assignment can be found in Smith et al. (1992, pp. 23-26), in which learners practice using a variety of repair strategies through dialogues. Along the same lines, it may be beneficial for learners to be coached on when it is appropriate to abandon repetition as a repair strategy and move on to something else.

Another salient theme in our data that may have pedagogical implications is the emotional element to miscommunications. Our subjects reported reactions such as “frantic,” “embarrassed,” “shocked,” and “confused” in response to misunderstood words or phrases (such reactions were more prevalent in NS – NNS exchanges, while NS – NS exchanges were more often laughed off). We saw self-reproach, especially among ESL teachers, at failures to understand: “I would have expected my ear to ‘auto-correct’ ‘meth’ to ‘math’ in a conversation where I was not yet listening specifically for pronunciation issues.”

And there were emotions of triumph at resolutions: “At last the clerk understood what I wanted and I bought the watch. It did make my day.”

We therefore propose activities and strategies that would help alleviate some of the self-consciousness and stress involved in miscommunications. For example, for NNSs, pronunciation instructors may wish to share their own unintelligibility tales, in order to remind students that even proficient speakers have such experiences, and that they are not unique in their challenges. In addition, for NSs, Derwing, Rossiter, and Munro (2002) found that NS social work students who learned about typical English pronunciation difficulties of their Vietnamese clients often felt more secure in their interactions. Native speakers may increase their self-confidence by becoming aware of specific sounds that are challenging to NNSs with whom they interact.

## CONCLUSION

This study enabled us to observe some of the drawbacks and benefits of using stories to elucidate the nature of (un)intelligibility.

There are various problems with using stories to examine exchanges involving unintelligibility. The biggest drawback is not having access to a recording of the exchange. For example, a recording of “Look at his tattoo” would enable us to examine the actual sounds produced and compare them with what the listener thought she heard. In addition, the stories we collected sometimes lacked information that would have been helpful: details about the repair, speaker or hearer proficiency, or the native language. Perhaps some of these gaps could be closed in follow-up interviews. Finally, our storytellers described misunderstandings rather than non-understandings. While our prompt clearly led them in that direction, we also realize that there are many cases “in real life” when exchanges result in no meaning being conveyed, as opposed to the wrong meaning. These are undoubtedly harder to capture, and harder to remember. And of course, they often don’t make a good story.

Beyond the challenges of the storytelling method, we have other limitations to our data. Foremost, a large proportion of our stories were from people with expertise in English language teaching, often with backgrounds in phonology. Thirty-four of our stories were from someone with expertise (most often the listener in the story). While these subjects’ stories were rich in detail and analysis, they are undoubtedly not representative of the kinds of stories that the general population would tell. In addition, we received very few stories from NNSs, and we would be keen to gather more in order to look for patterns and trends.

We also discovered many positive aspects to our methodology. The use of narratives or stories for research purposes has its roots in educational research (e.g. Clandinin & Connelly, 1989). The premise is that narratives “name a fundamental quality of experience, both personal and social” (Clandinin & Connelly, 1989, p. 4). Of interest is not so much what exactly happened, but how the storyteller “re-stories,” interprets, and makes meaning out of the experience. In this regard, stories of unintelligibility help us understand how listeners or speakers might bring their backgrounds, knowledge, and personal and social awareness to bear in an interpretation of a miscommunication event. In particular, we have seen how emotions play a role in miscommunications; this information may not be as easily uncovered in other research methods. Another revealing element of these stories was the descriptions of how the storytellers

sorted out what was wrong, or wrestled with how to interpret or deal with the situation – a “Here’s what I was thinking” perspective. For example:

At the beginning of class the next day, I asked the students what they thought about the first chapter of the book. One of my students, Julio (from Mexico), immediately raised his hand and said, “But Mrs. K., isn’t there any alcohol in this book?” *I was confused. (I think that there is a character in the book who does some drinking, but I had no idea where this student was coming from with this question.)*

“All day yesterday, you were talking about Tequila Mockingbird, and now I see it’s To Kill a Mockingbird.”

At that point, the whole class laughed, and we moved into our discussion. However, *I remember thinking at the time about how funny his absolute disappointment was in discovering that there wasn’t any alcohol in this whole book. I hadn’t had to do anything to repair the miscommunication myself—I think Julio had thrown his book in his backpack at the end of class and pulled it out in his room that night to read the assigned chapter and probably figured out his misunderstanding on his own.*

Another advantage of collecting narratives is that it is possible to get stories from a multiplicity of contexts from around the world. The stories we received took place on nearly every continent, and in a range of social situations. Other data collection methods may not allow for such variety.

Finally, while we are uncertain about the usefulness of storytelling as a significant research method for understanding intelligibility, we are convinced of its worth as a pedagogical tool. In a pronunciation classroom, having students – and teachers – share their intelligibility tales can result in practical insights, analytical skill development, and perhaps lowered anxiety about “getting stuck” in such exchanges. At the same time, we would welcome further discussion among researchers and practitioners about this methodology and possibilities for refining it to capture some aspects of the “intelligibility cocktail.”

## **NOTE**

The use of more than one strategy was reported in a number of cases, leading to a total percentage over 100.

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## APPENDIX A: WRITING PROMPT

### What's Your Unintelligibility Tale?

Here is a condensed example of an unintelligibility tale:

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*A US American female is with her friends at a Korean restaurant in the United States. They have ordered several dishes to try. The Korean waiter brings out the dishes.*

Waiter: Do you like pork?

Customer: (trying to remember what they ordered) Yes.

*The waiter disappears and comes back with forks for all of the people at the table.*

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These exchanges and our reactions to them tell us a great deal about how intelligibility works.

#### Directions

Write a **narrative** describing a miscommunication that took place due to a pronunciation misunderstanding you experienced, with either a native speaker or a non-native speaker of English.

Your narrative should include four to five short paragraphs that include the following information:

- **Participants**  
Who participated in this conversation?  
What are their native languages (if you know)?  
  
How are the participants related to each other (friends, teacher-student, etc.)?  
Male or female?  
Are there any other relevant details about the participants?  
Context  
  
Where and when did the exchange take place?  
What was the purpose of the exchange (e.g. small talk, asking for help)?
- **Dialog**  
Write down the dialog as best as you can remember it.
- **Comments and interpretation**  
What you were thinking as you experienced the exchange?  
How did you become aware of the confusion?  
What were you thinking about how to repair the miscommunication?
- **Other information**  
Please include any other information that will help us understand what happened.

**APPENDIX B: MISUNDERSTANDINGS**

<b>Case (intended meaning, interpretation)</b>	<b>Who misunderstands whom?</b>
Mac, Matt	NNS - NNS
tofu, TOEFL	NNS - NNS
grandma, grammar	NNS - NNS
marmots mormons mammals	NNS - NS
condo condom	NNS - NS
small talk, sumo talk	NNS - NS
To Kill a Mockingbird, tequila mockingbird	NNS - NS
program, problem	NNS - NS
car heart	NNS - NS
tutor, torture	NS - NNS
tattoo, statue	NS - NNS
duck, dog	NS - NNS
dog eat dog, doggie dog	NS - NNS
McDonald's, unintelligible	NS - NNS
math camp, meth camp	NS - NNS
ranking, linking	NS - NNS
register, REEject	NS - NNS
one inch, one in	NS - NNS
fork, pork	NS - NNS
insurance, insulin	NS - NNS
user name, your surname	NS - NNS
Penfold wines, Ben Folds Five	NS - NNS

snap, snuff	NS - NNS
important, impotent	NS - NNS
city, seetch	NS - NNS
Busey, bush	NS - NNS
Baytown, Daytown	NS - NNS
passion, patience	NS - NNS
bed time, bad time	NS - NNS
twin bedroom, two in bad room	NS - NNS
ring/rain	NS - NNS
What does Atsuko do?, When is Atsuko due?	NS - NNS
you'll, you	NS - NS
meat, beef	NS - NS
soup or salad, super salad	NS - NS
taxes, Texas	NS - NS
Al and Prasanta, Alan Prasanta	NS - NS
gorgeous sky, gorgeous guy	NS - NS
invalid diet, inválid diet	NS - NS
She's in Ames/She's engaged	NS - NS
in-house test, enhanced test	NS - NS
soup or salad, super salad	NS - NS