

## **Need for Documenting Non-verbal Cues for Analysing Interpersonal Speech Communication**

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**Abstract**

In interpersonal speech communication, behaviour is exhibited both through utterances and nonverbal cues. While nonverbal cues consist of kinesics, proxemics, paralanguage and the like, utterances chiefly use language. When researchers try to record the interpersonal communication, they do not have many choices. The studies that are conducted under controlled situation have sample AV recordings. However, if the study is in a natural setup with no other means to record the act except for spy camera, the researchers may land up in an ethical fix. Apart from this, the transcription of the sample conversation should also be presented in a way that records the ‘**gesticulation**’ (Kendon’s Continuum, cited in McNeill, 1992) in a comprehensible manner. Researchers who have worked in the area of non-verbal communication have extensively used illustrations to present their data analysis. These illustrations are either re-constructed from video recordings or are snap shots from the recordings. This paper tries to introduce a textual method to represent **gesticulation** in interpersonal speech communication research. To endorse the method, initially a pilot survey is done with 30 management professionals. Later, a sample size of 120 management graduates is selected and a test is administered. The test consists of comprehension questions on conversations from the corporate with and without non-verbal cues included in parenthesis. Hypothesis is formulated where null hypothesis and alternate hypothesis is tested through Z-test. The outcome of the study will accept or reject the need for, and the method of recording non-verbal cues for analysing interpersonal speech communication.

**Keywords:** *documenting non-verbal cues, interpersonal communication, gesticulation, non-verbal communication*

**Introduction**

In speech (or oral) communication behaviour is exhibited, both through utterances and nonverbal cues. While nonverbal cues consist of kinesics, proxemics, paralanguage and the like, utterances chiefly use language. Language is fundamentally, as Firth observes, “a way of behaving and making others behave” (qtd. in Coulthard 1977). In other words, it is a two-way

interactive process based mostly on speech. He coined the term “context of situation”. Context is what occurs before and/ or after a word. It lies in language. Situation, on the other hand, is physical, extralinguistic reality. Both determine the effectiveness of communication. For Firth, corpus of verbal processes without a context is insufficient for discourse analysis (Coulthard 1977). Similarly, sample utterances without accompaniments like nonverbal cues may be inadequate to study interpersonal communication. To describe human communication, most linguists concentrate only on language meaning, form and substance (Coulthard 1977). Although Gumperz suggests including nonverbal aspects of communication for analysing discourse coherence (Schiffrin 1987), the attempt to accommodate the earliest medium of communication- body language- in analysing discourse is rare.

A study conducted by Mehrabian (1981) stressed that paralingual and facial expressions alone communicated 93% of people’s feelings and attitudes. Furthermore, brain researchers (e.g., Kelly, Barr, Church, & Lynch, 1999) have concluded that verbal and nonverbal processes are interdependent and connected. It is thus, a misnomer that the analysis of nonverbal communication processes is fused into linguistic expressions and that they are mutually inseparable in human interactions. Nonetheless, there have not been many attempts to gather empirical evidence as to what extent the inclusion of non-verbal cues may impact qualitative research on different types of interpersonal communication viz...conversation, interview, group discussion and so on...

Jones and LeBaron (2002), in their work, advocated for an integrated approach to examining verbal and nonverbal communication in research. They recorded obstacles to integration as, 1) problem is the linear format of journals and books, which is somewhat at odds with reporting the complexities of multidimensional interactions. It is much easier to present verbal transcripts or statistical tables than it is to describe and analyse integrations among varied message modalities. 2) Another impediment is that there is not widespread agreement about how holistic analyses should be conducted.

**To examine these studies further, two representative conversations are given below that exemplify the need for inclusion of non-verbal cues in interpersonal speech communication.**

**Case 1:**

Customer: Good afternoon sir.

Officer: kana hela?

Customer: Sir I wanted some information about Platinum card...I wanted to know er..er. how can I use the Platinum debit card?... actually I am going er.. er.. out of station

Officer: You want to know about Platinum card?

Customer: Yes a.a.

Officer: ae Panda Babu eyi Platinum card kana achhi?

## Case 2:

Officer: (He is wearing glasses; the bridge of the glasses is resting on the centre of the nose; his head is slightly down; he is holding a pen in his hand, has an open register on the table, besides some files, and is looking at the customer from over the tops of the specks,)

Customer: Good afternoon, Sir (in a soft voice and with slight bowing)

Officer: (Eyes gazing over the tops of the specks, lips curved downward, head slightly down ... speaks in a low pitch feeble voice) kana hela?

Customer: Sir I wanted some information about Platinum card (in a soft voice and with a deliberate smile on the face and slight bending body posture)

Officer: (Lifts his head and neck up.)

Customer: (Slightly perturbed voice but with a deliberate smile on the face.) I wanted to know er.. er.. er how can I use the Platinum card?

Officer: (Eyes gazing over the tops of the specks, lips curved downward, head slightly down and forehead a little wrinkled)

Customer: (confused too) Actually I am going er... er.. er out of station.

Officer: (with same expressions and in a blunt voice) you want to know about Platinum debit card?

Customer: (smiling and nodding in agreement) Yes.. er er..

Officer: (turning the head back to other counter) ae panda babu eyi Platinum card kana achhi? (turning to the customer, showing hand gesture towards the counter at the back)

The first Case presents a very normal situation in which a customer is approaching a bank officer for some information. The customer practically seems to be struggling to communicate to the officer. There are long pauses “(....)” and hesitations “(er..er..er)” that are markedly the features of the customer’s speech. In fact, the customer also seems to elaborate the query after a long pause that sounds irritating. This text does not reveal the communicative behaviour of the bank officer. Rather it makes the reader conclude that the officer is a cordial participant.

However, the second Case is quite explicit and even indicates the cause of the customer’s hesitation markers and abrupt pauses (the stern looks of the bank officer). The initial nonverbal cues displayed by the bank officer (gazing from over the tops of the specks) build a barrier between him and the customer- the look looks stern (Pease, 1999). This contributes to the customer’s humble nonverbal behaviour while wishing the bank manager-a soft voice with a slight nodding movement and lowering body posture (Joshi, 2004). The animated greeting gesture goes on to depict extreme politeness; this of course is a result of the air of superiority that the bank officer has created due to his nonverbal cues. Even at the very next instance, the bank officer does not choose to respond to the customer’s “Good afternoon”. He rather prefers to give

an unfriendly gaze, followed by a feebly heard “kana hela?” (What happened?). This gives a hint to the customer that the officer is either busy, or disinterested, or both.

The customer has no choice but to talk to the officer. So, even if offended, the customer tries to smile and carries on with the conversation. The facial expression of the customer keeps changing from a deliberate smile to a confused look. The voice impressions also sound perturbed because the customer does not get the expected communicative response. In such a situation the customer is sure to feel uncomfortable, which is evident from the hesitation markers. Again, when the customer has finished the query there is no response from the officer. Rather there is a blank face on display. This makes the customer elaborate the query with additional inputs like “actually I am going er.. er.. er. out of station”. As if the discomforting looks and silence were not enough, the officer cuts short the customer’s talk by asking a question in a blunt voice. Finally, he guides the customer to some other officer, who is sitting at a counter at the back, through hand gestures.

His question, “ae panda babu eyi Platinum card kana acchi?” (Panda Babu, what is this Platinum card?), along with the hand gesture implies that the right person to tell about the debit card is Mr. Panda. On the one hand he uses verbal expressions to draw the attention of Mr. Panda, and on the other hand, he guides the customer to Mr. Panda through nonverbal gestures. Thus, the text with nonverbal cues, explicitly described, conveys that the bank officer is not a cordial communicator- an inference that is opposed to the previous conclusion.

These cases provide a scope to include a few parameters of nonverbal communication while studying interpersonal speech communication. These parameters are cues that qualify, modify, and/or add value to human communication.

## **Objective**

The objective of the study is to find the importance of including non-verbal cues in the script of interpersonal speech communication. Thus, the objectives are stated as,

- 1) to study the importance of including non-verbal cues in interpersonal communication script.
- 2) To evaluate the comprehensibility of an interpersonal conversation that includes non-verbal cues.

## **Method**

The method of study includes 1) a pilot survey with 30 management professionals (only 24 responded) from across domains, placed within Bhubaneswar and Cuttack. The professionals responded to a questionnaire designed on a 5-point scale; 2) a set of tests of comprehension using

conversations with and without non-verbal cues is conducted for 119 management students who have completed a 3 credit course on Managerial Communication and 3 credit course on Organisational Behaviour from BPUT, Odisha, and have fair understanding of verbal and non-verbal communication. They are given 4 sample conversations, 2 with and 2 without non-verbal cues. The scores from the comprehension test with 20 MCQs is then tabulated and analysed.

The survey results are analysed using descriptive statistics and a one-sample t-test. The scores of comprehension tests are analysed using descriptive statistics and two-tailed z-test.

### Analysis of Results

The result of the pilot study indicates that 18 out of 24 professionals find non-verbal cues in a conversation script to be important to understand the gaps in an interpersonal communication process (see figure 1).

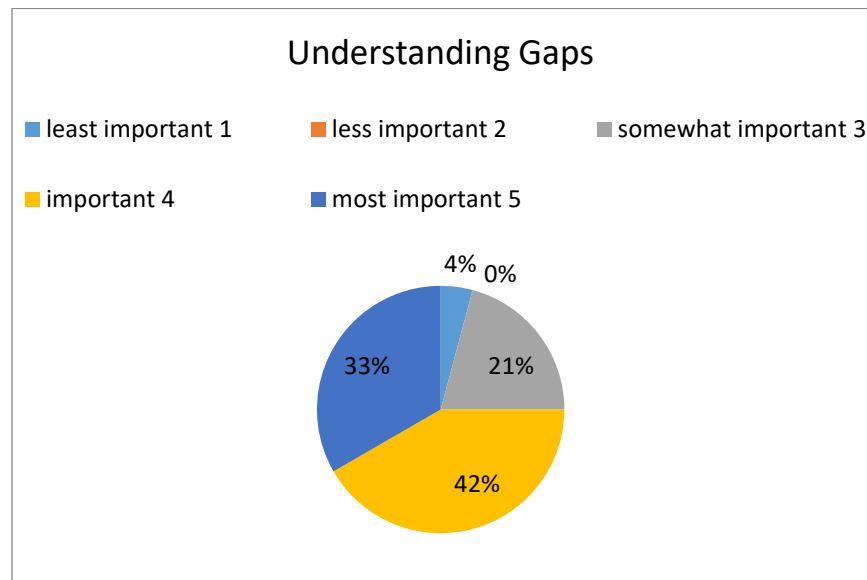


Figure 1

15 out of 24 professionals find including non-verbal cues in conversation script to be important or most important to judge the effectiveness of interpersonal communication process. 8 find it somewhat important.

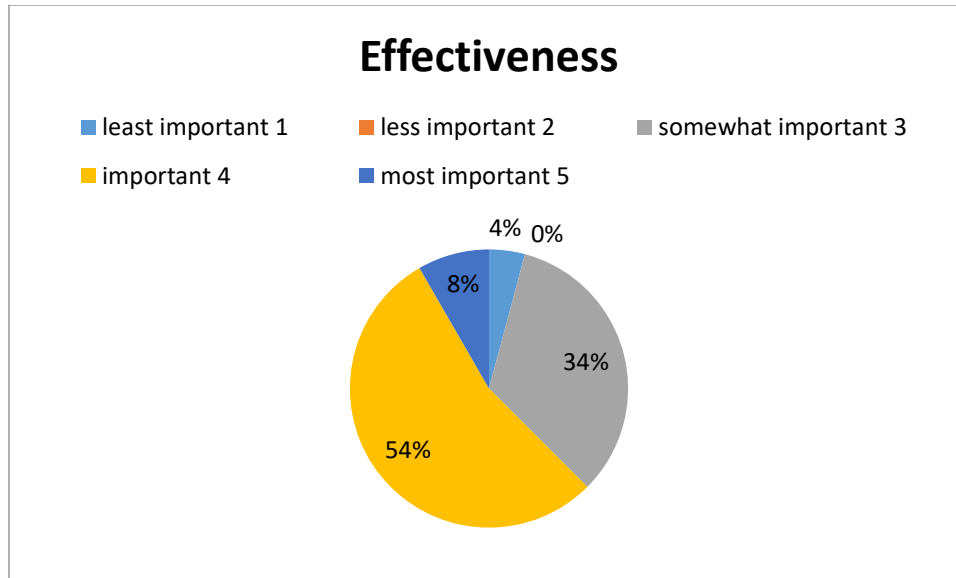


Figure 2

Interestingly, only 11 respondents feel including non-verbal cues in conversation script to be important or most important to judge the behaviour of the participants and 11 others feel it to be somewhat important.

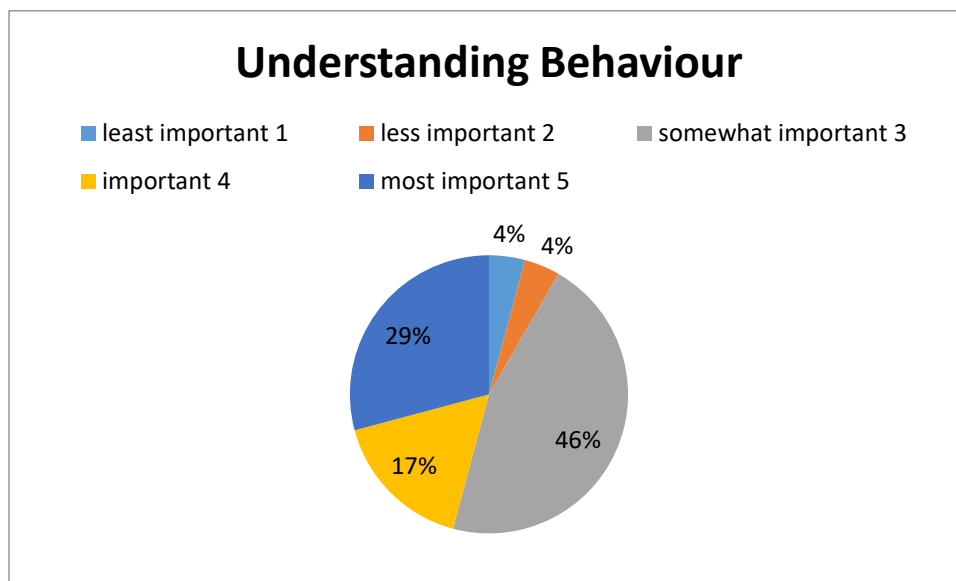


Figure 3

14 respondents find case studies on face-to-face interpersonal communication to be better comprehensible or highly comprehensible, 5 find it somewhat better comprehensible and 5 do not find any difference between case studies with non-verbal cues and without non-verbal cues. This can be represented as:

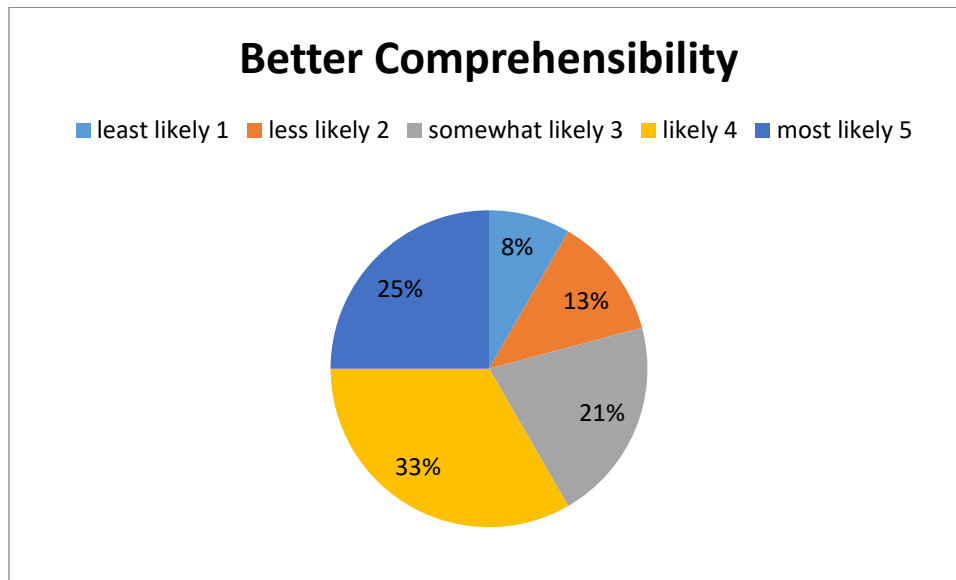


Figure 4

The above data indicates a need for including non-verbal cues in interpersonal communication script for improved comprehension. To prove this, the following descriptive statistics is calculated for a sample size:24, Mean ( $\bar{x}$ ): 3.75, standard deviation (s) = 0.7033.

To understand whether the sample response is likely to be the population response, a t-test is conducted. For the purpose of statistical analysis, we set a hypothesis as

**H<sub>0</sub>:  $\mu \leq \mu_0$  [The population mean is less than or equal to the hypothetical mean]**

**H<sub>a</sub>:  $\mu > \mu_0$  [The population mean is greater than the hypothetical mean]**

**Here,  $\mu_0$  is taken as 3.**

The t-statistic is computed as follows:

$$t = \frac{\bar{X} - \mu_0}{s/\sqrt{n}} = \frac{3.75 - 3}{0.7/\sqrt{24}} = 5.249$$

Since it is observed that  $t=5.249 > t_c=1.714$ , it is then concluded that *the null hypothesis is rejected. (critical value for right-tailed test  $t_c=1.714$ )*

Using the P-value approach: The p-value is  $p = 0$ , and since  $p=0 < 0.05$ , it is concluded that the null hypothesis is rejected.

It is concluded that the null hypothesis ( $H_0$ ) is *rejected*. Therefore, there is enough evidence to claim that the population mean is greater than 3, at the 0.05 significance level. The 95% confidence interval is  $3.454 < \mu < 4.046$ . Graphically, it is represented as:

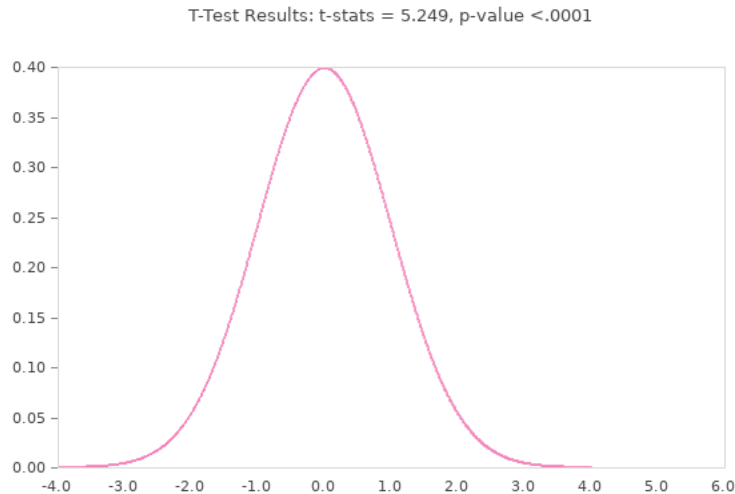


Figure 5

Now, the comprehension tests' scores of 119 management students are tabulated and the following results are drawn:

Descriptive Statistics for 119 Sample Size

Mean value for comprehension test without non-verbal cues= 2.823

Standard deviation= 1.234

Mean value for comprehension test with non-verbal cues= 3.55

Standard deviation= 1.680

To establish that the mean value of the population is expected be higher than the hypothetical mean value, we set the following hypothesis:

**$H_0: \mu \leq \mu_0$  [The mean value of population is less than the hypothetical mean]**

**$H_a: \mu > \mu_0$  [The mean value of population is greater than the hypothetical mean]**

Mathematically,

$H_0: \mu \leq 3$

$H_a: \mu > 3$

This corresponds to a right-tailed test, for which a z-test for one mean, with known population standard deviation is used. The significance level is  $\alpha=0.05$ , and the critical value for a right-tailed test is  $z_c=1.64$ .



The rejection region for this right-tailed test is  $R=(z:z>1.64)$

The z-statistic is computed as follows:

$$z = \frac{\bar{X} - \mu_0}{\sigma/\sqrt{n}} = \frac{3.55 - 3}{1.67/\sqrt{119}} = 3.593$$

It is observed that  $z=3.593>z_c=1.64$ , and the p-value is  $p=0.0002$ , and since  $p=0.0002<0.05$ , it is concluded that the null hypothesis is rejected. Therefore, there is enough evidence to claim that the population mean  $\mu$  is greater than 3, at the 0.05 significance level. The 95% confidence interval is  $3.853.25<\mu<3.85$ . Graphically it is represented as,

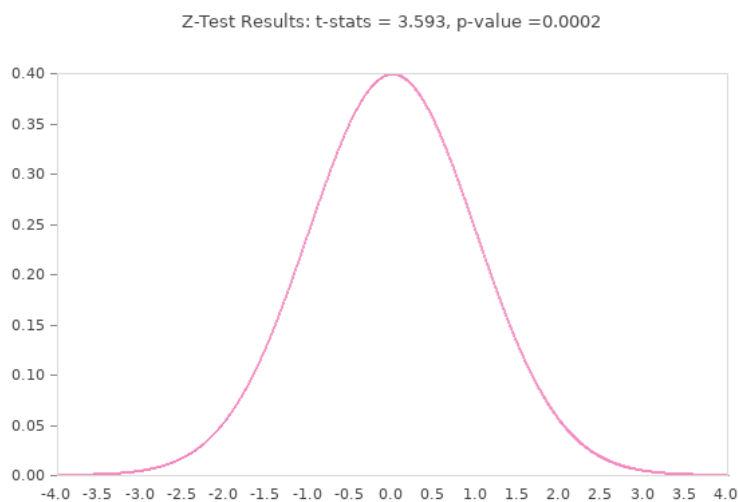


Figure 6

## Conclusions

Therefore, from the study we can conclude that it is important to include non-verbal cues in interpersonal communication script (as indicated by the t-test); including non-verbal cues in conversation/ interpersonal speech scripts enhance the understanding of the reader. Thus, there is a need for including non-verbal cues in methods that analyse interpersonal speech communication like conversations, interviews, group discussions etc...

This study is significant as there has been a raising demand for the use of non-verbal cues in conversational analysis or discourse analysis or interpersonal case study by researchers involved in qualitative research. The method used in this study and recommended for bringing out non-verbal cues explicitly in a conversation is simple. There may be future studies to endorse this method across borders and domains.

## References

Cassell, Justine, Yukiko I. Nakano, Timothy W. Bickmore, Candace L. Sidner, and Charles Rich (2001). “Non-Verbal Cues for Discourse Structure”, retrieved from <https://www.aclweb.org/anthology/P01-1016> on 1 May 2019

Coulthard, Malcolm (1977). *An Introduction to Discourse Analysis*. New York: Longman Group Limited.

Jones, Stanley. E, Curtis D. LeBaron (2002). “Research on the Relationship between Verbal and Nonverbal Communication: Emerging Integrations” *Journal of Communication*, Vol. 52:3, 499–521. <https://doi.org/10.1111/j.1460-2466.2002.tb02559.x>

Joshi, J. C. (2004) *Body Language*. Delhi: Sahni Publications. p.88

Kendon, A. (2013). Exploring the utterance roles of visible bodily action: a personal account, *Body – Language – Communication: An international Handbook on Multimodality in Human Interaction 38.1*, eds C. Müller, A. Cienki, E. Fricke, S. H. Ladewig, D. McNeill, and J. Bressem (Berlin: De Gruyter Mouton), 7–28.

McNeill, David (2000). “Gesture: a psycholinguistic approach”. Retrieved from [http://mcneilllab.uchicago.edu/pdfs/gesture.a\\_psycholinguistic\\_approach.cambridge.encyclop.pdf](http://mcneilllab.uchicago.edu/pdfs/gesture.a_psycholinguistic_approach.cambridge.encyclop.pdf) on 1 May 2019.

Mehrabian, Albert (1981). Significance of Posture and Position in the Communication of Attitude and Status Relationship. *Psychological Bulletin*. 71 (1969): 363.

Pease, Allan (1999) *Body Language*. New Delhi: Sudha Publications Private Limited. p.102

Schiffin, Deborah (1987). *Discourse Markers*. Cambridge: Cambridge University Press. p. 10

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