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Revealing lecturer's paralinguistic attribution: How the visual manner contributes to students' non-cognitive skills

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ABSTRACT

Classroom-based communication requires an appropriate contribution from lecturer's perspectives to address students' non-cognitive skills. This study examines the paralinguistic attribution contributions deriving from lecturer's visual manner. Of 504 pre-service English teachers, 120 freshmen participated in this study. Data collection used the questionnaire through a random sampling selection from lecturer's writing instruction. Data analysis used the multiple regression analyses with the significance level (*p*-value) of .05. The findings exhibited that lecturer's paralinguistic attributions, namely: articulation (t = 1.073; p = .286), sonority (t = 2.896; *p* = .005), loudness (t = 3.433; *p* = .001), facial expression and lips setting (t = 1.097; *p* = .275), and gesture (t = 2.323; *p* = .022) contributed a significant influence towards the writing class instruction positively. The effectiveness of the paralinguistic attributions contributed 45.5% from overall findings shown in this study, in which the regression analysis statistically addressed that F = 19.017, R^2 = .455, and *p*< .05. This study concludes the existence of the paralinguistic attributions accommodates freshmen's learning maturation in lecturer's instructional modes.

Keywords: Interaction; lecturer's instructional mode; paralinguistic attribution

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INTRODUCTION

The current issues at applying for the pedagogical strategies in foreign language teaching have been engaged in lecturers mainstreaming. Both cognitive and non-cognitive skills among students become the lecturer's priority. The later, non-cognitive skills which focus the paralinguistic attribution on the lecturer's instructional modes attempt to provide an understanding in the context of the lecturer's position in the classroom when delivering any designated topics. Therefore, students' non-cognitive skills truly remain to be important in their day-to-day lectures. The relevance of this study arrays non-verbal determinant of the lecturer's articulation, sonority, loudness, facial expression, and lips setting, and gesture to contribute the paralinguistic attribution in the classroom. All these determinants are also well-known as the visual manner the lecturer can perform in the classroom in order to contribute to students' non-cognitive skills. However, the paralinguistic attribution may be toughly transcended from the precise position into the sequential and applicable writing instruction.

Nowadays, communication becomes an important topic in the domain of instruction during the recent years since the users are expected to use it within the different backgrounds (Liu & Fang, 2017) to receive increasing attention on its paralinguistic attribution (Chen, 2009). It certainly involves users' participation,

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personal engagement, and initiatives (Tsou, 2005) relating to voice recognition addressing the crucial social contexts (Zaratel, Tian, Woods, & Poeppel, 2015). Conditionally writing instruction proves any substantial roles in inter-students communication (Munday, 2008) to access the important ideas and texts for pedagogical purposes to address the paralinguistic attribution or non-verbal sign system. Shortly, written communication will be passionately responded by a stimulus reaching users' informative meaning (Hatim & Munday, 2004) with effective communication to the readers, respectively. It is believed that effective communication is to comprehend either lecturer or students' creative ideas, problems solving, and passion nurture within better social relationships. Its efficiency creates good relationships with each other-regardless of ages, genders, and backgrounds (Anvari & Atiyaye, 2014).

The responsibility of creating a positive communication is openly recognized and managed to promote learning activities (Narzoles, 2013). The positiveness, confidence, and provocation sincerely keep progressive towards the communication issues by showing their facial expression, appearance, body position, and gestures with the appropriate voice intonation (Spasova, 2011). This paralinguistic attribution, according to Magzhan, Zhylkybay, Suinzhanova, and Adiyeva (2014) supports the definite lexical-semantic and aesthetic significance in expressing thought and dialogue. For more than a century, the intelligible language factor does not merely reflect the words, but articulation, sonority, loudness, facial expression, and gesture including the lips setting which visually produce the sequence of the words are possible to be indicative (Schuller, 2012), as known by the paralinguistic attribution. The linguistic competence powers the perceiving and interpreting socio-cultural events (Yueqin, 2013), heading the paralinguistic attribution. This initially confines to the realm of human to human communication through a broad and a close meaning (Schuller et al., 2013). In practice, students as users potentially bring about their values, experiences, and modes of participation in the classroom to address their interactions with the lecturer (Tsai & Garcia, 2000). Upon this experience, Dundar (2013) figures out that the classroom setting is conditionally flavored by both lecturer and students' contributions and interpretations to shape both written and spoken communication.

The paralinguistic attribution is conveyed as the deeper level of communication through the characteristics of voice, features of pronouncing, intensity, rhythm and flow of speech, pauses (Rusu & Chirita, 2017), tone, timbre, and intonation (AlAfnan, 2015), that associated with verbal (Anvari & Atiyaye, 2014), addressed significant role in the affective meaning fulfillment and reinforce the verbal content of the utterance (Bombelli, Soler, & Waasat, 2013). This has been carried out the different cultures, and consequential difficulties for cross-cultural communication; age-, sex- and personality-, and situation-related variation of behavior; dependence versus independence of the channel on simultaneous linguistic behavior usage (Laver, 1999), which substituted the speakers to modify the linguistic features (Yamashita, 2013) and to control intentions, attitudes, emphasis, and speaking styles regarding the part of non-linguistics. The function deals with modifying and clarifying of the voice intonation (Parola et al., 2015), non-verbal behaviors, such as eye contacts, facial expressions, postures and gestures (Wiklund, 2016), time, space and territory (Anvari & Atiyaye, 2014) with some expressions, such as nodding head, raising thumb, smiling lips, clapping hands, and joking activities (Maolida, 2013) as well.

Further, the paralinguistic attribution identically constitutes the phonetic communication (Magzhan et al., 2014), in which the lecturer potentially uses the phonation or commonly known as fillers, such as *uhhh*, *e-e-e-rrr*, *ohhh*, *ahhh*, *ehmmm*, and so on in the daily communication. The expression and emotion link with the diction and lecturer's thoughts since the communication observes users' movements and sound phenomena (Spasova, 2011) and is mostly used to indicate the direct physical expressions shown in front of the students (AlAfnan, 2015). this remarkably proves through the function of pauses, loudness, and syllabic duration, hand gestures (Mechó, 2015), as well as contributes intonation, the timing of responses, and volume (Chakhachiro, 2016). This point means that the lecturer's articulation clarity may directly affect students' perceptions relating to competence, credibility, and sociability (Hsu, 2012) when expressing the body movements (Acosta, 2014). In this context, the lecturer's unscripted, unrehearsed, spontaneous set of actions can improvise students' opportunities to increase their communication skills, prove the confidence, and engage the positive self-concepts improvement (Dundar, 2013), particularly when the writing class is being instructed.

In this construction, the impact of paralinguistic attribution figures out the contents of the valuable information (Nikolaevna, 2012) derived from lecturer and students' interactions. This impact is shown in Figure 1 as the function of paralinguistic modes that proves its style and existence.

Several studies showed that classroom-based communication indicated a very conducive climate in learning among students. Students' proficiency performed their communicative linguistic competence and was associated with achievement (Narzoles, 2013). Anvari and Atiyaye (2014) proved that communication effectiveness played an important role in delivering a message in the classroom's contribution. Herein, a positive facial expression created a form of information to students when completing their tasks. Hence, a positive facial expression increased the students' emotional level and performance in transferring information.

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Figure 1. Style and existence of paralinguistic modes are sequentially practiced (Mechó, 2015).

Next, conversation analysis constituted an innovative and efficient method for understanding students' problems (Wiklund, 2016). Tsou (2005) addressed students' participation that could be integrated into the regular learning, not only in students' proficiency achievement, but also their attitudes towards class activities became more positive, particularly to those whose participation backgrounds were passive enough. Further, Spasova (2011) confirmed the formal conversation which involved more than two communicators was influenced by its information, pronunciation, and pronunciation effects. All of these effects were connected with communicators' intentions that possibly exchanged the conversation topics.

Other studies supported the accessibility of a communicating device for students with disabilities. In this case, the paralinguistic attribution assisted an 11-year-old boy, who was born deaf in a hearing Finnish family. The boy's first language is Finnish Sign Language. He used this sign language in particular situations, such as while swimming and being too far for communicating with others (Nieminen & Takkinen, 2011). Meanwhile, Nilsen, Rints, Ethier, and Moroz (2016) trusted that the paralinguistic attribution might identify the executive functions in students' communicative skills development and supply the growing literature of how the students' with the attention-deficit and hyperactivity disorder constituted with others' communicative behavior. Hence, the paralinguistic attribution was determined to be a promising measure to gain more insight into the emotional processing (Hagenaars & Minnen, 2005) and to prosodically convey the pragmatic expression in the interactional discourse which was relevant with the lexical tones of the words (Ha & Grice, 2017).

The importance of this study aims at addressing classroom-based communication that addresses an appropriate contribution from the lecturer's perspectives towards students' non-cognitive skills contribution. This study also extends the factors of reliability to be systematic and applicable. Thus, in congruence with the importance of this study, the paralinguistic attribution issue proposes two research questions (RQs) regarding the following students' perception on lecturer's visual manner in this study:

1. Does the lecturer's articulation, sonority, loudness, facial expression and lips setting, and gesture partially give an influence on the writing instruction?
2. Do the lecturer's articulation, sonority, loudness, facial expression, and lips setting and gesture collectively give a contribution to students' understanding of the writing instruction?

To comprehend the paralinguistic attribution insight, six hypotheses are tested to address the research questions, as follows: H1- there is a positive and significant influence of the lecturer's articulation (X1) towards the writing instruction (Y); H2- there is a positive and significant influence of the lecturer's sonority (X2) towards the writing instruction (Y); H3 - there is a positive and significant influence of the lecturer's loudness (X3) towards the writing instruction (Y); H4 - there is a positive and significant influence of the lecturer's facial expression and lips setting (X4) towards the writing instruction (Y); and H5- there is collectively a positive and significant contribution among the lecturer's articulation (X1), sonority (X2), loudness (X3), facial expression and lips setting (X4), and gesture (X5) towards the writing instruction (Y).

METHODS

This study employed the quantitative method design which constituted the paralinguistic attribution contribution as set in the writing class, namely: lecturer's articulation, sonority, loudness, facial expression, and lip setting, and gesture during the pedagogical practices conducted in English Education Department, one of private Universities in Purworejo, Central Java, Indonesia, whose core educational system was affiliated with *Muhammadiyah*, one of the largest Islamic organizations in Indonesia. Of 504 active pre-service English teachers, 120 freshmen participated in this study of the second semester of 2019/2020 academic year. Samples size determination was undertaken from Tabachnick and Fidell's (2007) formulation, where N > 50 + 8m; m = number of independent variables. The composition of respondents were 87% (n = 105) females and 13% (n = 15) males and their age accordingly ranged in between 17 to 23 years old (Mage = 20; SD = 4.242) when fulfilling the questionnaire.

Data was granted from the Higher Education Directorate (PD DIKTI) web at https://forlap.ristekdikti.go.id/prodi/detail/ on May 14th, 2019. Data collection used the questionnaire through a

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proportional random sampling technique, where the instrument was collected from self-rated students' perception in the paralinguistic attribution as modified by Reid (2013) and Bombelli et al. (2013). The instrument consisted of ten closed statements with a 5-point Likert scale ranging from 5 to 1, in which 5 = very visible, 4 = visible, 3 = fair, 2 = poor, and 1 = invisible. The instrument was directly distributed by the authors to the respondents inside their classroom soon after they finished with their writing class. The respondents voluntarily filled in the questionnaire using a pencil and paper-based method during the span of five days for all respondents.

The validity and reliability results completed the criteria of Cronbach's alpha reliability coefficients after the instruments were tested to twenty-four pre-service English teachers at a private university in Klaten, Indonesia, dated December 14th, 2017 following their perceptions towards writing lecturer's paralinguistic attribution. The results ranged from .502 to .554 with $p>.05$ significance level. Cronbach's alpha (α) was .291 (*SD* = .737) for articulation, sonority was .420 (*SD* = .779), loudness was .473 (*SD* = .923), facial expression including lips setting was .286 (*SD* = .690), gesture was .510 (*SD* = 9.71), and writing class was .512 (*SD* = .942).

Prior to dealing with the multiple regression analyses, the assumption of parametric statistics tests– normality, linearity, and homoscedasticity was to measure its suitability as dependent variable (Y) towards independent variables (X1, X2, X3, X4, and X5). Firstly, two-tailed Kolmogorov-Smirnov (K-S Z) test was applied for the availability of data normality, where *p*-value was greater than .05 or $p>.05$. Here was the following results of writing class instruction (K-S Z = 2.177; $p = .089$), articulation (K-S Z = .324; $p = .000$), sonority (K-S Z = .278; $p = .000$), loudness (K-S Z = .328; $p = .000$), facial expression and lips setting (K-S Z = .323; $p = .000$), and gesture (K-S Z = .356; $p = .000$). Secondly, the linearity test determined its linearity criteria among independent variables within the F*Calculate* (F-Cal.) towards the linearity deviation of the mode and mean analysis variance. The results were based on four independent variables, where articulation (F = 1.479; $p = .148$), sonority (F = 1.364; $p = .159$), loudness (F= 1.358; $p = .107$), facial expression and lips setting (F = 1.643; $p = .105$), and gesture (F = 1.322; $p = .118$). Thirdly, the homoscedasticity test synchronized every X score which was paired with Y score. It conditionally distributed and contained the similar variance and was examined by the Glejser test, where $p>.05$. The results calculated these independent variables, namely: the articulation (t-Cal. = -.721; Sig.t = .764; $p = .05$), sonority (t-Cal. = -1.693; Sig.t = .508; $p = .05$), loudness (t-Cal. = .524; Sig.t = .648; $p = .05$), facial expression and lips setting (t-Cal. = -.648; Sig.t = .645; $p = .05$), and gesture (t-Cal. = -.652; Sig.t = .571; $p = .05$). Of the results, there was no multicollinearity assumption upon normality, linearity and homoscedasticity tests.

Data analysis used the descriptive statistics, Pearson correlation coefficients (Pearson *r*), and multiple regression analyses with the significance level of .05 to address the lecturer's paralinguistic attribution when dealing with students' non-cognitive skills contribution. Five independent variables of the lecturer's articulation (X1), sonority (X2), loudness (X3), facial expression and lips setting (X4), and gesture (X5) with its regression equation, $Y = a + b1X1 + b2X2 + b3X3 + b4X4 + b5X5$ were statistically analyzed.

RESULT AND DISCUSSION

First, the interpretation of the descriptive statistics presented the number of freshmen who participated in this study. 120 pre-service English teachers were statistically counted in relevance to the collected data. The results descriptively summarized the freshmen's perception of the lecturer's visual interaction in writing class instruction (Y). 55 (45.8%) freshmen perceived lecturer's visual interaction was fair, 53 (44.2%) lecturer's visual interaction was visible, 12 (10%) lecturer's visual interaction was very visible performed during writing instruction, where *M* = 3.64; *SD* = .658 with *n* = 120. Writing class instruction (Y) proved a *fair* category, as shown in Table 1 and Figure 1. Empirically, most of the freshmen showed an appropriate level of interesting and attentive participation during the lecturer's writing instruction. They developed their social skills that collaborated and interacted with the classroom activities.

Second, lecturer's articulation (X1) proved the frequency outputs, as follows: 3 (2.5%) freshmen perceived lecturer's articulation was poor, 31 (25.8%) lecturer's articulation was fair, 71 (59.2%) lecturer's articulation was visible, and 15 (12.5%) lecturer's articulation was very visible articulated during writing instruction, where *M* = 3.82; *SD* = .673 with *n* = 120. Lecturer's articulation (X1) gained *a visible* category, with 59.2% respondents perceived it. However, all categories in the lecturer's articulation were shown in Table 2 and Figure 2.

Table 1. Writing class instruction

	Category	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.00 (Fair)	55	45.8	45.8	45.8
	4.00 (Visible)	53	44.2	44.2	90.0
	5.00 (Very visible)	12	10.0	10.0	100.0
	Total	120	100.0	100.0	

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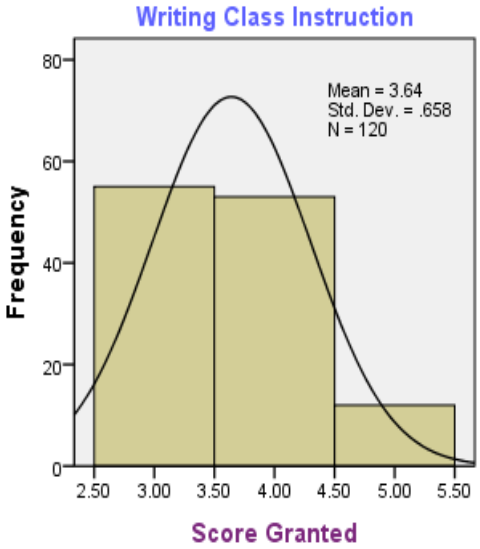

Figure 1. Lecturer's score granted in writing class instruction

Table 2. Lecturer's articulation

	Category	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00 (Poor)	3	2.5	2.5	2.5
	3.00 (Fair)	31	25.8	25.8	28.3
	4.00 (Visible)	71	59.2	59.2	87.5
	5.00 (Very visible)	15	12.5	12.5	100.0
	Total	120	100.0	100.0	

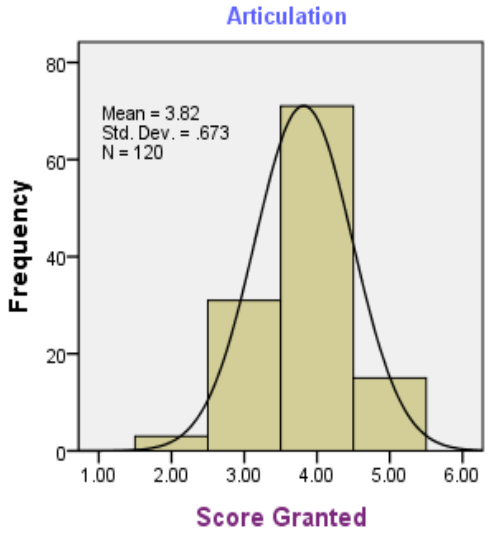

Figure 2. Lecturer's score granted in articulation

Third, lecturer's sonority (X2) verified the frequency outputs in the following sequences: 3 (2.5%) freshmen perceived lecturer's sonority was poor, 52 (45%) lecturer's sonority was fair, 47 (39.2%) lecturer's sonority was visible, and 16 (13.3%) lecturer's sonority was very visible revealed during writing instruction, where M = 3.63; SD = .744 with n = 120. Lecturer's sonority (X2) performed *a fair* category, with 45% of respondents perceived it. However, all categories in the lecturer's sonority were shown in Table 3 and Figure 3.

Table 3. Lecturer's sonority

	Category	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00 (Poor)	3	2.5	2.5	2.5
	3.00 (Fair)	52	45.0	45.0	47.5
	4.00 (Visible)	47	39.2	39.2	86.7
	5.00 (Very visible)	16	13.3	13.3	100.0
	Total	120	100.0	100.0	

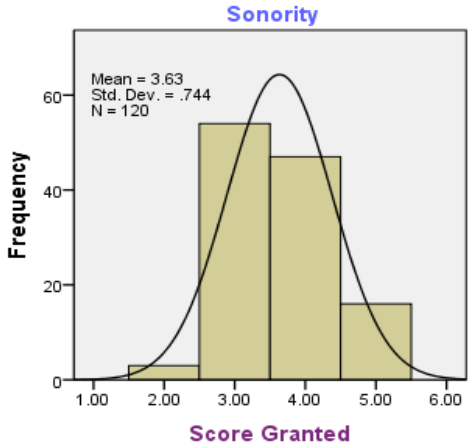

Figure 3. Lecturer's score granted in sonority

Fourth, lecturer's loudness (X3) confirmed its frequency outputs, as follows: 7 (5.8%) freshmen perceived the lecturer's loudness was poor, 67 (55.8%) lecturer's loudness was fair, 40 (33.3%) lecturer's loudness was visible, and 6 (5%) lecturer's loudness was very visible shown during writing class instruction, where M = 3.38; SD = .674 with n = 120. Lecturer's loudness (X3) proved a *fair* category, with 67% of respondents perceived it. However, all categories in the lecturer's loudness were shown in Table 4 and Figure 4.

Table 4. Lecturer's loudness

	Category	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00 (Poor)	7	5.8	5.8	5.8
	3.00 (Fair)	67	55.8	55.8	61.7
	4.00 (Visible)	40	33.3	33.3	95.0
	5.00 (Very visible)	6	5.0	5.0	100.0
	Total	120	100.0	100.0	

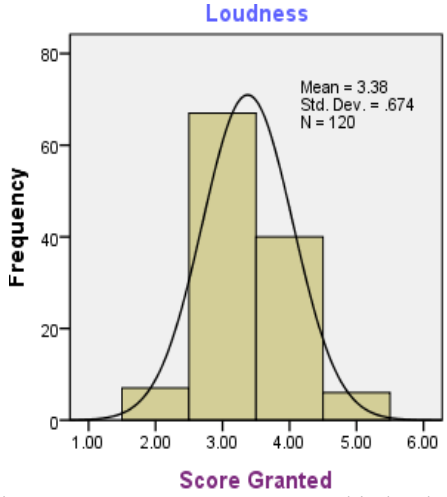

Figure 4. Lecturer's score granted in loudness

Fifth, lecturer's facial expression and lips setting (X4) determined the following frequency results: 13 (10.8%) freshmen perceived lecturer's facial expression and lips setting was fair, 71 (59.2%) lecturer's facial expression and lips setting was visible, 36 (30%) lecturer's facial expression and lip setting was very visible performed during writing instruction, where M = 4.19; SD = .612 with n = 120. Lecturer's facial expression and lips setting (X4) gained *a visible* category, with 59.2% of respondents perceived it. However, all categories in the lecturer's facial expression and lips setting were shown in Table 5 and Figure 5.

Table 5. Lecturer's facial expression and lips setting

	Category	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	3.00 (Fair)	13	10.8	10.8	10.8
	4.00 (Visible)	71	59.2	59.2	70.0
	5.00 (Very visible)	36	30.0	30.0	100.0
	Total	120	100.0	100.0	

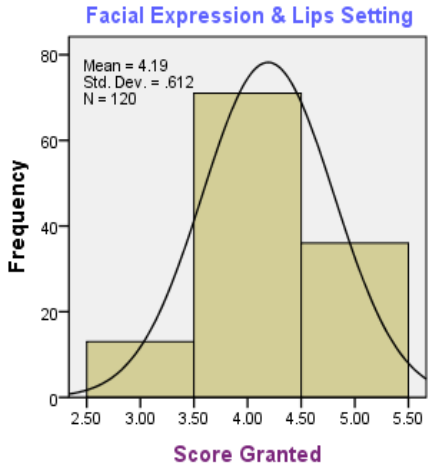

Figure 5. Lecturer's score granted in facial expression & lips setting

Last but not least, this descriptive statistics interpretation emphasized the lecturer's gesture (X5) that addressed its frequency outputs, as follows: 7 (5.8%) freshmen perceived lecturer's gesture was poor, 18 (15.0%) lecturer's gesture was fair, 77 (64.2%) lecturer's gesture was visible, and 18 (15.0%) lecturer's gesture was very visible recorded during the writing instruction, where *M* = 3.88; *SD* = .724 with *n* = 120. Lecturer's gesture (X5) earned a *visible* category with 64.2% respondents perceived it. However, all categories in lecturer's gesture were shown in Table 6 and Figure 6.

Table 6. Lecturer's gesture

	Category	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	2.00 (Poor)	7	5.8	5.8	5.8
	3.00 (Fair)	18	15.0	15.0	20.8
	4.00 (Visible)	77	64.2	64.2	85.0
	5.00 (Very visible)	18	15.0	15.0	100.0
	Total	120	100.0	100.0	

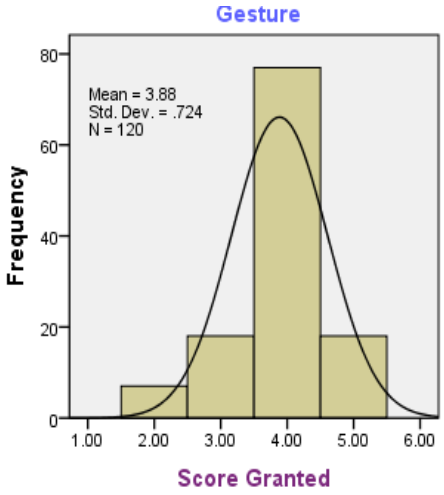

Figure 6. Lecturer's score granted in gesture

Above the descriptive statistics results, here is beneath the multiple regressions that established five independent variables used the step-wise approach to measure whether the regression analyses had some correlations [independent variables (X1, X2, X3, X4, and X5) towards the dependent variable (Y) or conversely], they did not have any correlations. Herein, both the regression and the partial correlation tests resumed the values of Beta (β), T-test, F-test, and R^2 tests to comprehend the hypothesis tests, as shown in Table 7. Meanwhile, the multivariate regression showed that R = .674; F = 19.017; p<.000 with its equation, Y = a + b1X1 + b2X2 + b3X3 + b4X4 + b5X5. The symbol of Y dealt with Beta (β), 'a' referred to the constant, whereas b1, b2, b3, b4, and b5 indicated the regression coefficients. Thus, the converted values were Y = .319 + .101X1 + .247X2 + .261X3 + .102X4 + .188X5. The determinant coefficients value (R^2) was gained from five independent variables, as follows: articulation = 10.1%, sonority = 24.7%, loudness = 26.1%, facial expression including lips setting = 10.2%, and gesture = 18.8%.

Table 7. Regression and partial correlations

Variable	B	r^2	t	Sig.
Articulation (X1)	.101	.104	1.073	.286
Sonority (X2)	.247	.267	2.896	.005
Loudness (X3)	.261	.148	3.433	.001
Facial expression & lips setting (X4)	.102	.094	1.097	.275
Gesture (X5)	.188	.207	2.323	.022
Constant = .319	**Alpha**			
Multiple R = .674	**(α) = .05**			
R Square (R^2) = .455				
F = 19.017	***p* < .000**			

Upon this lecturer's articulation, the significance ranked into the fifth level, where t = 1.073; p = .286 and the regression equation was Y = .319 + .101X1. Herein, the lecturer might consider some articulation aspects in dealing with any interdisciplinary approaches, such as pitch, melody, loudness, timing, and voice quality (Koch, 2017; Kreiman & Sidtis, 2011). These attributions had a central role in the phrase-level phonological features, like phrase-initial pitch rise and phrase-final pitch movements (Maekawa, 2004). Regarding the central role, a nuanced model might be applied for understanding the relational processes that not only required to stimulate the cognitive capacities, such as grasping, analyzing, speculating, presuming, and asking for the self-reflexive questions but also to control the emotional and social ones, such as empathizing with the existing meanings among others, opening-minded to any diversities that could be productively engaged in either lecturer or students (Baker & Daumer, 2015). Hence, the ubiquitous real and connected speech might create the dynamic transitions involving both within and across words, and words group, such as phrases, clauses, and sentences which loaded the accessibility of both lecturers and students easier (Demirezen, 2016). As being realized, the fault articulation triggered problems producing voices. The voices could be substituted, left off, switched, or increased. Thus, some errors might create troublesome for students to understand their lecturer in the class (Johnson, 2015).

Next, lecturer's sonority earned its significance in the second level, where t = 2.896; p = .005 and the regression equation was Y = .319 + .247X2. Based on the empirical portrait upon the lecturer's sonority, the lecturer might consider some sonority aspects to support her writing instruction. In a particular, Parker (2017) conveyed that the conceptualization of sonority squarely places in the realm of phonology, since the structure manifested in different categories, such as obstruents, sonorants, and vowels that drove the phonological inventories (Hauser, 2014), whilst the sonority profile intrinsically depended on two segments and the relationships to the nearest sonority peaks to predict the sonority contour. However, both segments and relationships would not only determine the sequencing principle from the lexicon, phonetic experience, and innate, but they adequately represented speakers' performance (Daland et al., 2011). These two segments related to the sonority with the more and less sonorant that was to be nasalized in the nasal harmony (Lin, 2016). Further, Parker (2002) critically regarded the sonority hierarchy constructed with the typical phonological sonority scales, ranging from the strongest to the weakest position. These scales concerned with the intensity, oral air pressure, frequency, total airflow, and duration. So that the relative sonority distances between sounds across languages might differ (Pons-Moll, 2008).

Then, lecturer's loudness revealed its significance in the first level, where t = 3.433; p = .001 and the regression equation was Y = .319 + .261X3. Based on the empirical contribution upon the lecturer's loudness, the lecturer might consider some loudness aspects to support her writing class instruction. The contribution relied on the auditory elements of the instructional voices consideration when planning and evaluating educational practices became inherent (Koch, 2017), since the overall loudness impression calculated the short-term loudness working with the similar averaging mechanism and predicted the brief sounds as a function of duration and the overall loudness of sounds at the various rates (Glasberg & Moore, 2002) when classifying them as loud and soft relating to the global loudness (Ponsot, 2015). Following the terms of loudness, it was dominated by the spectral loudness summation that increased the loudness of the modulated signal (Rennies, Verhey & Fastl, 2010). The loudness of speakers and hearers' processed and unprocessed oral communications would be significantly occupied with the spectral shaping with dynamic range compression processes for those who were in some disorder and typically developing peers (Flanagan, Zorila, Stylianou & Moore, 2018).

Afterwards, lecturer's facial expression and lips setting placed its significance in the fourth level, where t = 1.097; p = .275 and the regression equation was Y = .319 + .102X4. In particular, the lecturer might consider some facial expressions and lips setting aspects to adapt her writing class instruction. The supporting aspects relied on the use of video recording as an instrument that might identify the transfer of the lecturer's meaningfulness efforts with verbal communication. This instrument was granted as the unique field and mode of paralinguistics, which determined the spoken types upon users' specific purposes (Chakhachiro, 2016). To be able to smile is important for communication and social interaction (Sjögreen, Lohmander & Kiliardis, 2011). Nevertheless,

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the facial expression noted six emotional images that might determine the verbal communication meanings. Those were concerned with fear, anger, disgust, happiness, sadness, surprise, and neutral expression (Khan, 2018). This could be notified that the face region was extracted from the input of the frontal-view face images. Further, the segmented face region was subjected to the per facial component processes, such as eyes, eyebrows, and mouth (Pantic & Rothkrantz, 2004). To go deeper upon the facial expression, Darwin's theory on the facial description determined eight criteria of fear, anger, disgust, contempt, happiness, surprise, sadness, and joy (Darwin, 1872) facial expression that commonly influenced people's physical performance. Moreover, Roy, Blais, Fiset, Rainville, and Gosselin (2015) emphasized the signal of being aversive and consistent with the social role would engage in potential threats during producing communications. Therefore, the facial expression that directly examined the information extraction would be critical for identification and judgment.

Eventually, lecturer's gesture established its significance in the third level, where $t = 2.323$; $p = .022$ and the regression equation was Y = .319 + .188X5. Particularly, the lecturer might consider some gesture aspects to adapt to supporting writing instruction when communicating with her students. The supporting aspects relied on the elements of either the meaning or the form of a gesture naturally that are heavily dependent on the context (Johnston, 2014). Gesture encompassed the articulatory movements that constituted spoken and signed words and dealt with the other functional bodily actions to reveal the form and meaning source in a certain in time and space (Wilcox, 2004), which considered the psychological, social, anthropological, and semiotic level (Grischin, 2011) and to describe the semantic and pragmatic functions, modalities, and relationship to discourse and dialogue context as well (Wagner, Malisz & Kopp, 2014). The spoken words with symbolic gestures were coded as a single signal by the unique communication system (Bernardis & Gentilucci, 2006).

These regression results were accordingly constituted to the paralinguistic attributions to record the lecturer's visual manner modes during her writing instruction. Shortly, according to Johnston (2014), the paralinguistic attributions or non-verbal signs constituted to the users' physical posture, head movement, eye gaze, facial expression, and lips setting. Meanwhile, Perera, Eales, and Blashki (2009) addressed that the paralinguistic attribution qualities importantly allow the expression and engagement. These prove through the expressive vocalizations, such as laughing and exclaiming, and vocal segregates, such as pitch and volume. The paralinguistic attribution contributions, according to Rusu and Chirita (2017), are flexibly interpreted when reducing barriers in addition to other factors, such as gender, education, age, and past experiences to others. Mainly, the value showed .455 (p>.05), which indicated that the multiple determinant coefficient (R^2) was .455. This meant the variance level of writing instruction was 45.5%of five independent variables. On the other hand, other possible independent variables totaling 54.5% were still out of this study coverage. However, the scatter plot (Figure 7) addressed the interconnected relationships between independent variables and the dependent variable.

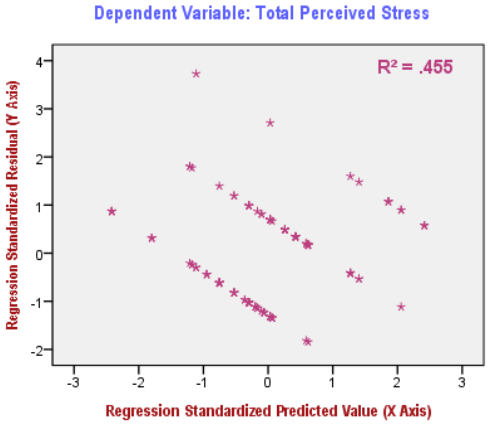

Figure 7. Scatter plot of independent and dependent variables

Moreover, part of this finding chiefly attempted to address the hypotheses, which collectively examined five independent variables towards one dependent variable. The null hypothesis (H_0) confirmed, "there was no collectively a positive and significant influence of lecturer's articulation (X1), sonority (X2), loudness (X3), facial expression and lips setting (X4), and gesture (X5) towards writing instruction (Y)". However, Table 7 showed p<.000 in which this possibly decreased the minimal error (<) at $p = .05$. Thus, the alternative hypothesis (H_a) conversely confirmed, "there was collectively a positive and significant influence of lecturer's articulation (X1), sonority (X2), loudness (X3), facial expression and lips setting (X4), and gesture (X5) towards writing instruction (Y)". Therefore, the alternative hypothesis was rejected. Secondly, the hypothesis independently examined five independent variables that were to show the existence of these

variables positively and significantly. In this respect, the hypotheses sequentially stated that "H_0 = there was no positive and significant influence of lecturer's articulation (X1) towards writing instruction (Y), whilst H_a = there was a positive and significant influence of lecturer's articulation (X1) towards the writing instruction (Y)". The null hypothesis (H_0) would be rejected if the *p*-value was less than .05 ($p<.05$). Herewith, the Pearson correlation coefficients (Pearson *r*) of the lecturer's articulation (X1) was .286; $p<.05$. Based on the result, the H_0 was rejected, and the H_a was accepted. This was interpreted lecturer's articulation had a positive influence on writing instruction ($p = .286$). This empirical fact showed the more visible lecturer's articulation was revealed, and the more comprehensive writing instruction would be set up in the classroom.

Next, "H_0 = there was no positive and significant influence of lecturer's sonority (X2) towards writing instruction (Y), whilst H_a = there was a positive and significant influence of the lecturer's sonority (X2) towards writing instruction (Y)". The null hypothesis (H_0) would be rejected if the *p*-value was less than .05 ($p<.05$). Herewith, the Pearson correlation coefficients (Pearson *r*) of the lecturer's sonority (X2) was .005; $p<.05$. Based on the result, the H_0 was rejected, and the H_a was accepted. This was interpreted lecturer's sonority had a positive influence on writing instruction ($p = .005$). This empirical fact showed that the more visible lecturer's sonority was revealed, the more comprehensive writing instruction would be set up in the classroom.

Then, "H_0 = there was no positive and significant influence of lecturer's loudness (X3) towards writing setting instruction (Y), whilst H_a = there was a positive and significant influence of the lecturer's loudness (X3) towards writing instruction (Y). The null hypothesis (H_0) would be rejected if the *p*-value was less than .05; $p<.05$). Herewith, the Pearson correlation coefficients (Pearson *r*) of the lecturer's loudness (X3) was .001; $p<.05$. Based on the result, the H_0 was rejected, and the H_a was accepted. This was interpreted the lecturer's loudness had a positive influence on writing instruction ($p = .001$). This empirical fact showed the more visible lecturer's loudness was revealed, and the more comprehensive writing instruction would set up in the classroom.

Afterward, "H_0 = there was no positive and significant influence of lecturer's facial expression and lips setting (X4) towards writing instruction (Y), whilst H_a = there was a positive and significant influence of lecturer's facial expression and lips setting (X4) towards writing instruction (Y). The null hypothesis (H_0) would be rejected if the *p*-value was less than .05 ($p<.05$). Herewith, the Pearson correlation coefficients (Pearson *r*) of the lecturer's facial expression and lips setting (X4) was .275; $p<.05$. Based on the result, the H_0 was rejected, and the H_a was accepted. This was interpreted lecturer's facial expression and lips setting had a positive influence on writing instruction ($p = .275$). This empirical fact showed the more visible lecturer's facial expression and lips setting were revealed, and the more comprehensive writing instruction would be set up in the classroom.

Lastly, "H_0 = there was no positive and significant influence of lecturer's gesture (X5) towards writing instruction (Y), whilst H_a = there was a positive and significant influence of lecturer's gesture (X5) towards writing instruction (Y). The null hypothesis (H_0) would be rejected if the *p*-value was less than .05 ($p<.05$). Herewith, the Pearson correlation coefficients (Pearson *r*) of lecturer's gesture (X5) was .022; $p<.05$. Based on the result, the H_0 was rejected and the H_a was accepted. This was interpreted lecturer's gesture had a positive influence on writing class instruction ($p = .022$). This empirical fact showed the more visible lecturer's gesture was revealed, and the more comprehensive writing instruction would be set up in the classroom.

CONCLUSION

Paralinguistic attribution is regardfully placed in the substantial category of the pedagogical issues. Nowadays, the growing demand for lecturers who are able to embolden students with their inspiring and applicable visual manner as an undeniable critical consequence. Being given by two research questions, this conclusion draws that there is a positive and significant influence of the lecturer's articulation, sonority, loudness, and facial expression and lips setting towards the lecturer's visual manner in writing class instruction both partially and collectively. The effectiveness of the paralinguistic attribution contributes 45.5% in this study. This contribution refers to students' self-perception on the lecturer's visual manner when they have the writing class. This study concludes the existence of the paralinguistic attribution adapts the freshmen and sophomores' learning maturation towards the insightful lecturer's instructional modes. On the other hand, the results and discussions granted from this study are potentially subjective and interpretative in nature of the lecturer's visual manner to contribute students' non-cognitive skills, since the distributed questionnaire does not intentionally determine lecturer's academic backgrounds and teaching professionalism. Therefore, some possible generalizations in completing the questionnaire are still debatable, whilst another limitation concerns the necessity of broadening the paralinguistic attribution variables for future research.

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