Validating a Model of Gesture Types in the Iranian Context: Insights from Iranian English Teachers vs. Persian Literature Teachers

Abstract

This quantitative study aimed to validate an Iranian gesture-types model taking insights from both Iranian English and Persian literature teachers. Hence, according to 3 themes and 8 categories of the gesture-types model including: a) didactics (practice, instruction & feedback), b) discipline (punishment & management), and c) rapport (confidence, involvement & encouragement), a 3-gesture-types factor questionnaire was developed and was then piloted with a sample of 190 teachers in the Iranian context to assess its reliability and validity. Exploratory Factor Analysis (EFA) was conducted, confirming the presence of 3 constructs and 26 items. Also, Face and content validities of Gesture-types questionnaire were confirmed. Moreover, a Cronbach's Alpha of .83 approved its reliability. Subsequently, the finalized 26-item questionnaire was distributed among a wide range of Iranian EFL teachers through various channels such as email, WhatsApp, and Telegram. Finally, a total of 332 responses were received. The findings revealed that Iranian English and Persian literature teachers' attitudes were statistically different in terms of rapport and discipline constructs. Afterwards using Confirmatory Factor Analysis (CFA), the results confirmed the initial structure identified through EFA, consisting of 3 constructs and 26 items. Overall, the proposed model of gesture types demonstrates an acceptable to reasonably good fit, although there may be room for improvement in terms of the TLI and CFI values. The results implicate that didactic gesture should be used alongside other means of teaching to compliment instruction.

Keywords: *Didactics, Discipline, Rapport, Teachers' Gesture.*

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1. Introduction

Gestures are believed to have emerged as one of the earliest shapes of communication. In reality, it would be exceptionally troublesome to demonstrate that language advanced from gesture, but assuming that gestures and discourse can be incorporated and coexist in language utilization is argumentative (Kelly et al., 2008). Thus, gestures have the ability to alter students' understanding of a problem in addition to reflecting that understanding (Novack & Goldin-Meadow, 2015). As Goldin-Meadow (2018) stated, children can enhance learning through gestures and may even lessen achievement gaps in language and math. Also, gesture can be a useful instrument that helps teachers grasp what enters into the students' minds, as well as figure out what amount they have learned from the content through their speeches expressed with their gestures.

Different perspectives on language use concerning gesture and speech have been proposed and various studies have been carried out to investigate gesture's function in learning and teaching the second and foreign language in recent years (Cao & Chen, 2017; Gale & Buescher, 2018; Morett et al., 2012; Stam & Tellier, 2022).

Many other investigations in the field of teachers' gestures have been suggested by different scholars. For instance, Alibali et al., (2013) worked on the way students can learn more when instructors know how to gesture in an effective manner. In their study, they encouraged the instructor to gesture to concurrently connect ideas. Students learning would increase, as predicted if the instructor repeatedly made simultaneous gestures rather than gesturing successively. The results of their study implied that instructors' communication about connections between ideas can influence how well students learn mathematics from instruction. The instructors' use of tracing and representational gestures increased frequently increased the frequency when gesturing simultaneously.

In another study by Kartchava & Mohamed (2020) the use of gestures made naturally as well as the teachers' reformative conduct at a university in Canada was examined. In this way, data were gathered consisting of an interview, observation of a lesson, and a session of stimulated memory. According to the findings, teachers frequently made hand gestures while performing reformative conducts. They were also deliberate in their use of reformative conduct and gesture, both in terms of quantity and type.

One study was conducted on gestures in the process of learning and teaching with the aim to find evidence of gestures' contributions to the learning and teaching procedures and also to examine how this particular area of study is changing in instructional published articles (Freitas Donadello, & Serrano, 2023). To carry out this study, the researchers selected 69 articles based on the definite measures. They found out that gestures are considered to be a very significant element that is partly responsible for the learning and teaching procedure, that can't be ignored. Therefore, non-verbal communication, especially gestures that attempt to demonstrate a given idea in the minds of teachers, should be considered as substantial and proper as speech.

Garcia-Gamez et al., (2021) evaluated the gestures and the influences they had on the teaching of vocabulary for Spanish speakers as a foreign language. The researchers believed that learners learn vocabularies through gestures in four states including consistent, inconsistent, and meaningless or no gesture. The words were taught to the participants through performance either by making gestures themselves or by watching others make gestures. The process of consistent gesturing in comparison with the state of meaningless gesture, makes the retention of words easier in both making gestures themselves or by watching others make gestures. But, the process of inconsistent gesturing had a more interference impact by watching others make gestures. Hence, it appears that when gestures are made, they reduce any potential negative effects that they might have on vocabulary instruction.

Previous works (Alibali, et al., 2013; Alibali, et al., 2014; Cao, & Chen, 2017; Church, et al., 2004; Freitas Donadello, & Serrano, 2023; Hostetter, 2007; Stam & Tellier, 2022) have only focused on gestures' role in learning and teaching the second and foreign language and the impact they have on learning a second language in the classroom, or the way students can learn more when teachers know how to gesture in an efficient action, but there still important aspects exist to be taken into consideration. In the first place, a great number of related investigations concentrated on representational gestures, letting the relationship between different categorizations of gestures and gesture production inadequately studied (Cameron, & Xu, 2011; Cavicchio, & Busà, 2023; Kita, 2000; Ma, et al., 2021; Novack, & Goldin-Meadow, 2017). In the second place, many other studies on gesture and nonverbal communication did not put themselves in the groundwork of gesturing and L2 acquisition concerning the teaching expertise (Dobrescu, & Lupu, 2015; Mousa, 2023; Muchemwa, 2013; Pudło, & Pisula, 2018; Sutiyatno, 2018; Zeki, 2009), thus they neglected

to discuss the relationship between L2 speech production and the gestures novice and expert teachers perform in the classroom. Third, the research that has investigated the affiliations between the use of gesture and the production of speech to a great extent centered on native speakers and profoundly proficient ones (de Beer, et al., 2020; Driskell, & Radtke, 2003; Kısa, et al., 2021), thus, this study designed a quantitative local model based on a qualitative study conducted by Shamsaie et al., (2023) to measure its generalizability and to do this the themes and categories were presented in the form of questionnaire with a large number of participants.

In the light of the above-mentioned gaps, two questions arise regarding the gaps and objectives of the study: (1) Are there any statistically significant differences between Iranian English and Persian literature teachers regarding the use of gesture types?

1.5.7. By running SEM, do fit indices support the adequacy of the quantitative model of gesture?

2. Review of the Related Literature

2.1. Nonverbal vs. Verbal Communication

One of the foremost imperative ways that individuals communicate is by using the language, i.e. verbal communication. Since long ago, when we talk about human communication, at first just language crosses our mind and nonverbal communication is dismissed to a great degree, while nonverbal communication has a really significant part in the process of teaching learning (Bunglowala & Bunglowala, 2015). Verbal communication is more direct than non-verbal communication, which reduces the possibility of misunderstanding the message, taking into account the context, culture and other factors (Abed, et al. 2023).

According to Abdikarimova et al. (2021) verbal communication aids in expressing a range of needs and providing particular information. In order to inform, convince, and get people to take something into consideration, verbal communication is also utilized to characterize things, happenings, opportunities, individuals, and ideas. To put differently, verbal expressions enable us to clarify to others our observations, notions, impressions, and requirements. However, being mindful of nonverbal communication enhances intercultural awareness, not only with individuals who speak the same language but also those from different countries with diverse cultural

backgrounds. The use of nonverbal communication is significant in the way humans interact with each other socially. Nonverbal communication has been largely ignored, but recently, various field of studies have become interested in studying it. It was determined that nonverbal cues are crucial in classroom communication based on the fields of anthropology, economics, language, and so on (Wahyuni, 2018).

2.2. Gesture as Nonverbal Communication in Classroom

Nonverbal communication expressions, and vocalizations made by an individual that do not involve the use of spoken words (Bunglowala, 2015). For significant learning to take place in a classroom environment, it is crucial to have dynamic communication between students, their classmates, and the instructor. In their teaching sessions, educators utilize aspects of nonverbal communication such as facial expressions, physical gestures and body motions, to impact the way students absorb and comprehend the materials presented in the classroom (Silva, 2017).

According to reports, educators who use nonverbal communication techniques within their classes tend to establish stronger connections with their pupils. In the last thirty years, there has been empirical research on the relationship between gestures and second language acquisition from various points of view (Beaudoin-Ryan & Goldin-Meadow, 2014; Bambaeeroo & Shokrpour, 2017; Cook & Goldin-Meadow, 2006; Gulberg, 2010; Kendon, 2004, Novack & Goldin-Meadow, 2015).

Recently, many works have been conducted based on the gestures used by teachers considering its importance in facilitating and fostering learning. For example, Fiorella (2021) conducted a research to determine if a teacher's body language can indicate the fundamental conceptual framework of a class and promote education. During the experiment, 1,123 college students viewed a video in that the teacher used various types of gestures, including structural, surface, both structural and surface, or no gestures at all. The findings indicated that using structural gestures aids students in mentally arraigning the lessons' content based on its overall structure.

In a study it was shown that how a group of English language teachers realize the use of gestures in teaching, after watching a video of an EFL practitioner. The data was gathered through online questionnaires and recorded interviews. The study found that teachers recognize the

importance of gestures and attribute specific functions to them. The results have implications for pedagogy and suggest that teachers need to be more cognizant of their own gestures in the classroom. The study also highlights the need for critical reflection on teaching practices, including the use of gestures. Teachers rarely have the opportunity to view their own teaching and should incorporate gesture analysis into reflective practice (Thompson, 2014).

Cherdieu et, al. (2017) reported that using hand gestures can aid in problem-solving as well as language and conceptual learning. Both observing and performing the gestures while learning can be advantageous. However, when the motor system is more strongly activated during the latter, it can provide additional cues to reinforce and recall the mental pathways formed during learning. The study aimed to test the hypothesis that imitating gestures related to anatomy learning would improve recall of structure names and their localization on a diagram. Two groups of participants watched a video lecture on forearm anatomy, with one group also imitating the model's gestures. The results showed that imitating gestures improved long-term recall, suggesting that motor actions integrated with knowledge may require sleep and specific activation of the motor system during learning may improve memory consolidation and retrieval.

Denizci & Azaoui (2020) discussed the significance of interactive gestures in educational settings and their role in making meanings and relationships interpersonally. They analyzed video recordings of French language classes in Turkey and France and found that most gestures used in teaching were intended for interactive purposes. Some gestures were difficult to categorize as they had both interactive and topical elements. The study also identified some gestures were not intended for the person being addressed but still had an interactive component.

Ma et al. (2022) investigated the relationship between four types of co-speech gestures (iconics, metaphorics, deictics, and beats) and various aspects of English language learners' speech performance, including meaning, form, and discourse dimensions. The study involved 61 Chinese-speaking English learners who were asked to recite a cartoon clip while their speech and gesture data were recorded. The results indicated that all four types of co-speech gestures were positively associated with meaning and discourse measures of L2 speech, but not with form-related measures, except for metaphorics, which showed a positive relationship with the percentage of clauses

without any errors. These findings showed that co-speech gestures may play a more significant role in constructing meaning in L2 speech production.

One other study also worked on the way teacher's kinesics influence both the students' learning and the environment. The aim of the research was to investigate how students perceive the impact of teacher's body language on their learning and the learning environment. This information can be beneficial to teachers to adjust their teaching methods provide high-quality education. 14 students participated in the study. The researchers organized focus group sessions with students to investigate how their teachers' use gestures affected their learning in the classroom. The data gathered were analyzed through manual means. The study found that the nonverbal actions of teachers have a significant impact on students' motivation, engagement, and learning in the classroom. Students interacted well with teachers who were friendly and confident and effectively used gestures, as opposed to intransigent and remonstrative teachers (Sajjad, et al. 2023).

Besides the studies suggested universally, in a qualitative study carried out by Shamsaie et al. (2023) a model was proposed regarding gestures functions among Iranian novice and expert teachers. The study involved 15 inexperienced and 14 experienced English teachers working at language institutes. The researchers conducted initial interviews, observations, and post-observation interviews to gather data. They interviewed 8 novice and 10 expert teachers to discuss the types of gestures they used and why. They then observed 15 classes of varying proficiency levels through Direct Non-participant Observation. Finally, they conducted 37 post-observation interviews to clarify any confusing observations. It was found that novice teachers primarily use gestures for teaching and disciplinary purposes, while expert teachers use them for a wider range of functions including building rapport with students. Novice teachers can benefit from specific suggestions to improve their management and teaching skills when working with students.

Although the preliminary model of the classification of gesture functions was developed based on Iranian novice and expert teachers from 3 institutes and 15 English classes in Bandar Abbas city, its applicability to a larger population was uncertain since it was only based on interviews with a small number of EFL teachers. To address this issue, the current study tried to verify and validate the initial model using SEM.

3. Method

The study aimed to build upon an earlier qualitative study conducted by Shmasai et al. (2016) about a model of gesture types among Iranian EFL teachers. The goal of the current study was to develop a new instrument, specifically a gesture-types questionnaire, based on the themes and categories from the earlier qualitative model. The researchers designed the questionnaire to address the issue of generalizability that is inherent in quantitative findings. The earlier model was derived from interviews, observations, post-observation interviews, and reflective journals, which tend to be more specific and particular in nature. To provide a more robust and validated model of gesture types, the researchers incorporated a quantitative phase to the study, building on the work of Shamsai et al. (2022). The rationale behind this approach was to gain a better interpretation of the qualitative findings and to develop a model that could be more widely applied and empirically supported, serving as a validated local model of gesture types**.**

Pilot Study

In order to check for the generalizability of gesture types among English and Persian litreature teachers in the Iranian context, a 31-item questionnaire was developed based on the emerging qualitative model of gesture types. The gesture-types questionnaire was then pilot-tested with a sample of 190 teachers in the Iranian context. In an attempt to check the structural matrix of the questionnaire, Exploratory Factor Analysis using principal components analysis was run. Furthermore, the Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity was used to assess sampling adequacy. The results of the KMO and Bartlett's tests are as demonstrated in Table 1:

Table 1

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.795
Bartlett's Test of Sphericity	Approx. Chi-Square	3027.997
	Df	465
	Sig.	.000

As a yardstick, a KMO value over 0.6 and a significant Bartlett's test specify that the data is suitable for factor analysis. As depicted in Table 1, the KMO value is 0.79. In addition, the Bartlett's test is significant ($p < 0.0001$), which implies the suitability of data for factor analysis.

Table 2

Pattern of Factor Loadings

	Components		
	1	2	3
item1	.720		
item2	.566		
item3	.666		
item4	.613		
item5	.552		
item6	.522		
item7	.485		
item8	.430		
item9		.599	
item10		.774	
item11		.617	
item12		.565	
item13		.576	

item14		.537	
item15		.326	.
item16			
item17			.725
item18			.557
item19			.625
item20			.627
item21			.489
item22			.534
item23			.445
item24	.385		
item25			.541
item26			.482
item27			
item28			
item29			.455
item30			
item31			

Extraction Method: Principal Component Analysis.

According to the arrangement of factor loadings presented in Table 2, the factors can be designated with the following names:

Factor 1: Didactics (items 1,2, 3,4, 5,6,7,8, 24)

Factor 2: Discipline (items 9, 10, 11, 12, 13, 14, 15)

Factor 3: Rapport (17, 18, 19, 20, 21, 22, 23, 25, 26, 29)

Consequently, the factorial structure of the questionnaire is supported by the results of the exploratory factor analysis which lead to a 26-item questionnaire of Iranian gesture types.

Furthermore, the reliability of the questionnaire was evaluated using Cronbach's alpha, yielding the following outcomes:

Table 3

Reliability Index

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.833	.832	31

According to Table 3. gesture-types questionnaire is reliable because the Cronbach's Alpha value is 0.83 which is greater than 0.7.

3.3.1. Face and Content Validities of Gesture-Types Questionnaire

The questionnaire used in this study underwent validation procedures for both face and content validity. The experts reviewed the questionnaire and reached a consensus on the appropriateness and wording of the items. In the majority of cases, there was agreement regarding the feasibility and formulation of the questionnaire items.

3.4. Main Study

The third and the final phase of the study commenced as soon as the reliability and related validities of the gesture-types questionnaire were secured. At that time, the questionnaire was ready for the final distribution. In fact, the quantitative phase was designed to check the generalizability of the categories emerging in the qualitative phase in the form of the Iranian model of gesture types. The details of the final phase are provided in the subsequent sections.

3.4.1. Participants

The participants of the quantitative phase of the study were 332 Iranian teachers excluding the number of participants of the pilot study. They were teaching English and Persian literature in different parts of Iran and were chosen based on availability sampling. Out of 332 Iranian teachers (228 females & 104 males), 146 were English teachers (120 females & 26 males) and 186 were Persian literature teachers (108 females & 78 males). Their teaching experience ranged from 1 to 25 years and their age ranged from 20 years to 48 years.

3.4.2 Instruments

The main instrument employed in this phase was gesture-types questionnaire including 26 items. The items of the questionnaire were borrowed from the categories of the qualitative phase. In other words, the underlying factors of the present instrument were taken from the qualitative themes and its items from qualitative categories. In the pilot phase, 6 items did not load properly on the underlying factors and hence were omitted. As a result, the final questionnaire of gesture types encompasses 26 items. It is worth mentioning that a demographic information part was added to the top of the main questionnaire seeking participants' age, gender, years of teaching experience. Then, it was distributed to as many Iranian teachers as it was possible. Finally, 332 participants filled out the questionnaire. The details of the factors and items of the present questionnaire are provided in Table 3.4.

Table 4

Factors and Items of Gesture-Types-Questionnaire

Factors	Items
Didactics	1, 2, 3, 4, 5, 6, 7, 8, 24
Discipline	9, 10, 11, 12, 13, 14, 15
Rapport	17, 18, 19, 20, 21, 22, 23, 25, 26, 29

3.4.3. Data Collection Procedures

The data of the present phase of the study were collected in 3 steps.

Step 1: It involved the creation of a web-based survey on gesture types using Google Forms. The questionnaire consisted of three sections: an opening, a body, and a closing. In the opening section, a brief explanation of the survey's content was provided, assuring participants that their responses would be utilized for academic and research purposes. The body of the questionnaire contained twenty-six items, each rated on a five-point Likert scale ranging from strongly disagree to strongly agree. Upon submission of their responses, participants were shown a thank you message on the screen. One notable advantage of using this web-based survey format was the ease of obtaining participants' response data in Excel format directly from the researcher's email. This eliminated the need for manual data extraction and entry into an Excel spreadsheet, streamlining the data collection process.

Step 2: In step 2 of the research process, the survey link was distributed to a wide range of Iranian teachers through various channels such as email, WhatsApp, and Telegram. The researchers personally shared the link with teachers they were acquainted with, while also reaching out to professors and colleagues who further disseminated the link across different regions of Iran. Participants could easily access the survey by simply double-clicking on the provided link.

Step 3: The researchers regularly monitored the Google Form on a daily basis and sent notifications to friends and colleagues, kindly asking them to participate in the survey.

Over the course of two months, the efforts resulted in an increase in the number of respondents, reaching a total of 332 responses (146 English & 186 Persian literature). However, despite waiting for an additional two weeks, no further changes in the number of responses were observed in the Google Form. Consequently, the responses were downloaded in Microsoft Excel format, preparing for the final stage of data analysis.

3.4.4. Data Analysis Procedures

As mentioned previously, this study aimed to examine the relationships between variables through the use of a model. To achieve this, Structural Equation Modeling (SEM) was employed as a robust and rigorous tool for testing the model using Confirmatory Factor Analysis (CFA) (Dörnyei, 2007). SEM operates by describing the relationships between observed and underlying variables, thereby establishing a measurement model. The subsequent stage of SEM involves identifying connections between the latent independent and dependent variables, resulting in a comprehensive model that incorporates all measurement models (Kline, 2011). To conduct the SEM analysis, AMOS software was utilized. The outcomes obtained from the analysis using AMOS software will be discussed in the following chapter.

4. Results

4.5. Iranian English and Persian Litreature Teachers' Statistical Difference Regarding the Use of Gesture Types

In order to inspect the above concept, both descriptive and inferential statistics are provided below:

Table 5

Descriptive Statistics of English and Persian Litreature Teachers

	English –P Litreature	N	Mean	Std. Deviation	Std. Error Mean
Didactics_mean	EN	146	3.4970	.79110	.06547
	PL	186	3.4074	.68549	.05026
Discipline_mean	EN	146	3.0000	.97419	.08062
	PL	186	3.2401	.85106	.06240
Rapport_mean	EN	146	3.4117	.77522	.06416
	PL	186	3.2461	.67667	.04962

Table 5 presents the mean values for Iranian English and Persian litreature teachers in relation to three components of gesture: didactics, discipline, and rapport. The findings indicate distinct tendencies between the two groups:

1. Didactics: English teachers exhibit a stronger inclination towards didactics, as evidenced by their higher mean value of 3.49, compared to the mean value of 3.40 among PL teachers.

2. Rapport: English teachers also demonstrate a more favorable attitude towards rapport, with a mean score of 3.41, surpassing the mean score of 3.24 among PL teachers. This suggests that novices prioritize establishing positive connections with their students.

3. Discipline: Conversely, PL teachers show a greater preference for discipline, as indicated by their mean score of 3.24, which exceeds the mean score of 3.00 among English teachers. This implies that expert teachers place more emphasis on maintaining order and enforcing rules in the classroom.

In summary, the analysis of mean values reveals that English teachers exhibit higher tendencies towards didactics and rapport, while PL teachers lean towards discipline.

Before running t-test, normality assumption should be checked.

Table 6

One-Sample Kolmogorov-Smirnov Test

		overall
N		332
Normal Parameters[a,b]	Mean	131.3296
	Std. Deviation	7.00161
Most Extreme Differences	Absolute	.053
	Positive	.049
	Negative	-.053
Test Statistic		.053
Asymp. Sig. (2-tailed)		.091

a. Test distribution is Normal.

b. Calculated from data.

As Table 6 reveals, since the p-value (0.09) is greater than the chosen significance level (e.g., 0.05), there is not enough evidence to reject the null hypothesis of the data being normally distributed. In other words, the data is consistent with a normal distribution.

To assess the assumption of homogeneity of variance, the significance values

Table 7

Independent Samples T-Test for Determining the Difference Among English and Pl teachers

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Didactics	Equal variances assumed	2.731	.099	1.104	330	.271	.08955	.08113	-.07005	.24915
	Equal variances not assumed			1.085	287.900	.279	.08955	.08254	-.07291	.25201
Discipline	Equal variances assumed	6.148	.014	-2.394	330	.017	-.24014	.10031	-.43747	-.04281
	Equal variances not assumed			-2.355	289.371	.019	-.24014	.10195	-.44081	-.03948
Rapport_	Equal variances assumed	3.705	.050	2.075	330	.039	.16560	.07979	.00864	.32257
	Equal variances not assumed			2.042	289.221	.042	.16560	.08110	.00597	.32523

obtained from the Levene's test for equality of variance were examined for three variables: didactics, discipline, and rapport. The results are as follows:

1. Didactics: The obtained significance value for didactics is greater than the threshold of 0.05. This suggests that the assumption of equal variances can be assumed for didactics, and therefore, the first row indicating equal variances assumed should be considered.

2. Discipline: For discipline, the significance value obtained from the Levene's test is less than or equal to 0.05. This indicates that the assumption of equal variances is not met for

discipline. Therefore, the second row indicating equal variances not met should be examined.

3. Rapport: Similarly, for rapport, the significance value obtained is also less than or equal to 0.05. This implies that the assumption of equal variances is not satisfied for rapport. Hence, the second row indicating equal variances not met should be investigated. In summary, based on the obtained significance values, equal variances can be assumed for didactics (first row), while for discipline and rapport, the assumption of equal variances is not met (second row).

Moreover, to examine whether there were statistically significant distinctions between English and PL teachers concerning didactics, discipline, and rapport, independent-samples t-tests were performed. The outcomes indicate the following:

1. Didactics: The analysis revealed no significant differences between English and PL teachers regarding didactics, as indicated by a p-value of .27. Therefore, there is no substantial evidence to suggest disparities in didactics between the two groups.

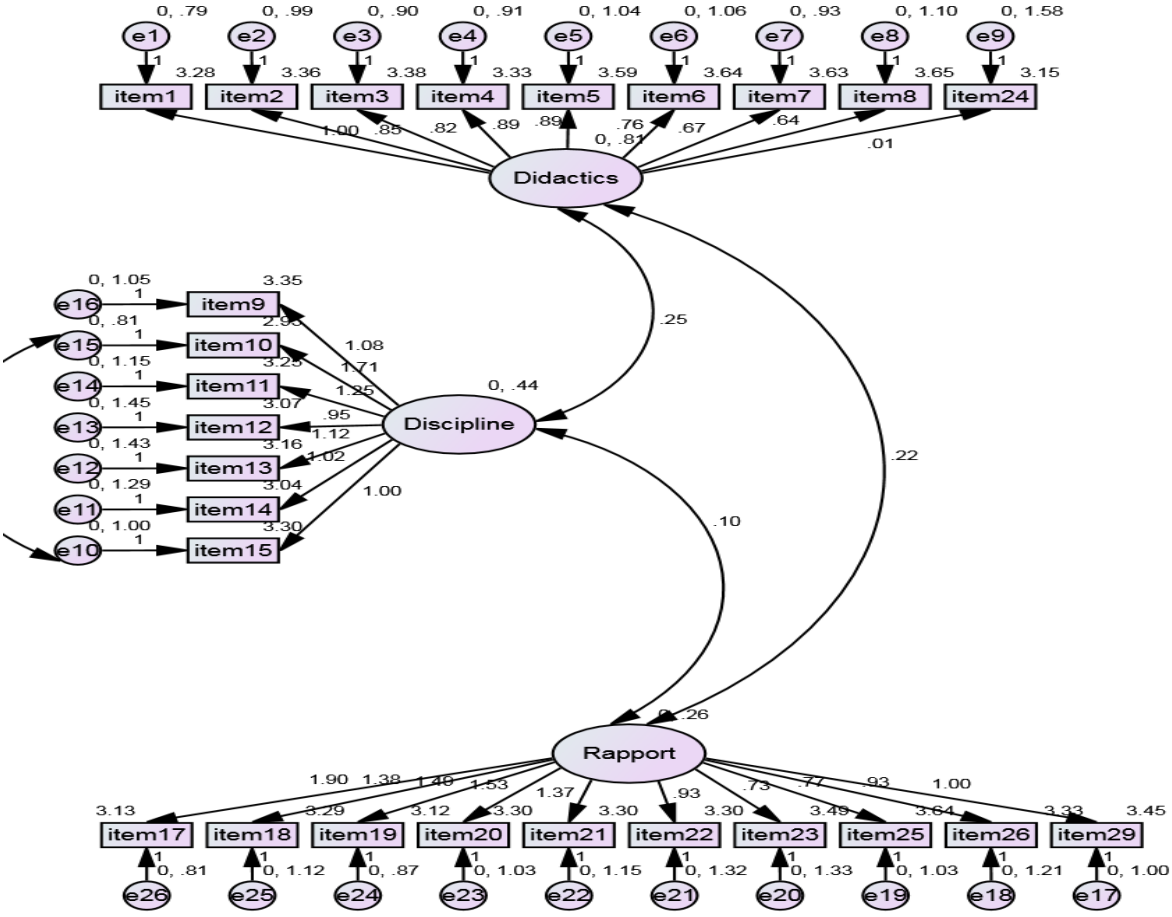
2. Discipline: In contrast, significant differences were observed between English and PL teachers in terms of discipline, with a p-value of .01. This indicates that there are notable variations in the levels of discipline between the two groups.

3. Rapport: Similarly, significant differences were identified between English and PL teachers concerning rapport, with a p-value of .04. This suggests that there are significant variances in the rapport levels exhibited by the two groups.

In summary, the results demonstrate that there were no significant differences in didactics between English and PL teachers. However, significant differences were found in both discipline and rapport, indicating divergences in these areas between the two groups.

Figure 1

Path Diagram of Gesture Types in the Iranian Context



According to the results, the gesture model comprises 3 categories (i.e., Didactics, Discipline & Rapport). After evaluating the compatibility of the collected data and the proposed model, the model fit indices were calculated and reported in Table 4.16 that showed an acceptable fit.

Table 8

Fit Indices of the Proposed Model of Gesture Types

	X^2/df	TLI	CFI	AGFI	RMSEA	PCLOSE
Fit indices	2.81	0.67	0.93	0.91	0.078	0.00
Acceptable Fit indices	< 5	> 0.90	> 0.95	> 0.90	< 0.08	> 0.05

According to Table 8, the fit indices of the proposed model of gesture types are as follows: X2/df: The chi-square divided by degrees of freedom is 2.81. This value indicates the ratio between the chi-square statistic and the degrees of freedom. A value less than 5 suggests an acceptable fit. TLI (Tucker-Lewis Index): The TLI value is 0.67. This index measures the comparative fit of the model, with values greater than 0.90 generally considered acceptable. The value of 0.67 suggests that the fit of the proposed model may need improvement. CFI (Comparative Fit Index): The CFI value is 0.93. The CFI also measures how well the proposed model fits the data, with values greater than 0.95 typically indicating good fit. The value of 0.93 suggests a relatively good fit, although it falls slightly below the commonly accepted threshold. AGFI (Adjusted Goodness of Fit Index): The AGFI value is 0.91. This index assesses the relative amount of variance and covariance accounted for by the model. Values greater than 0.90 are generally considered acceptable, indicating a reasonably good fit. RMSEA (Root Mean Square Error of Approximation): The RMSEA value is 0.078. This index measures the average difference between the observed covariance and the model-implied covariance, with values less than 0.08 typically indicating a good fit. The value of 0.078 suggests a reasonably good fit for the proposed model. PCLOSE: The PCLOSE value is 0.00. This index represents the probability of the null hypothesis (the model fits the data well) being rejected. A value less than 0.05 suggests that the model fits well, indicating a good fit in this case. Based on these fit indices, the proposed model of gesture types demonstrates an acceptable to reasonably good fit, although there may be room for improvement in terms of the TLI and CFI values**.**

Table 9

Cronbach's Alpha Coefficient for the Proposed Model

Model	Alpha Coefficients’
Didactics	0.71
Discipline	0.77

Rapport	0.73

Table 9 displays the Cronbach's alpha coefficients for each dimension of the proposed model: Didactics, Discipline, and Rapport. The coefficients provide an indication of the reliability or consistency of the items within each dimension. The Cronbach's alpha coefficient for the Didactics dimension is 0.71. This value suggests a moderate level of internal consistency, indicating that the items within the Didactics dimension are reasonably interrelated. For the Discipline dimension, the Cronbach's alpha coefficient is 0.77, indicating a good level of internal consistency. This suggests a strong interrelationship among the items within the Discipline dimension of the model. The Rapport dimension of the proposed model demonstrates a Cronbach's alpha coefficient of 0.73. This value indicates a moderate to good level of internal consistency, suggesting that the items within the Rapport dimension are reasonably interrelated.

Overall, the Cronbach's alpha coefficients for the proposed model of gesture types in the Iranian context demonstrate acceptable to good levels of internal consistency across the dimensions of Didactics, Discipline, and Rapport. These coefficients suggest that the items within each dimension are measuring a similar construct and are reliable indicators of their respective dimensions.

Discussion

The results of the local questionnaire on gesture types among Iranian EFL teachers revealed that there were no significant differences in the use of didactic gestures between Iranian EFL and PL teachers.. In the Iranian EFL teaching context, the cultural emphasis on formality and the hierarchical teacher-student dynamic may have led to a more uniform use of didactic gestures, regardless of the teacher's expertise. Besides, the Iranian EFL

teachers may have been socialized to rely on didactic gestures as a primary teaching strategy, reducing the expected differences between teachers.

In addition, the findings pinpointed significant differences between Iranian English and PL teaches in both discipline and rapport components of the questionnaire. Regarding disciplinary divergences between English and PL teachers this point is worth noting that PL teachers, due to the influence of the Iranian culture, may have learned to use more nuanced and effective disciplinary gestures to maintain order and ensure student compliance.

Apart from discipline, although the Iranian educational system is more formal and leans towards distance to rapport, Iranian PL teachers, contrary to English ones, may have developed a better understanding of the importance of building rapport and fostering supportive relationships with students.

Regarding the fit indices of the quantitative model, the findings showed that the proposed model for the use of gesture types by Iranian EFL teachers demonstrates an adequate to fairly good level of fit, based on the reported fit indices. However, there may be potential to further enhance the model's fit, particularly in terms of improving the TLI (Tucker-Lewis Index) and CFI (Comparative Fit Index) values. These findings lend support to the initial hypothesis, indicating that the fit indices support the adequacy of the proposed model. The final model of gesture types for Iranian teachers encompasses three key factors: didactics, discipline, and rapport, comprising a total of 26 items.

The components of this Iranian model of gesture types align, in part, with the three main functions of gesture (cognitive, emotional, and organizational) identified in Sime's (2006) study. The strength of the Iranian model lies in the fact that it was developed through a rigorous, two-phase sequential-exploratory mixed-methods research approach. In the first phase, a variety of instruments were employed to comprehensively capture the nuances of gesture types and their use in the Iranian context, leading to a data-driven model of gesture for Iranian teachers. In the second phase, the components of the model were

used to design an Iranian questionnaire on gesture types, which was then piloted through EFA and reliability analysis. Finally, the validation phase was conducted using CFA and SEM via the AMOS software.

The three-factor model of Iranian gesture types (didactics, discipline, and rapport) can assist teachers in effectively delivering content and concepts to their learners. Moreover, the versatility of the identified gesture types can contribute to the practicality and applicability of the model. If learners are encouraged and involved through rapport-building gestures, and then appropriately managed using discipline-related gestures, the instruction, practice, and feedback phases (didactics) can be implemented more smoothly.

Conclusions

In conclusion, this study has contributed to the field of language teaching by proposing an Iranian model of gesture types that aligns with the principles of the post-method era. In this era, there is a growing emphasis on local models that consider the unique voices, needs, and preferences of specific populations. The gesture-types model presented in this study is specifically tailored to the Iranian context and emerged from the perceptions and opinions of both novice and expert teachers. The study employed a comprehensive approach to data collection, meticulously observing and analyzing actual classes of Iranian novice and expert teachers. Through post-observation interviews and reflective journals, the researchers gained valuable insights into the gestures used by these teachers and their reflections on their own actions. The use of multiple qualitative data collection tools enhances the credibility of the findings.

Furthermore, the qualitative phase was followed by a pilot study and subsequent quantitative phase. This study's strength lies in its combination of two rigorous methods of data collection and analysis: grounded theory in the qualitative phase and structural equation modeling (SEM) in the quantitative phase. This robust approach has resulted in the development of an Iranian model of gesture types that is context-sensitive and grounded

in empirical evidence. It is important to acknowledge that this study may have certain limitations, which can be addressed in future research inquiries. Additionally, the study explored the mediating role of gender and teaching experience (novice and expert teachers), contributing to the existing literature on the newly developed questionnaire.

Overall, this study not only advances our understanding of gesture types in the Iranian context but also aligns with contemporary approaches in language teaching research, emphasizing the importance of context-specific models and the integration of qualitative and quantitative methods.

Implications

The derived model, based on empirical data, can serve as a valuable resource for teachers. By introducing them to the various functions and applications of gestures, it empowers them to incorporate gestures flexibly and effectively into their teaching practices. This model can be integrated into teacher training programs to enhance the pedagogical skills of teachers and promote their confidence in using gestures as a powerful instructional tool. Furthermore, the findings of this study can be disseminated through in-service courses for practicing teachers. These courses can serve as a platform to update teachers with the latest research and insights in the field of gestures. By keeping them informed about the potential benefits and strategies of using gestures in the classroom, teachers can continually refine their instructional approaches and adapt to evolving pedagogical practices. Besides that, textbook writers can incorporate instructional strategies and examples that highlight the effective use of gestures in these three areas of didactics, discipline and rapport. This can enhance the clarity and effectiveness of the instructional material, making it more engaging and accessible for learners.

The suggested model of Iranian gesture types is still in its early stages and requires further development. Future studies can replicate the same model with teachers from different educational settings, particularly in the qualitative phase.

In addition, comparative studies can be conducted to explore gesture types across various disciplines in the Iranian educational context. In other words, it can be investigated how gesture use varies in different academic subjects, such as sciences, social sciences, arts, and technical fields. This can provide insights into the role of gestures in discipline-specific teaching and learning.

Furthermore, the Iranian questionnaire on gesture types can be distributed to a broader sample of Iranian teachers in order to investigate whether there are any enhancements in terms of the TLI (Tucker-Lewis Index) and CFI (Comparative Fit Index) values of the structural equation modeling (SEM) model.

Future studies can also compare the Iranian model of gesture types with similar studies conducted in other countries or cultural contexts. Additionally, similarities, differences, and potential universal aspects of gestures in teaching across different educational systems can be investigated. This can contribute to a broader cross-cultural understanding of gestures in education.

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