Speech and Gesture in Classroom Interaction:
A Case Study of Angola and Portugal

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Abstract: One of the principal reasons why human beings use language is to communicate. When they speak, however, they do not do so mechanically or robotically. There is usually a synergy between the speech act and certain parts of the body. As spoken utterances are produced, these body parts move, producing body actions that are visible, known as ‘visible bodily actions’. These visible bodily actions are done, using different body parts. The movement of the upper limbs are known as ‘gestures’. These gestures are more directly linked to speech. Regardless of their age, nationality, culture, background, or ethnicity, human beings gesture naturally and pervasively when they speak. These movements reveal quite a lot about their thoughts, objectives, beliefs, and interests, among others. In light of the afore-mentioned, this research seeks to compare descriptively speech and gesture in two different contexts with two different didactic methods (Angola and Portugal). Video footages of the interactional contexts - with teenage children and teachers - are reviewed and a general comparative descriptive analysis is realised. Using the ELAN Software, a 30 second microanalysis is done for each of the interactional contexts. Concluding remarks are presented, based on the study conducted.

Keywords: speech, gesture, utterance, body movement, visible bodily action

El habla y los gestos en la interacción en el aula: un estudio de caso de Angola y Portugal

Resumen: Una de las principales razones por la cual los seres humanos usan el lenguaje es para comunicarse. Sus comunicaciones, sin embargo, no se realizan...
de forma mecánica o robótica. Suele haber una sinergia entre el acto de habla y ciertas partes del cuerpo. En la medida que se producen enunciados hablados, se mueven estas partes corporales produciendo así acciones que son visibles, denominadas ‘acciones corporales visibles’. Estas acciones corporales visibles suelen ejecutarse con distintas partes del cuerpo. Se utiliza el término ‘gestos’ para referirse al movimiento de los miembros superiores del cuerpo. Estos gestos están vinculados más directamente con el habla. Sin importar su edad, nacionalidad, cultura, antecedentes o etnia, los seres humanos, cuando hablan, hacen gestos de forma natural y ubicua. Estos movimientos revelan mucho de sus pensamientos, objetivos, creencias e intereses, entre otros. A la luz de lo anteriormente mencionado, esta investigación pretende comparar descriptivamente el habla y el gesto en dos contextos distintos con dos métodos didácticos diferentes (Angola y Portugal). Se revisan unos metrajes de video de los contextos de interacción —con estudiantes adolescentes y profesores— y se lleva a cabo un análisis descriptivo comparativo general. Por medio del software ELAN, se efectúa un microanálisis de 30 segundos de cada uno de los contextos de interacción. Se presentan algunas conclusiones basadas en el estudio realizado.

**Palabras clave:** habla, gesto, enunciado, movimiento corporal, acción corporal visible
0. Introduction

Classroom interaction is important to the learning-teaching scenario, and critical to successful learning. Whatever is done in the classroom context has the objective of maximising student learning and engendering significant learning experiences. In other words, the classroom behaviours of both teacher and students will determine the efficacy of the pedagogical process. These behaviours include speech and those ‘paralinguistic devices’ (Corder, 1981) (body (head and hand) movements, facial expressions, and so on) that help to convey meaning. They are more commonly known as gestures. These gestures, usually occurring with the movement of the upper limbs, are associated with the use of language. Consequently, speech and gesture are central in classroom interaction. They are inseparable and do not normally occur in isolation (except in the case of sign languages). The study of orality should always include gestures, since gestures are more directly related to speech (Müller, Cienki, Fricke, Ladewig, McNeill & Tessendorf, 2013; Galhano Rodrigues, 2015).

Over the last few decades, as indicated by Azaoui (2013), a substantial body of research has emerged, highlighting the importance of gestures in the didactic process (Antes, 1996; Allen, 1999; Roth, 2001; Lazaraton, 2004; Hostetter, Bieda, Albali, Nathan & Knuth, 2006; Sime, 2008). Azaoui (2013) further postulates that research has established the role of gestures in language learning (Sime, 2008; Tellier, 2010), the suitability of gestures to learners’ level (Goldin-Meadow, 2003), and the adaptability of gestures to addressees’ linguistic competence (Adams, 1998; Tellier & Stam, 2010).

Considering the afore-mentioned, this case study deals with speech and gesture in classroom interaction. Since research evidence is steadily increasing - in relation to the use of gestures in the classroom - this present study is significant, given that it seeks to examine the relevance of gestures in the learning-teaching process, and to observe its effectiveness in classroom interaction, as in the case of Angola and Portugal. In other words, the intention is to shed light on the application/applicability of Gesture Studies (GS) in Didactics.

The aim of this study is to explore and compare teacher speech and gesture in two different classroom contexts, in relation to the didactic methods used. The research questions are: (1) What kinds of teaching methods are used in the classroom? (2) What kinds of gestures are used with speech in the classroom? (3) Are there similarities and differences between speech and gestures and in the two classroom environments? (4) Is there a relationship between teaching method and the use of gestures? The objectives are to: (1) Examine the kinds of teaching methods used in the classroom; (2) Determine the kinds of gestures used in the
classroom; (3) Compare speech and gesture in the classrooms, and (4) Investigate the relationship between teaching method and the use of gestures.

Section 1 looks at ‘Didactics,’ with specific reference to the ‘Deductive Approach’ and the ‘Inductive Approach.’ Section 2 focuses on ‘Gesture Studies’ and what gestures entail. Section 3 deals with the ‘Methodology’ used in this study. Section 4 comprises a ‘General Descriptive Analysis’ of the Angolan and Portuguese interactional contexts, which includes a ‘Comparative Descriptive Analysis’ of the above-mentioned contexts, in relation to Power Distance and those other observable similarities and differences in those two environments. Section 5 presents the ‘Video Microanalysis’ of a 30-second video recording for each of the two interactional contexts. A ‘Definition of Terms’ used opens up this section, followed by the actual microanalysis (Angolan and Portuguese classroom contexts), and then by a ‘Comparative Analysis’ of the two microanalyses. Section 6, the final section, presents some ‘Concluding Remarks,’ followed by the list of ‘References’ used in this research.

1. Didactics

The learning-teaching phenomenon is an age-old practice. The objective of education is learning, and the vehicle used to execute this objective is teaching. In other words, therefore, ‘learning and teaching are appreciably connected’ (Lunenburg & Irby, 2006; Livingstone, 2014).

1.1 Theoretical Background

For this specific study, the deductive and inductive teaching approaches are considered. These are briefly discussed below.

1.1.1 Deductive Approach

One of the two broad approaches used in instructional contexts is the deductive approach. The British Council (2015a) highlights that such an approach is a «rules-examples-practice» approach. In other words, it is the teacher who gives students the ‘rules,’ following which ‘examples’ of the concepts are given, and subsequent ‘practice’ is done to ensure that students ‘understand.’ The deductive approach is a teacher-centred approach. It is the teacher who controls the interactional context. It is restrictive in nature. Teacher-centred approaches are usually very traditional in that while they may engage students, they promote trivial, superficial, convergent thinking and lower order skills which result in a surface approach to learning (Biggs & Tang, 2011; Livingstone, 2014). The deductive approach
is frequently criticised because the concepts are taught in isolation; very little attention is placed to meaning, and the practice of these concepts is normally mechanical (Bilash, 2009). As teacher-centred as this approach may be, it may be more appropriate for weaker or slower learners who require a foundation on which to build (especially in the context of teaching difficult concepts); it may favour highly motivated students; it may benefit those preparing to write exams, or it may be more apt for those students who generally prefer such an approach.

1.1.2 Inductive Approach

The other broad approach used in educational contexts is the inductive approach. The British Council (2015b) espouses that such an approach is an «examples-rules» approach, in that the teacher gives students examples of the concept, and the students are then expected to formulate the rules. In other words, the purpose of the examples given is for students to notice how the concept works. The inductive approach is a student-centred approach. It is student-centred because the role of the teacher is facilitative, and the students are given autonomy of their learning (Hattie, 2009; Livingstone, 2014). It is a modern approach to learning and teaching. It is emancipatory in nature, since it embraces a constructivist approach (Piaget, 1923; Vygotsky, 1934; Bruner, 1960; Livingstone, 2014) to learning and teaching, where students are actively engaged in constructing knowledge and negotiating meaning. Consequently, it is a more generally accepted approach, since it is more effective for student learning. Learning-teaching activities in an inductive classroom are more stimulating and engaging, in that they lead students to foster divergent, critical thinking and higher order skills, thus promoting deep approaches to learning (Biggs & Tang, 2011).

2. Gesture Studies

Human beings use language for communicative purposes. During communicative acts, there is usually interaction with speech and certain body parts, resulting in ‘visible bodily actions’. The visible bodily actions of the upper limbs/upper body parts, in particular, move in conjunction with speech. These upper body movements are referred to by Kendon (2004, 2013) as ‘utterance visible actions’. They are more frequently called ‘gestures’.
2.1 Theoretical Background

In this section, and for the purposes of this study, a brief discussion is presented on the origins of GS, and how it has evolved over the years, leading to the creation of a society for GS. Mention is also made of some of the principal precursors in GS.

2.1.1 Gestures

Despite the fact that ‘language’ and ‘gesture’ have been held to be distinct, there has always been consistent recognition of a relationship between them (Kendon, 2000). The interest in GS in the Western tradition started from the late Roman era. Towards the end of the 16th century, scholarly works began to emerge. Philosophical interest in GS blossomed in the 18th century, due to increasing speculations about the natural origins of human language (Kendon, 2007). This author reveals that there was high interest in GS in the 19th century, caused by the mounting interest in anthropology at that time. Towards the beginning of the 19th century, however, interest in GS began to wane, resulting in a veritable dearth of research. From the 1970’s, there was renewed interest in GS, due in part to a resurgence of speculations about language origins, in part to the interest in sign languages, and in part to a resuscitated interest in the cognitive foundations of language (Kendon, 2007). Goffman (1963) (cited in Kendon, 2013) established that when human beings interact with each other their visible bodily actions (gestures) would usually provide information about their feelings, interests, ideas, and so on. Kendon (2007, p. 13) contends that David McNeill, among others, has revealed that «[...] gesture serves to express aspects of the conceptual content of utterances and is not just affective decoration». In simple terms, therefore, it can be said that speech and gestures have the same underlying conceptual system.

One of the leading modern-day authorities on GS is Adam Kendon. Kendon (1972a) became fascinated with the study of gestures, which resulted from the work of Birdwhistell (1970) on kinesics, which demonstrated the relationship between head and face movements with speech. Kendon (1972a) came to regard this as «[...] a coherent domain of human visible action, closely involved with, and sometimes functioning in place of, linguistic action» (Müller, 2007). Kendon (1980, 1987) perceived the study of gestures to be a distinct domain of action intimately intertwined with utterance, and that it could become a field of study.

Kelly, Manning and Rodak (2008) put forth that, according to McNeill (1992), «[...] gesture and speech make up a single, integrated system of meaning expression» (p. 1). McNeill (1992) affirms that since there is a temporary gesture-speech overlap, even though information is conveyed in two different ways, these
two modalities represent and reflect distinct features of a unitary fundamental cognitive process. In other words, when these two modalities (gesture and speech) are united, the meaning derived is more holistic and is fully captured, as against using only one modality.

Due to the resurgent interest in the use of gestures in communicative acts, the International Society for Gesture Studies (ISGS) was founded in 2002. «It is the only international scholarly association devoted to the study of human gesture» (ISGS Website, 2015). Since its genesis, there has been increasing research evidence about the validity of GS, and about the inseparability of gesture and speech. As noted by Kelly et alii (2008), researchers have affirmed that there exists a tightly knitted and integrated system between gesture and speech which is evidenced during the language production and comprehension process (McNeill 1992, 2005; Clark, 1996; Goldin-Meadow, 2003; Kita & Özyürek 2003; Kendon, 2004; Özyürek & Kelly, 2007). Azaoui’s (2013) study gives further credence to the unbreakable bond between speech and gesture.

Since the origins of modern GS, precursors like Adam Kendon, a leading authority in gesture studies, and David McNeill, among others, have described gestures in detail, providing us with the different kinds of gestures which have the same underlying conceptual system with speech. These include descriptive gestures, pragmatic gestures, quotable gestures (Kendon 1992, 2004, 2013), and iconic gestures, and metaphoric gestures (McNeill 1992, 2005), among many others. These are gestures that are used with specific speech acts and usually convey meaning, ‘giving information’ and ‘expressing meaning’ (Goffman, 1963).

3. Methodology

A case study approach (Thomas, 2011) was selected as the paradigm for this study. This approach is quite useful, in this context, since the intention is to shed light on a phenomenon: speech and gesture in classroom interaction. The qualitative method (Yin, 2011) was chosen as the most suitable method, based on the nature of this study.

3.1 Investigative Site

The investigate sites were two secondary school classroom contexts, one from Angola and one from Portugal. It is important to note that both are Portuguese-speaking territories.
3.2 Participants

The sample for this study was chosen purposively (Palys, 2008). The study involved two sets of participants: one from Angola and one from Portugal. The Angolan classroom context included a female teacher, seemingly in her early 40's, and a group of teenage students, all of whom are of African descent. The Portuguese classroom setting comprised a male teacher, apparently in his early 40's as well, and his group of adolescent students, all of whom are Caucasian.

3.3 Instruments

The instruments used in this study were four 50-minute video footages (two each) of the Angolan and Portuguese interactional contexts. For each of the two interactional contexts, there was a back view and a front view video footage. The various angles of the video recordings allowed the researcher to decide which of them to use for the microanalysis of speech and gesture.

3.4 Data Analysis Procedure

Initially, each of these videos was viewed by the researcher, with the simple objective of understanding the two educational contexts. The video recordings were subsequently reviewed, this time with the aim of highlighting teachers' classroom behaviours through speech and gesture. All four of the videos were considered for the general comparative descriptive analysis. In order to do a microanalysis of speech and gesture, the four videos had to be narrowed down to two. The two videos chosen were the front view videos of both the Angolan and Portuguese interactional contexts. These two videos were viewed again, with the aim of deciding which specific speech and gestures to examine. A 30-second video clip from each of the two videos was selected for the microanalysis. Subsequently, the microanalysis was carried out with the use of the ELAN Software, «a professional tool for the creation of complex annotations on video and audio resources» (The Language Archive 2015, p. 1). The microanalysis involved the identification of those specific speech sequences and gesture units used. The different kinds of gestures identified were classified in accordance with those proposed by Kendon (2013).

4. General Descriptive Analysis

A general descriptive analysis of the Angolan and Portuguese interactional contexts is presented below.
4.1 Interactional Context: Angola

This Angolan interactional context is made up of both male and female teenage students, and a female teacher (apparently in her 40’s), all of African ethnicity. The class session is a Portuguese as a mother tongue (L1) grammar class, based on verb conjugation and the parts of a sentence (syntax). There is work on the blackboard for students to complete. From the onset, students seem not too interested or keen in the lesson: some have their heads on the desk, hands on forehead, hand in their hair, and so on. The teacher, in a loud voice, then asks a question, points to a student and asks him to respond to her. The teacher is very vocal, speaking in raised tones and with the appropriate rising intonations as the need arises. The student does not give the right answer, so the teacher frustratingly frowns (facial expression, raised eyebrows and eyes raised to the ceiling), and then gives the right answer. There is pitch variation (Sinclair & Coulthard, 1975; Salaberri Ramiro, 2002) and rhythm in her voice during her interaction with students. She then turns and writes on the blackboard, then asks the students to copy what she has written.

Shortly after, the teacher points to a student and asks a question. That student also does not give the correct answer, and the teacher becomes frustrated again (facial expression, raised eyebrows), placing her right hand on her waist and looking at the student intently. She points to another student to respond and the student answers in a soft voice. The teacher asks the student to speak louder. The student gives the correct answer. She asks her repeatedly for the answer, so that the focus is on the concept. The use of «mais uma vez» (once again) highlights this. This is indicative of a drill and practice session, where responses are practised repeatedly, so that students ‘understand’. That specific phrase is used quite often throughout the class session.

The teacher then proceeds to write on the blackboard the student’s correct response. Additionally, she asks the students to copy and complete the work given on the blackboard. The writing continues for about five minutes of the class session. Students are writing what the teacher has given on the blackboard. The teacher goes around the classroom to see what the students are writing. She stops and corrects one student, and the student smiles. She passes by each student’s desk to see what is happening. One female student is seated at the back on a desk, swinging her legs. Her gaze and facial expression exhibit that her mind has wandered elsewhere, outside of the classroom. This could be due to a lack of interest in what is being taught, and how it is being taught. Throughout this time, no one asks questions and no one speaks, unless required. Apparently, there
does not seem to be «freedom of expression» in the classroom, since students’ responses are only restricted to the teacher’s questions or directives.

After this period of writing and checking students’ work, the teacher returns to the front of the class, asks a question and points to a specific row of students to respond. Apparently, all of them do not answer in unison, as the teacher expects, so she asks all of them in the row to answer together, and not only those in the front. The students do not give the correct answer, so the teacher makes them repeat the verb conjugation on the blackboard. They start repeating in unison, in a loud voice; however their voices quickly die down. By the use of «mais uma vez», the students repeat the verb conjugation. They appear uninterested: one male student has his hands folded to his chest, and another male student has his head leaned to one side, supported by his hand. The teacher then asks a female student to answer a question, following which she asks the students to respond to her row by bow, repeating what the female student said. There is continued use of «mais uma vez» which serves to reinforce comprehension (through repetition).

The teacher then writes a sentence on the blackboard and asks the students to identify the direct complement. The sentence is «Nós passamos o fim de semana na praia» (We spent the weekend at the beach). She asks them, «Qual é o complemento directo desta frase?» (What is the direct object of this sentence?). The students give a different answer to what the teacher expects. She repeatedly asks them, «Passamos o quê?» (What did we spend?), so that they deduce what the direct object is (this is discussed in detail in the microanalysis in section 5.2).

The teacher writes another sentence on the blackboard and asks the students what kind of a subject it is. She asks, «Quando o sujeito não está na frase, como é que se chama?» «Que tipo de sujeito é?» (When a subject is not in the sentence, what is it called? What type of subject is it?). One student says, «Sujeito predicado» (predicated subject). The teacher frowns (knitted eyebrows) and, with a questioning look on her face, queries, «Sujeito predicado?» Some students find this humorous, bursting into laughter. This is a clarification request, which is one type of corrective feedback strategy (Lyster & Ranta, 1997). The teacher gives the correct response, «Sujeito subentendido» (inferred subject). She then asks them, «Nunca falam disso?» (Has no one ever spoken (to you) about this?) and they respond in the negative. She continues, «E nunca o viram?» (You have never seen it?) They reply in the negative one more. The teacher then says, «Então, para vocês é uma novidade» (Then for you it is a novelty).

The teacher then turns to write on the blackboard and one or two students are seen at the back of the class walking around, while some are chatting with each other. Another session of copying and writing begins, during which the teacher
once more goes around and checks the students’ work. Subsequent to this, there is another drill and practice session with students, as the teacher tries to ascertain that students ‘understand’ the concepts. The session then comes to an end.

Important to note is that the teacher is very vocal, speaking in raised tones, rhythmically, and with rising intonations for most of the class session. This alludes to pitch variation and those prosodic features which are a significant aspect of teacher discourse in classroom interaction (Sinclair & Coulthard, 1975; Salaberri Ramiro, 2002). During the class session, additionally, the teacher does a lot of pointing, both with her hand and her head. The need to point to a student or a group of students affords the teacher the opportunity to single out students and build student attention to her utterances.

The description of the interactional context above is indicative of the deductive teaching approach. This is the kind of approach that is used mainly in traditional classrooms, where the teacher is the ‘sage on the stage’, the ‘possessor of knowledge’, and students just take in this ‘sagely knowledge’, however they can, if they can. In other words, it is teacher-centred, teacher-directed, and teacher-dominated. As discussed in section 1.1.1 above, such an approach is not necessarily conducive and apt for learning since it restricts student involvement and fosters surface approaches to learning. Such a tendency is evident throughout the classroom session.

4.2 Interactional Context: Portugal

The Portuguese interactional context is made up of both male and female teenage students, and a male teacher (apparently in his 40’s), all of whom are Caucasian. The class session is a Portuguese L1 class on reading comprehension. They are discussing a specific text, which involves reading and interpretation, as well as summary writing. The teacher discusses with them what is to be done, in a facilitative manner. After the teacher outlines to them what is to be done, he asks them, «Está bem?» (Ok?). It gives the impression that he is seeking students’ approval on the lesson topic. By seeking their approval, or vote of confidence, the teacher is involving them in the instructional process. This creates the space for a conducive learning environment. Some students are chatting with each other, but not to the extent to disrupt the class session. Another word used very frequently by the teacher is «Então» (Therefore/Thus/So). The teacher speaks moderately, at a normal pace, and with a normal tone and intonation.

As the class unfolds and the discussions begin, two students raise their hands to ask questions and to make comments on the reading passage. The teacher stops, allows them to inject and make their contributions. Other students raise
their hands from time to time, some looking at each other. The teacher, while speaking, uses a lot of hand movements, especially with his right hand, since he has the textbook in his left hand. The teacher then writes on the blackboard, while the students also copy what is written. During this time, they are generally quiet. A few students are chatting with each other and the teacher requests their attention. The teacher then reads a few lines from the text and asks the students to interpret the meaning. Students, one by one, raise their hands, and upon the teacher’s signal, they begin to respond one after the other. All of them are sharing in the discussion, and it seems that they are very interested in the subject matter, judging from their facial expressions and desire to respond. After having read and discussed the first part of the text, the teacher engages the students by asking them about the plot of the story. Once again, students seem motivated, as many of them raise their hands, waiting for the opportunity to share their ideas. At the teacher’s behest, students contribute willingly to the classroom discourse. The teacher has a pleasant disposition, judging from his facial expressions. This encourages the students to engage meaningfully in the discussions. The teacher continues using the expressions, «Então» and «Está bem?»

There is a certain degree of liberty, of emancipation, which encourages active participation and knowledge construction from the students. Some students are seen quietly chatting with each other, gesticulating, and so on, but nothing significant to interrupt the session. During this discussion, the teacher stops and explains to them the sentence order (syntax) in Portuguese, signalling that there is generally an established word order. The teacher says, «A ordem é sempre o sujeito em primeiro lugar» (The order is always the subject in first place), and he continues, «Depois verbo» (Then the verb), and he continues in this fashion, carefully outlining the basic sentence structure (this is discussed in detail in the microanalysis in section 5.3). There is rhythm and pitch variation (Sinclair & Coulthard, 1975; Salaberri Ramiro, 2002) in the teacher’s voice. One male student raises his hand to query what the teacher has said, the teacher signals to him to respond, the teacher confirms what the student has said, and the session continues.

The teacher then writes on the blackboard and he encourages the students to copy what he is writing. This lasts for about five minutes, during which the students are seen writing. Some of them are gesticulating with their colleagues, some are chatting, smiling, one student yawns, and another one has his head down on the book. The teacher then queries if the students have written what is on the board. Following this, the teacher explains to the students that they will do a role play, using the second part of the text. This part has a lot of dialogue
conversations, so the teacher and students decide on who will read which parts of the text. The reading session begins and, once more, students seem very interested, given their enthusiasm while reading.

The teacher and students take turn to read various parts of the text. The teacher reads the final part of the text and all students’ eyes are in the textbook from which the teacher reads. All are paying rapt attention. Subsequently, the teacher then begins to ask them questions, based on the reading. The teacher says, «Bom. Não sei se deu já com esta leitura muita participada para perceber a generalidade do texto. Alguém tem dúvidas? O que se passou?» (Good. I don’t know if you were able to understand the general nature of the text with this participative reading. Does anyone have any questions? What happened?). A male student raises his hand, and the teacher signals to him to answer. The student says, «Eram os animais que viviam nas lagoas e foram lá os caçadores […]» (It was the animals which lived in the lagoons and the hunters went there […]). The teacher is in agreement with what he says, giving his input. Other students also share their views on the text, and together they all discuss it, as they seek to negotiate the text’s interpretation. The classroom session then comes to an end, shortly afterwards.

Important to note in this interactional context is that generally, throughout the session, the teacher speaks in a regular tone, only using, whenever and wherever necessary, pitch variation and those prosodic features significant to his discourse (Sinclair & Coulthard, 1975; Salaberri Ramiro, 2002). There is very little pointing done by the teacher. It could be surmised that the teacher does not need to «show» and «tell» his students for them to follow and comprehend his utterances.

The description of the interactional context above is indicative of the inductive teaching approach. This kind of emancipatory approach is being used in more modern classrooms, where the teacher facilitates and the students have a certain degree of autonomy of their learning. It is all about «what the student does» (Shuell 1986, p. 429). In other words, it is student-centred and teacher-facilitated. As discussed in section 1.1.2 above, this approach favours discovery learning, allowing students to develop critical thinking skills which ensure deeper approaches to learning. The teacher-student interaction is noted throughout the classroom session.

4.3 Comparative Descriptive Analysis

4.3.1 Power Distance: Angola and Portugal

In educational contexts, the teacher-student interaction may reveal the power distance (The Hofstede Centre, 2015a) that exists within societies. This Centre
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(2015a, p. 1) defines power distance as «[...] the extent to which the less powerful members of society and organisations within a country expect and accept that power is distributed unequally». In other words, societies depict unequal distributions of power. Additionally, each country or culture is ascribed a power distance index (PDI), based on certain parameters. The PDI is on a scale of 1-100, with 1 being the low(est) power distance (LPD), and 100 being the high(est) power distance (HPD) (Hadley, 2001).

The PDI for Angola is 83, while for Portugal it is 63 (The Hofstede Centre, 2015a). Based on these indices, comparing the two teaching contexts, the Angolan interactional context depicts a HPD, while the Portuguese interactional context depicts a LPD. In HPD cultures, the unequal power distribution is maximised. In classroom interaction, this maximisation is also evident from the teacher-student relations. The teacher assumes the authoritative parent role. The teacher’s image is that of a good parent. Students depend considerably on the teacher, and this increases the emotional distance between them. The teacher’s wisdom is passed to the student in a highly personalised manner (Hofstede 1997, p. 34, as cited in Hadley, 2001). In African cultures, adults control children (Tafo, 2001). In African classroom contexts, teacher-centred methods are embraced (Tabulawa, 1997; O’Sullivan, 2004) and the learner’s ability to create is generally abandoned. Transmission methods are used as a way to be firmly in-charge of the interactional context, to cover more content, and to ensure that learners get the ‘right knowledge’. In LPD cultures, on the contrary, the unequal power distribution is minimised. In the classroom interaction, this minimisation is also evident from the teacher-student relations. The teacher encourages student independence, just as it is fostered in the family setting. Students are more or less equal to their teacher, which considerably lessens the emotional distance between them. The teacher is like a resourceful friend, facilitating the students’ independent search for knowledge and truth. The learning quality is considerably determined by student effort and ability (Hofstede 1997, p. 34-35, as cited in Hadley, 2001).

4.3.2 Similarities and Differences in Classroom Interaction

The similarities and differences observed in Angola’s and Portugal’s classroom contexts are shown in Table 1 and Table 2, respectively.
Table 1. Similarities in Classroom Interaction

<table>
<thead>
<tr>
<th>Classroom Interaction Similarities (Angola and Portugal)</th>
</tr>
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<tbody>
<tr>
<td>Mature teachers</td>
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<tr>
<td>Male/female teenage students</td>
</tr>
<tr>
<td>Student/student chatting</td>
</tr>
<tr>
<td>Teacher does some amount of writing on the blackboard</td>
</tr>
<tr>
<td>Students fidgeting, facial expressions, smiles, and gesticulations.</td>
</tr>
<tr>
<td>Pitch variation and rhythm in teacher speech</td>
</tr>
<tr>
<td>Hand and body movements in conjunction with speech</td>
</tr>
<tr>
<td>Eye contact with students</td>
</tr>
</tbody>
</table>

Table 2. Differences in Classroom Interaction

<table>
<thead>
<tr>
<th>Classroom Interaction Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angola</td>
</tr>
<tr>
<td>Deductive learning-teaching approach</td>
</tr>
<tr>
<td>Female teacher</td>
</tr>
<tr>
<td>Traditional, teacher-directed session</td>
</tr>
<tr>
<td>Climate not conducive to learning</td>
</tr>
<tr>
<td>Learning by repetition, drills and practice</td>
</tr>
<tr>
<td>Students don’t seem interested or motivated</td>
</tr>
<tr>
<td>Little student involvement; students speak only when required</td>
</tr>
<tr>
<td>Teacher speaks loudly (raised tones), most of the time</td>
</tr>
<tr>
<td>Teacher goes around and checks students’ work</td>
</tr>
<tr>
<td>Some students are standing, some are sitting</td>
</tr>
<tr>
<td>Teacher frowns on students’ responses</td>
</tr>
<tr>
<td>Teacher’s tone does not welcome student participation or involvement</td>
</tr>
<tr>
<td>Too much writing on the blackboard, which reduces teacher-student interaction</td>
</tr>
<tr>
<td>Teacher’s reactions to students’ responses cause students to laugh</td>
</tr>
<tr>
<td>High power distance. Teacher is the one with power. Control is not relinquished. Students are below the teacher.</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Teacher constantly telling students to speak louder</td>
</tr>
<tr>
<td>Choral/collective responses from students</td>
</tr>
<tr>
<td>A lot of pointing done by the teacher</td>
</tr>
</tbody>
</table>

Table 1 above presents some similarities observed in both the Angolan and Portuguese interactional contexts, in terms of teacher-student interaction. It would not be unfair to say these observable behaviours are common to all classroom contexts. Table 2 presents a number of differences observed in the two afore-mentioned classroom contexts. These differences primarily result from the power distance evident in societies. As has been highlighted in this study, the proximity or distance of power within societies determine, to a great degree, the kind of didactic methods employed in classroom contexts.

5. Video Microanalysis

In accordance with the research questions and objectives of this study, a microanalysis was carried out on the video clips to investigate the relationship between speech and gesture in classroom interaction.

5.1 GS Terms Relevant to This Study

The gesture-associated terms relevant to this study are those proposed by Kendon (2013, p. 10–16). This author makes reference to these terms in his earlier works (Kendon 1972b, 1980, 2004). These are as follows:

1. **Visible action/visible bodily action**: A body action/movement done using the hand or arms, and sometimes the head.

2. **Speech Sequence**: A sequence of some intonational units in the speaker's turn.

3. **Gesture**: A visible bodily action that gives information and expresses meaning.

4. **Gesture Unit**: A gesture formation from start to finish (position of rest to position of rest), which is preparation – stroke – retraction.
5. **Preparation**: The organisation of the hand(s) or arm(s), moving from a position of rest, in preparation for a visible action. In other words, it is the beginning of the ‘stroke’.

6. **Stroke**: The visible action(s) performed by the hand(s) or arm(s) after moving from the ‘preparation’ stage.

7. **Retraction**: The hand(s) or arm(s) return(s) to a position of rest. In other words, it is the end of the ‘stroke’.

8. **Gesture Phrase**: This is the combination of ‘preparation’ and ‘stroke’.

9. **Referential Gesture**: A visible action that contributes to referential or propositional meaning. In other words, it is referring to something specific. Examples of referential gestures are descriptive gestures and deictic gestures.

10. **Descriptive Gesture**: A visible action that communicates an idea or movement, as in showing size, shape, and speed, among others. In other words, it expresses an action and shows dimension or location.

11. **Deictic Gesture**: A visible action done by pointing, usually with the index finger or, in some cases, with the movement of the head. This is one kind of ‘referential gesture’.

12. **Parsing Gesture**: A visible action that involves batonic, rhythmic movements that synchronise with speech, for the purposes of emphasis.

13. **Blended Gesture**: A combination or a mix of different gestures.

### 5.2 Teacher Speech and Gesture (Angola)

For the Angolan interactional context, teacher speech and accompanying gestures used are described below.

1. **Speech Sequence**: *Qual é a acção praticada por nós?* (What is the action that we do?)

2. **Gesture Unit**: Body and head turned to students, head turns to the right (towards the blackboard), then to the front (towards the students) (deictic...
gesture). Left hand raised, open hand palm up, fingers slightly bent, and left index finger pointing to chest (deictic gesture).

2
Speech Sequence: Nós passamos o fin de semana na praia (We spent the weekend at the beach).
Gesture Unit: Body and head turned to students, arms raised to chest height, open hand palm up, fingers slightly bent, index fingers pointing to chest (deictic gesture), then moving upward and downward (parsing gesture), forming a blended gesture (deictic + parsing). Rhythm is also in speech.

3
Speech Sequence: Qual foi a acção praticada por nós? (What was the action we did?)
Gesture Unit: Repetition of parsing gesture. Final hand configuration is a parsing gesture, moving to a deictic gesture (right/left index fingers pointed to chest), forming a blended gesture.
4

Speech Sequence: *Então, qual é o predicado?* (So, what is the predicate?)

Gesture Unit: Head turn from the right (the blackboard) to the front (towards the students) (deictic gesture).

5

Speech Sequence: *Passamos o quê?* (Spent what?)

Gesture Unit: Body and head turned towards students, left arm raised to chest height, open hand palm up, fingers together, slightly bent, moving up and down (parsing gesture/referential descriptive gesture [blended gesture]). Batonic head movements (parsing gesture) and rhythm in speech.
6

**Speech Sequence:** *Passamos o quê?* (Spent what?)

**Gesture Unit:** Repetition of parsing gesture/referential descriptive gesture [blended gesture]. Batonic head movements (parsing gesture) and rhythm in speech.

7

**Speech Sequence:** *Passamos o quê?* (Spent what?)

**Gesture Unit:** Repetition of parsing gesture/referential descriptive gesture [blended gesture]. Batonic head movements (parsing gesture) and rhythm in speech.

The gestures observed in this video clip demonstrate that the gestures of the Angolan teacher are synonymous with the teaching method used: the *deductive* method, in this case. The teacher is teaching the students about the direct object/complement in a sentence. Specifically in gestures 4-7, the students are asked to identify this object. By the repeated use of ‘*Passamos o quê?’ together with the parsing gesture/referential descriptive gesture (which are blended gestures) the teacher is trying to get the students to focus on the specific part of the sentence corresponding to the direct object. In other words, the teacher gets students to identify the direct object of the sentence through *elicitation* and *repetition* (Lyster & Ranta, 1997), together with the accompanying gestures. There is correlation between speech and gesture. In certain instances, the rhythm in the teacher’s
speech synchronise with her head and hand movements, thus drawing attention to the concept being taught.

5.3 Teacher Speech and Gesture (Portugal)

For the Portuguese interactional context, teacher speech and accompanying gestures used are described below.

1
Speech Sequence: *A ordem é sempre o sujeito em primeiro lugar* (The order is always the subject first)
Gesture Unit: Both hands raised to chest level, fingers outstretched in front, palms inward facing each other and moving rhythmically to one side (parsing gesture/referential descriptive gesture). Rhythm is present in speech.

2
Speech Sequence: *Depois verbo* (Then verb).
Gesture Unit: Right hand raised to chest level, fingers bent and curved inwards. Left hand at shoulder level, and moves downward to meet the right hand, fingers bent and curved inwards at chest height, palms inward facing each other, with a slight movement (referential descriptive gesture).
3

**Speech Sequence:** *E depois um complemento, pode ser um complemento direto, um complemento indireto, ou um complemento oblíquo* (And then a complement, it can be a direct complement, an indirect complement, or an oblique complement).

**Gesture Unit:** Both hands raised to chest level, fingers outstretched, palms inward facing each other. Both hands make semi-circular, then full circular actions (referential descriptive gesture), moving rhythmically with speech (parsing gesture). Rhythm is present in speech.

4

**Speech Sequence:** *Mas normalmente é esta a ordem S V O sujeito verbo e objeto, ok* (But normally the order is SVO subject verb object, ok).

**Gesture Unit:** Both hands raised to chest level, fingers outstretched in front, palms inward facing each other and moving to one side (referential descriptive gesture) in rhythm with speech (parsing gesture). Rhythm is present in speech.
5

Speech Sequence: *Eu comi pão* (I ate bread).

Gesture Unit: Both hands raised to chest level, palms turned inwards, index fingers pointing forward (referential descriptive gesture), with rhythmic, simultaneous movement of both hands from right to left (parsing gesture). Rhythm is present in speech.

6

Speech Sequence: *Eu fui à escola, sujeito verbo, à escola, complemento oblíquo* (I went to school, subject verb, to school, direct complement).

Gesture Unit: Both hands at chest level, index fingers pointed outward, palms and other fingers turned inward (referential descriptive gesture). Rhythmic movement of hands with speech (parsing gesture), right hand to the right, left hand to the left, as fingers open and close during speech (descriptive gesture). Rhythm is present in speech.
7

Speech Sequence: Sim. Já já. Então, como é que fica? (Yes. Fine. So, where do we stand?)

Gesture Unit: Head downward, right hand raised upward to shoulder level, fingers turned inwards, index finger pointed outward, hand drops to waist level (descriptive gesture with hand movement). Head raises upwards, hand returns to position of rest and head moves downward (deictic gesture with head movement).

The gestures observed in this video clip demonstrate that the gestures of the Portuguese teacher are synonymous with the teaching method used: the inductive method, in this case. There seems to be frequent use of blended gestures, especially combinations of parsing gestures and referential descriptive gestures. The teacher is explaining to the students about the general rule about word order in a sentence (syntax). This explanation takes place during the discussion of the study text and it is done facilitatively. There is correlation between speech and gesture. In certain instances, the rhythm in the teacher’s speech coordinate with his hand movements, thus drawing attention to what he is saying. This is observed in 1, 3, 4, 5 and 6.

Important to note, in 1, 3, 4, 5 and 6, is the way in which the teacher explains the sentence word order. His speech and hand/arm movements correlate nicely to give emphasis to what he is saying. In other words, his hand/arm movements depict a linear sequence in time and space. In highlighting the word order, beginning with the subject, he moves from his right to his left. This is a mirror image for the students, in that, from their view, which is left to right, they will see the same demonstration. This establishes that the teacher is giving his explanations and demonstrations from a learner’s point of view (with the learner in mind).
5.4 Comparative Analysis

The Angolan and Portuguese classrooms observed present a myriad of gestures used by the teacher in conjunction with speech. The distribution of these gestures is presented in Table 3.

<table>
<thead>
<tr>
<th>Figures/Images</th>
<th>Angolan Classroom</th>
<th>Portuguese Classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Two deictic gestures</td>
<td>Parsing gesture, referential descriptive gesture</td>
</tr>
<tr>
<td>2</td>
<td>Parsing gesture, deictic gesture (blended gesture)</td>
<td>Referential descriptive gesture</td>
</tr>
<tr>
<td>3</td>
<td>Parsing gesture, deictic gesture (blended gesture)</td>
<td>Referential descriptive gesture, parsing gesture</td>
</tr>
<tr>
<td>4</td>
<td>Deictic gesture</td>
<td>Referential descriptive gesture, parsing gesture</td>
</tr>
<tr>
<td>5</td>
<td>Parsing gesture + referential descriptive gesture (blended gesture); parsing gesture.</td>
<td>Referential descriptive gesture, parsing gesture</td>
</tr>
<tr>
<td>6</td>
<td>Parsing gesture + referential descriptive gesture (blended gesture); parsing gesture.</td>
<td>Referential descriptive gesture, parsing gesture, descriptive gesture</td>
</tr>
<tr>
<td>7</td>
<td>Parsing gesture + referential descriptive gesture (blended gesture); parsing gesture.</td>
<td>Descriptive gesture, deictic gesture</td>
</tr>
</tbody>
</table>

As can be seen in Table 3, there seems to be greater use of deictic gestures by the teacher in the Angolan interactional context, indicative of the deductive teaching method, which solidifies that a lot of repetition, drill and practice is involved in this kind of learning-teaching process. Apparently, the teacher needs to accompany certain words with pointing gestures which seek to underscore her verbal reference and strengthen her utterance comprehension. There is also great use of parsing gestures. These parsing gestures give emphasis to the teacher’s utterances, thus aiding and reinforcing comprehension. This could be accredited to the general African culture (including Angola’s), where rhythm is central to many cultural practices. There is lesser use of referential descriptive gestures. As was earlier mentioned (see pages 19-20), elicitation and repetition (Lyster & Ranta, 1997) were used to bring students’ attention to the concept
being taught, the direct object. Consequently, the afore-mentioned gestures were used repetitively to elicit the correct response from students.

In the Portuguese interactional context, on the other hand, there is great use of referential descriptive gestures by the teacher which allude to a learning-teaching scenario via the inductive teaching method. The emphasis is usually on inquiry and discovery. In other words, the teacher does not need to «show» and «tell» for students to underscore his verbal references and comprehend his utterances. Surprisingly, the number of parsing gestures used by the Portuguese teacher equals those of the Angolan teacher. Obviously, these are used to draw attention to specific utterances in the teacher’s discourse. The teacher in the Portuguese interactional context demonstrated a tendency to use more descriptive gestures and less deictic gestures. It would not be unfair to suggest that this is due to the kind of teaching method employed.

With only one gesture exception (deictic gesture), the visible bodily actions used to make all the other kinds of gestures listed in Table 3 are not identical. In other words, for example, the visible bodily actions used to make a parsing gesture or a referential descriptive gesture, by each of the teachers, in each of the interactional contexts, are never the same.

An important observation emanating from this research is the use of prosody in the classroom interaction (Sinclair & Coulthard, 1975; Salaberri Ramiro, 2002). Even though the focus of this study is not on prosodic features used in speech, it must be noted that these played an integral part in the delivery of content. A greater variation of prosodic features was observed in the speech of the Angolan teacher, as compared to the Portuguese teacher. The kinds of prosodic features used could be due to the kind of teaching method employed to deliver content.

6. Concluding Remarks

An examination of teacher-student interactions in any interactional context will reveal that a plethora of gestures is used in the instructional process. Since gestures appear to be ubiquitous in any given environment, and are inextricably intertwined with speech, it is wise to investigate the role that these visible bodily actions play in the learning-teaching process. In other words, it is necessary to examine the applicability of Gesture Studies in Didactics.

This study has focused its attention on speech and gesture in classroom interaction, with specific reference to two interactional contexts, one in Angolan and one in Portugal. In conjunction with the aim, research questions and objectives of this study, the analysis shows that speech and gestures influence
information exchange between teachers and learners in the two afore-mentioned interactional contexts. The kinds of gestures used are somewhat dependent not only on the cultural setting, but also on the teaching method used. The study has revealed, on the one hand, that since the Angolan interactional context espouses deductive teaching, the kinds of gestures used, together with speech, reflect that method. For the Portuguese interactional context, on the other hand, which embraces inductive teaching, speech and gesture combinations used are in accord with that approach. The only gesture which seems to overlap the two interactional contexts, in terms of its formation, is the deictic gesture, since it is a pointing gesture. With the exception of the deictic gesture, it could be therefore assumed that gesture formations in deductive and inductive classrooms are never the same.

The kinds of gestures identified in this study are not generalisable. They are specific to this case study. In this study, it must be established that the gestures used in each interactional context are well suited to the teaching method used. The gestures used reveal sociocultural norms and practices in interactional contexts. As earlier mentioned, classroom behaviours and interaction are influenced by the distribution of power in the specific social setting. In other words, distance is maintained in the Angolan interactional context, due to its HPD (increased emotional distance), and proximity is embraced in the Portuguese interactional context, due to its LPD (decreased emotional distance). The gestures used in the two interactional contexts reveal these characteristics.

In relation to the above, it would be a good move to conduct more comparative studies, of a similar nature, with more Angolan and Portuguese interactional contexts to observe the similarities and differences of gesture use. Additionally, comparative studies could be conducted only in Angolan interactional contexts to investigate the use of speech and gesture combination. The same could be done in Portuguese interactional contexts.

Since research is revealing that gestures are relevant to the didactic process, it is wise for teachers to capitalise on them to improve learners’ classroom experience. It would not be unfair to suggest that the use of gestures could be a promising alternative to help weaker learners, or even those who have difficulties with grasping concepts. In other words, gestures could help to foster significant learning experiences. Since there is increasing interest in Gesture Studies, its applicability in Didactics should be explored further, with the objective of striving for learning and teaching effectiveness.
Acknowledgements

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References


