

Embodied Interaction in Language Learning Materials: A Multimodal Analysis

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Abstract

The purpose of this research was to explore the potential of English-language learning materials as a source of multimodal communicative representation. In particular, this study examined the animations that supplement the text-based dialogues for how embodied interaction is represented in the English-language textbooks used in Taiwan. Data included the animations of all the dialogues in all 6 English-language textbooks for junior high schools by each of the three major publishers. Data analysis focused on the gestures of the speakers in relation to the content of their speech, i.e., co-speech gestures. Screen captures of the animations were made as soon as a gesture is performed, and the gestures were then annotated. Following this, the constant comparative method was employed to compare the gestures performed by the same character and by different characters from each lesson and across lessons in the animations for each textbook. Findings reveal that embodied interaction is portrayed in the animations, although a limited range of embodied representations are used to illustrate a wide range of speech functions. The gestures include arm/hand movement, body posture/movement, and gaze (mostly through head position), and reflect the overall content of each character's speech. The embodied interaction shown in these videos seems to be the general existence of the gesture-speech co-occurrence more than specific gestures that co-occur with particular speech functions. In this way, the animations emphasize that speech is always accompanied by gestures, even though what exactly those gestures are can be up for negotiation or interpretation.

Keywords: Embodied Interaction, Gestures, Language Learning Materials, Instructional Animations

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Introduction

The inherently multimodal nature of communication (Zammit, 2015) has been increasingly recognized by language teachers (Dooly & Hauck, 2012). Multimodality can be understood to include visual, audio, gestural, spatial, and linguistic modes (New London Group, 1996). Multimodal communicative competence, which involves “the knowledge and use of language concerning the visual, gestural, audio and spatial dimensions of communication” (Heberle, 2010, p. 102), is now understood to be an essential component of second/foreign language learning (Royce, 2007). In the teaching of English as a second or foreign language (TESOL/TEFL), even though more classroom research is still necessary to arrive at a comprehensive understanding of the implications of multimodality, the field has acknowledged the need for multimodal practices since over two decades ago (e.g. Kress, 2000; Stenglin & Iedema, 2001).

English-as-a-foreign-language (EFL) textbooks in Taiwan have long been multimodal, including not only text but colorful visuals such as pictures and photographs, and also audio cassettes and CDs of read-alouds of the text. In recent years, videos in the form of animated cartoons also accompany junior high EFL textbooks in Taiwan. These videos include not only audio but also moving-image visual representations. In other words, what is emphasized is not only how the text sounds as spoken language (which was already available with the cassettes and CDs), but also embodied interaction in terms of body language, i.e. the aspect of kinesics in paralinguistics. Thus, the purpose of this research was to explore the potential of local junior high school English-language teaching (ELT) materials as a source of multimodal communicative representation. Importantly, this research is *not* an evaluative study of the appropriateness of local textbooks for teaching multimodal communicative competence. Rather, this study aims to address how embodied interaction is portrayed in the moving-image materials (i.e. animated cartoon videos).

In examining locally-produced junior high school textbooks from the perspective of embodied interaction, this study focuses on dialogues, even though each lesson in junior high school English textbooks produced by the three major publishers in Taiwan contains a dialogue and a reading passage, both of which are multimodal (text and image) and accompanied by an animation. However, the videos of the reading section do *not* include embodied interaction as they are animations of narrative or expository passages. In other words, even when there are people portrayed in the videos of the reading sections, these people occur as a part of the narration or exposition of the reading (i.e. discussed in the third person by the narrator of the reading) rather than as people interacting with one another in face-to-face communication situations. Another reason this study examined only the dialogues and not the reading passages is because multimodality in dialogues in ELT materials have much less often been explored compared to reading passages.

This research focuses on animated videos because they are supplementary materials incorporated in more recent times (compared with cassettes and later CDs, both of which have long been a component of EFL textbooks). Thus, even though embodied interaction includes both prosody and kinesics, the prosody aspect was already available in the era of cassettes and CS, so this study places emphasis on kinesics, or more commonly referred to as body language, and more specifically, on gestures as portrayed in the animations. While both prosody and kinesics are both important aspects of embodied interaction, gestures have received less attention in English language teaching research. The study centers on gestures but does *not* exclude gaze, facial expression, and body movement/postures in its focus, all of

which are important aspects of embodied interaction, but may be harder to clearly identify in the animations. Thus, in studying embodied interaction as portrayed in the videos, this paper highlights co-speech gestures (i.e. gestures in relation to language) but will take into account of other aspects when possible.

Embodied Interaction and Gestures

Embodied interaction, as part and parcel of human communication in face-to-face situations, have been studied for some time now (e.g. Nevile, 2015, Gallagher, 2011). Stivers and Sidnell (2005) explain: “Face-to-face interaction is, by definition, multimodal interaction in which participants encounter a steady stream of meaningful facial expressions, gestures, body postures, head movements, words, grammatical constructions, and prosodic contours” (p. 2). They further differentiate between the vocal/aural modes and the visuospatial modes. The former encapsulates spoken language while the latter includes body language.

While the visuospatial mode includes gesture, gaze, facial expression, and body postures, all of which are interconnected components of embodied interaction in face-to-face communication, in the examination of the videos that accompany the local junior high school EFL textbooks, this exploratory study foregrounds co-speech gestures because a large body of research has confirmed that “speech and gesture are deeply connected systems of communication” (Ozyurek & Kelly, 2007, p. 181). This was famously argued by McNeill (1992), whose contention that gesture and speech share the same system of communication as they stem from the same thought process was echoed by many (e.g. Bernadis & Gentilucci, 2006) and further elaborated by McNeill (2005, 2012) himself.

A large body of research has been conducted to examine the various functions of gestures (e.g. Ferre, 2011; Sueyoshi & Hardison, 2005; Swerts & Kraemer, 2008), the most often referenced of which is McNeill’s (1992) categorization of the semantic function of gestures as broadly including these five types: emblematic, iconic, metaphoric, deictic, and beat gestures. Emblematic gestures are those that have conventionalized meaning, such as the well-known “thumbs up” gesture. Iconic gestures are those that show concrete ideas, such as gestures that portray the size or shape of things. Metaphoric gestures are those that aim to show abstract ideas. Deictic gestures are pointing gestures that indicate the position of things in space, and beat gestures emphasize the rhythm of speech.

In reviewing this classification, Kendon (2017) suggests that McNeill’s focus on the ways in which gestures cohere with the content of speech renders it less pertinent to the pragmatic functions of gesture. Kendon (1995) emphasizes that co-speech gestures can be both substantive and pragmatic. Substantive gestures relate to “various aspects of the content of the utterance of which it is a part, whether literally or metaphorically” (p. 247), such as those described by McNeill (1992). Pragmatic gestures, on the other hand, accomplish modal, performative, parsing, or interpersonal functions (Kendon, 2004, p. 159). Kendon (2017) reminds that these classifications need to be understood as broadly descriptive attempts rather than as distinct and mutually exclusive categories, as gestures often perform the two functions simultaneously.

In addition to the semantic and pragmatic functions of gestures, the study of gestures also involves the discussion of gesture phases, including both functional-oriented and form-oriented descriptions. The former includes the following:

- a *rest position*, a stable position from where the gesticulation is initialized,

- a *preparation phase*, during which a movement away from the resting position begins in order to prepare for the next phase,
- a *gesture stroke*, which is typically regarded as obligatory and containing a peak of effort (directed at manifesting the communicative function) and a maximum of information density,
- *holds*, which are motionless phases potentially occurring before or after the stroke, and
- a *retraction or recovery phase* during which the hands are retracted to a rest position. (Wagner, Malisz, & Kopp, 2014, p. 210, italics in the original)

In the latter, gestures are understood to include “hand-shape, location, hand direction and movement type” (p. 211).

Lin (2017), adapting from prior established research, identifies gesture-speech relations to include reinforcing, supplementary, integrating, complementary, and contradictory. A reinforcing relationship between gesture and speech occurs when both refer to the same thing. An integrating relationship is when gestures do not provide additional information but make the information in the verbal form more concrete and specific. A supplementary relationship occurs when gestures provide additional information to the verbal message. A complementary relationship occurs when gestures complete the incomplete information given in the verbal message. A contradictory relationship occurs when information provided by either gesture or speech contradicts the other.

While attempts at the classification of gestures has had a long history (McNeill, 2011), it has been more recent that the relevance of gestures to second and foreign language (L2) proficiency has been recognized. Research on gestures in L2 studies have mainly been concerned with how they contribute to a learners’ receptive skills, i.e., gestures on the part of the interlocutor serving as visual cues (e.g., Shams & Elsaadany, 2008; Sueyoshi & Hardison, 2005), and also how gestures on the part of the learners themselves can aide in their productive skills, especially for learners with lower proficiency levels (e.g., Gol & Aminzadeh, 2015; Lin, 2017; Zhao, 2006). And even though it has long been understood that body language such as gestures is an integral component of communicative competence (e.g. Al-shabbi, 1993; Antes, 1996; Harris, 2003; Hismanoglu & Hismanoglu, 2008), very few research has explored the teaching of paralinguistics in English L2 classrooms. Moreover, despite the long history of incorporating authentic multimedia texts such as films in L2 classrooms, in most cases, learners have *not* been “instructed to carefully observe the different meaning-making devices used by native speakers in the process of interaction” (Jaen & Basanta, 2009, p. 295). Thus, by exploring the embodied interaction represented in one type of language learning material, the study takes a first step in considering how the teaching of kinesics can be a part of EFL education.

Data Sources and Data Analysis

In order to study embodied interaction in local junior high school ELT materials, the animations of all the dialogues in all 6 textbooks (corresponding to the 6 semesters that make up grades 7, 8 and 9) by each of the three major publishers was examined. In the first stage of analysis, I took screen captures of the gestures portrayed in relation to the characters’ speech, i.e., a screen capture was made as soon as each character performs a gesture. I also captured the different phases of the gesture, such as the aforementioned rest position, gesture stroke, and reaction/recovery phase (Wagner, Malisz, & Kopp, 2014). I then worked from these screen captures in my examination of the co-speech gestures in the animations.

The next stage of analysis involved the annotation of the gestures. Descriptions of gestures abound in the vast literature on co-speech gestures (e.g. Kendon, 1995; Querol-Julian, 2011), such as the “palm up open hand” which describes “when a speaker extends to the interlocutor a hand with the fingers extended and with the palm facing upwards” (Kendon, 2017, p. 166). These descriptions were based on studies of human gestures in real-life social interaction situations across cultures, and as such, may not be applicable to co-speech gestures in instructional videos produced for EFL learning in Taiwan. Therefore, rather than trying to impose a priori categories of gestures onto the gestures portrayed in these animated cartoons, I came up with my own description/annotation.

In the final stage, the constant comparative method (Strauss & Corbin, 1990) was employed. This included two steps. First, within each lesson, I compared the gestures performed by the same character. Even though the dialogues are short, including around 10-20 conversation turns by two or three characters, they include a variety of speech functions, and often, more than one speech function by each character in each dialogue. Then, across the lessons in all the animations accompanying the six textbooks by each publisher, I compared the same gestures (as I annotated) used by different characters in relation to the different functions of their speech. The objective was to see whether and how gestures were relevant to the speech functions which they accompany across the lessons in all six textbooks from the same publisher.

Due to space limitation, this paper presents the findings using examples from two textbooks from different publishers, and two lessons from each textbook. Because the study takes a constant comparative method, a minimum of two lessons from each textbook is necessary as examples of how co-speech gestures are represented in the animations.

Lesson 2, Book 1 in Nan-I

The first example is of a dialogue in Lesson 2 Book 1 of Nan-I publisher (劉慶剛, 2011), entitled “Where are you from?” The animated video can be found at <<https://www.youtube.com/watch?v=JCHxrg7nx28>>. The dialogue from the textbook is reproduced below:

- 1 Matthew: Hi, I’m your English teacher, Matthew. What’s your name?
- 2 Sakura: My name is Sakura.
- 3 Michael: I’m Michael.
- 4 Matthew: How old are you, Michael?
- 5 Michael: I’m 13 years old.
- 6 Sakura: I’m 13, too.
- 7 Matthew: Sakura, your English is very good. Where are you from?
- 8 Sakura: I’m from Japan. And Michael’s from the USA.

Figure 1 provides the screen captures of the animation to show the co-speech gestures of each of the characters. The numbers in Figure 1 correspond to the speaking turns numbered in the dialogue reproduced above.

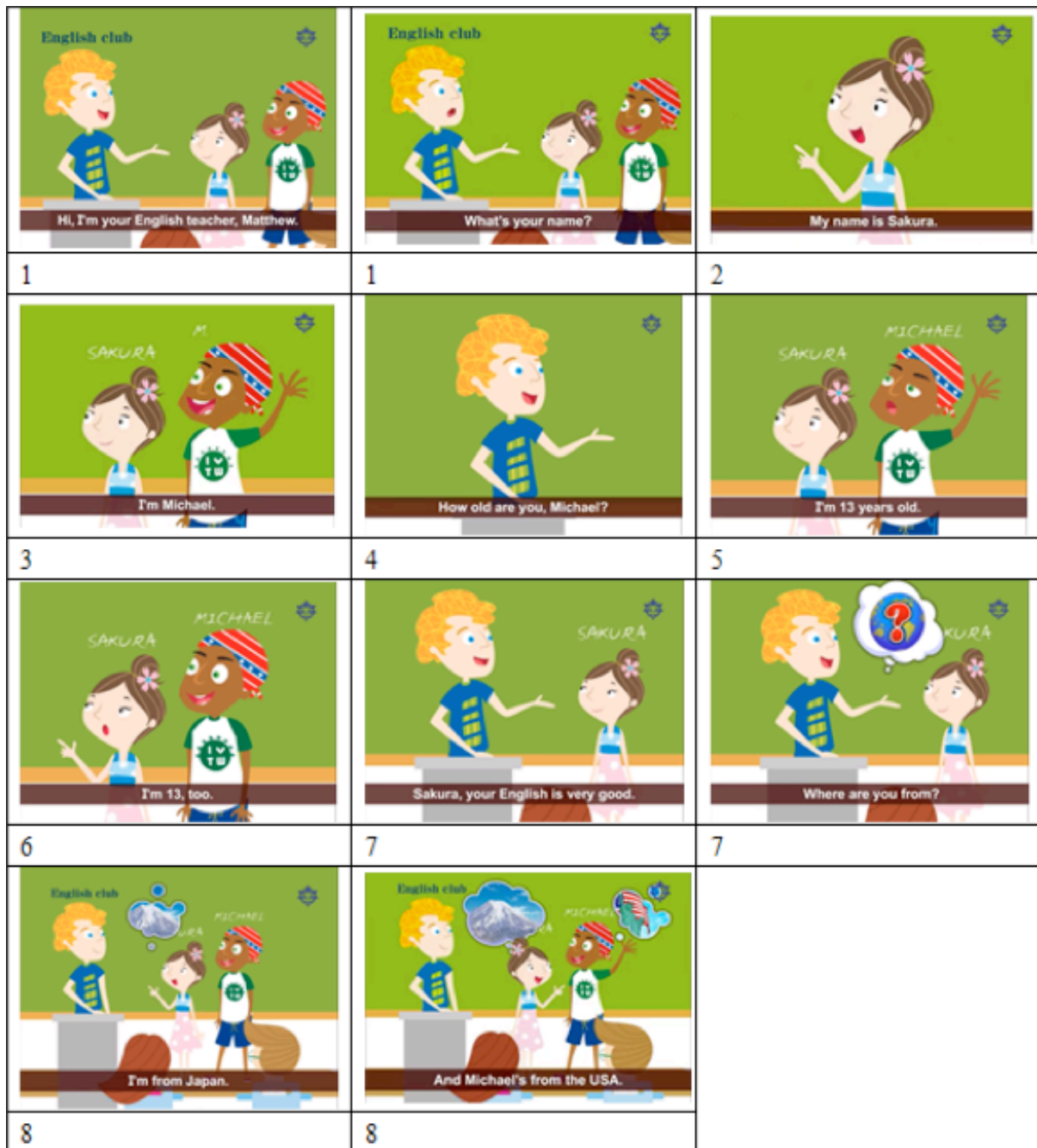


Figure 1. Screenshot of video accompanying L2 Bk1

Each of the three characters is portrayed with only one type of gesture regardless of the types of information they are communicating. Matthew's (the person on the left in cell 1) gesture involves his left arm that is raised at chest-level and the palm open facing upward, regardless of whether he is making a statement (i.e., a self-introduction, i.e., "Hi, I'm your English teacher, Matthew" and a compliment, i.e., "Sakura, your English is very good") or asking a question ("Where are you from?"). Michael's (the person on the right in cell 1) gesture involves a raised left arm with the fingers open, while Sakura's gesture involves a raised arm (right arm in general and left arm in one case) and a fist with outstretched thumb and index finger. In each case when a gesture is performed, it can be seen that characters' arms return to the rest position after the gesture stroke.

Gaze is portrayed through head position, as the characters look at whoever they are talking to or talking about, such as in cell 8 in Figure 1, when Sakura turns to Michael as she offers information about his country of origin (“And Michael’s from the USA”). Facial expression is less obvious, as each character is portrayed with only one expression that remains constant throughout the whole video. Body movement is also mostly lacking in this video (except for Sakura’s head turn in cell 8).

Even though the animation seems to lack sophistication in terms of the types of gestures, the video portrays the existence of embodied interaction through gaze and co-speech gestures. The fact that care has been taken to portray embodied interaction in these videos (despite of the rudimentary depiction of gesture types) finds evidence in another example.

Lesson 8, Book 1 in Nan-I

The second example is of a dialogue in Lesson 8 in the same textbook, entitled “There Are Many Insects by the Pond.” This animation video can be found at https://www.youtube.com/watch?v=7_H51v1h6_U. The dialogue from the textbook is reproduced below:

- 1 Michelle: There are so many insects here by this little pond.
- 2 Stacey: Insects? I’m afraid of insects.
- 3 Jason: But insects are beautiful. Look at those butterflies.
- 4 Michelle: Jason is right.
- 5 Jason: Are there any frogs and turtles in the pond?
- 6 Michelle: Yes. There are also many bees around here.
- 7 Stacey: What? Bees? Let’s get out of here.
- 8 Jason: Don’t move! There’s a snake behind you!

Figure 2 provides the screen captures of the animation to show the co-speech gestures of each of the characters. The numbers in Figure 2 correspond to the speaking turns numbered in the dialogue reproduced above.



Figure 2. Screenshot of video accompanying L8 Bk1

Of the three characters, Michelle's (the one on the right with a pony tail) gesture (her right hand placed on her chest) remains the same throughout the video and does not include the retraction/recovery phase. Stacey's (the one on the left) gesture (both hands covering her mouth) also remains the same throughout, although her hands retract back to the rest position after her conversation turn. Even though both the girls were given only 1 gesture throughout the conversation, the gist of their gesture broadly corresponds with the content of their speech, as Michelle is enjoying her time by the pond while Stacey is anxious about insects. Jason's gesture also remains mostly the same. For the most part, he does not have any hand gestures but his embodied interaction is portrayed through the shift of his head and body to look at whoever is speaking (i.e. Michelle on his left and Stacey on his right). However, his gesture changes in one instance towards the end of the dialogue (in cell 8) when he is playing a prank on Stacey by telling her "Don't move! There's a snake behind you!" Here, Jason is portrayed

with both his arms outstretched. His left hand is in a “don’t move” pose, i.e. palm open and facing Stacey. His right hand is pointing to where the snake supposedly is, “There’s a snake behind you!” This is a two-handed gesture, with the left hand corresponding to the content of his speech while his right hand is showing the location of the object of his speech, which creates additional cohesion in speech and gesture (McNeill, 2011).

Across Lessons

From these two examples, it is obvious that embodied interaction is represented as each conversation turn in the two animations is accompanied by a gesture (and also gaze and body movement in some cases) on the part of the speaker. In these examples, the embodied interaction shown in these videos seems to be the general existence of gesture-speech co-occurrence when speaking in English rather than specific gestures that co-occur with particular speech functions. However, even though less emphasis is placed on the exact types of co-speech gestures, they are not random and, and in general, reflect the overall content of each person’s speech.

Lesson 3, Book 5 in Chia-Yin

Next, I will discuss two examples from a textbook by another publisher, i.e., Chia-Yin (田超英、林佳芳, 2013). The first is from Lesson 3 Book 5, entitled “People Get Excited about Halloween” (https://www.hopenglish.com/hanlin/9_1_3_dialogue?ref=sub_nav). The dialogue is reproduced in Table 1, along with my annotation of the corresponding gestures.

Speaker	Content of speech	Gesture annotation
Amy:	Halloween’s just around the corner.	--both arms raised to around shoulders, palm extended facing upwards
	I’m really excited about it!	--two hands clasped together in front of mouth
John:	Halloween is for children, isn’t it?	--right arm raised to around shoulders, palm extended facing upwards
	I think that trick-or-treating is boring.	--both arms raised to around shoulders, palm extended facing upwards
Amy:	I’m bored with trick-or-treating, too.	--right hand placed on chest
	So, this year I’m going to a costume party with Patty.	--right hand tight fisted and raised up --right hand tight fisted and raised even higher
	I’m going to dress up as a bat, and Patty’s going to be a cat.	(Animation shows mental picture of Amy and Patty’s costumes.)
John:	What a way to celebrate Halloween!	--both arms raised to in front of body at chest level, and both thumbs up
Amy:	Right!	--left arm raised to around shoulders, palm extended facing upwards
	But...at the party, there’ll be a time for telling ghost stories. I think I’ll run away and hide.	--both hands placed on cheeks

John:	Are you telling me you're scared of ghost stories?	--right arm raised to around shoulders, palm extended facing upwards
Amy:	Yes...I'm scared of ghosts and ghost stories.	--both arms raised to around shoulders, palm extended facing upwards
John:	I'm surprised to hear that, Amy.	--right arm raised, palm/fingers pointing toward self
	Everyone knows that you aren't afraid of anything. Besides, ghosts aren't real. You shouldn't be worried.	--both arms raised to chest level and crossed to make an X sign
Amy:	I guess you're right, but I still can't help it.	--right hand placed on chest
	By the way, would you like to come with us?	--two hands clasped together in front of mouth
John:	No thanks! I'm not interested in Halloween parties;	--both arms raised to chest level and crossed to make an X sign
	they aren't my cup of tea.	--both arms raised to around shoulders, palm extended facing upwards

Table 1. Annotation of Gestures in L3 Bk 5.





Annotation of Gesture	Speaker/Sentence
Both arms raised to around shoulders, palm extended facing upwards	<p>Amy: Halloween's just around the corner.</p> 
	<p>John: I think that trick-or-teaching is boring</p> 
	<p>Amy: Yes...I'm scared of ghosts and ghost stories.</p> 
	<p>John: ...they aren't my cup of tea.</p> 

Table 2. Gesture and Speakers in L3 Bk 5

Similar to the previous discussion of the animations in the textbook of another publisher, in this animation, the rest position, the gesture stroke, and the retraction/recovery phases are all portrayed. However, each character is represented as employing more than just one co-speech gesture. And when a character's conversation turn consists of more than one sentence, such as in Amy's and John's first turn, each sentence is accompanied by a different gesture. Using as an example the gesture I annotated as "both arms raised to around shoulders, palm extended facing upwards," this animation includes four instances of this gesture by both characters. Please see Table 2.

Amy performed the gesture twice. In the first instance, she is providing information ("Halloween's just around the corner"). In the second instance, it is in response to John's question "Are you telling me you're scared of ghost stories?" to which she said "Yes...I'm scared of ghosts and ghost stories." Thus, these are two very different situations of speech in which the same gesture was performed. In John's case, the two instances in which he makes use of the gesture is similar, i.e. he is making a comment about something he did not enjoy: "I think that trick-or-treating is boring," and that "...they [Halloween parties] aren't my cup of tea."

To sum up, Amy performs this gesture in relation to providing statements of information (whether about the upcoming Halloween party or that she is afraid of ghosts). John, however, performs this gesture in relation to his negative opinions (about trick-or-treating being boring and that he doesn't like Halloween). However, while the situations in which Amy and John perform this gesture are different, they could be broadly understood as relating to statements or information they provide.

Lesson 9, Book 5 in Chia-Yin

Another example from the same textbook is Lesson 9, entitled "A Girl I Met Online Asked Me Out" (https://www.hopenglish.com/hanlin/9_1_9_dialogue?ref=sub_nav). The dialogue is reproduced in Table 3, along with my annotation of the corresponding gestures.

Speaker	Content of speech	Gesture annotation
Kevin:	Do you think it's stupid to go on a date with somebody you have only chatted with	-- left arm raised to around shoulder, palm extended facing upwards
	online?	--taps index finger on chin
John:	I don't think so,	--stirring coffee
	but it might be dangerous if you go alone. People can cheat easily on the Internet. Why do you ask?	--right arm raised to around chest level, palm facing upwards and extended towards Kevin
Kevin:	Well. A girl I met on the Net asked me out.	--hand (left) placed on back of head
John:	Wow! Did you say yes?	--right hand placed below mouth
Kevin:	Sure, her name is Elisa. We'll meet this Saturday. But	--taps index finger on chin
	I feel nervous. What if she thinks I'm boring?	--hand (left) placed on back of head
John:	Take it easy, Kevin. Cross the bridge when you come to it. Can I go with you?	--right hand pats Kevin on the left shoulder

Kevin:	No way!	--both arms bent and fisted hands placed on each side of waist
John:	You look unhappy. What happened?	--leaning on low wall, both forearms placed on top of low wall
Kevin:	My date was terrible. When I got to the restaurant, I pulled the door open...	--left elbow placed on low wall, hand close to his face, small motion moving left and right
John:	And suddenly you were pushed aside by a girl.	--leaning on low wall, both forearms placed on top of low wall
Kevin:	I couldn't believe she was Elisa. She was polite when we chatted online.	--left elbow placed on low wall, hand close to his face, small motion moving left and right
John:	And she kept playing with her cellphone during the meal.	--leaning on low wall, both forearms placed on top of low wall
Kevin:	Right.	--left elbow placed on low wall, palm open fingers pointing upwards
	Wait! It seems that you know the whole story.	--left elbow placed on low wall, taps index finger on chin
	How?	--left elbow placed on low wall, palm open fingers pointing upwards
John:	Uh... Don't get mad, please. I followed you to the restaurant that day.	--hand (right) placed on back of head
Kevin:	John!	--both arms bent and fisted hands placed on each side of waist

Table 3. Annotation of Gestures in L9 Bk 5.




Annotation of Gesture	Speaker/Sentence	
Taps index finger on chin	Kevin:	(Kevin doesn't say anything but listens to John while he taps index finger on chin.) 
	Kevin:	Sure, her name is Elisa. We'll meet this Saturday. 
	Kevin:	Wait! It seems that you know the whole story. 

Table 4. Gesture and Speaker in L9 Bk 5

In this animation, as can be seen in Table 4, Kevin, in several instances, employs the gesture “taps index finger on chin.” First, he performs this gesture when he is listening to what John is saying. This suggests that he uses the gesture when he is thinking. However, in another instance, it is when he says “Sure, her name is Elisa. We’ll meet this Saturday. But...” Here, Kevin uses this gesture to describe an upcoming event he is looking forward to, although with some ambivalence about the possible outcome (i.e. whether Elisa will think he is boring). However, in the last instance, it is when he says to John “Wait! It seems that you know the whole story.” Here, he is suspicious of how John knows every detail of his date with Elisa. Hence, although the same gesture is performed in relation to different speech content, broadly speaking, they relate to Kevin pondering about things (i.e. about what John is saying, about Elisa’s possible perception of him, and about John’s suspicious omniscience).

In another example from this animation, as can be seen in Table 5, there is the gesture of “hand placed on back of head” on the part of both Kevin and John. (For Kevin it is his left hand, and for John, his right hand.) In the first instance, this gesture accompanies Kevin’s statement “Well. A girl I met on the Net asked me out.” Here, Kevin is offering information. In the second instance, Kevin shares “I feel nervous. What if she thinks I’m boring?” In the third instance, it is not when Kevin is speaking but as he listens to John’s advice about “crossing the bridge when you come to it.” This gesture serves to show Kevin’s ambivalence, i.e. looking forward to going out with a girl but worried at the same time about the girl’s perception of him. Note that this gesture of hand-placed-on-back-of-head is not performed by Kevin in the second part of the dialogue, i.e. after he has met Elisa. In John’s case, it was when he confessed to Kevin his behavior after asking for forgiveness: “Uh... Don’t get mad, please. I followed you to the restaurant that day.” John uses this gesture in relation to an apology and a confession, which is a different communicative function from when Kevin uses it in the same dialogue context.

Although the situations in which Kevin and John respectively performs this gesture are different, broadly speaking, they could be understood as relating to some type of embarrassment. John is obviously embarrassed because his inappropriate behavior has been found out. Kevin’s embarrassment relates to his ambivalence about meeting a girl on the Internet and setting up a date with her over the Internet and as well as the possible outcome of the girl’s poor impression of him.

Finally, another interesting point can be found in the last image in Table 4 and the first image in Table 5. In the former, while John is listening to Kevin, he is leaning on the low wall with both forearms placed on top of it. In the latter, John is stirring his coffee while listening to Kevin. Although these are not co-speech gestures, they show that the animation includes body movement and posture when necessary.





Annotation of Gesture	Speaker/Sentence	
Hand (left) placed on back of head	Kevin:	Well. A girl I met on the Net asked me out. 
	Kevin:	I feel nervous. What if she thinks I'm boring? 
	Kevin:	John: Take it easy, Kevin. Cross the bridge when you come to it. Can I go with you? (Kevin doesn't say anything but listens to John while has hand placed on back of head.) 
Hand (right) placed on back of head	John:	Uh.... Don't get mad, please. I followed you to the restaurant that day. 

Table 5. Gesture and Speaker in L9 Bk 5

Across Lessons

In these two examples in the textbook, the characters are portrayed with a variety of co-speech gestures. And in most cases, when a character's conversation turn consists of more than one sentence, each sentence is accompanied by a different gesture. When a gesture is performed more than once in the same dialogue by the same character and also when performed by different characters in the same dialogue, the gesture broadly coheres with the overall content or the mental/emotional state of what is being said.

Compared to the other textbook, gesture types are represented with finer details in this one. What is similar across these two textbooks is that gaze is consistently portrayed, while facial expressions are similarly lacking. The two textbooks also take care to depict gesture phases. Therefore, it seems that co-speech gestures are highlighted in the portrayal of embodied interaction in these animations, with gaze and body movement and posture also made relevant. The embodied interaction portrayed is one in which all modes of communication contribute to and are a part of face-to-face interaction.

Conclusion and Implications

The above discussion has shown that embodied interaction is portrayed in the animations as each sentence spoken by the characters is accompanied by a gesture, although a limited range of embodied representations are used to illustrate a wide range of speech functions. The gestures include arm/hand movement, body posture/movement, and gaze (mostly through head position), and reflect the overall content of each character's speech. The embodied interaction shown in these videos seems to be the general existence of the gesture-speech co-occurrence more than specific gestures that co-occur with particular speech functions, although gesture types are more specifically represented in the second textbook discussed. In this way, the animations emphasize that speech is always accompanied by gestures in a person's communicative practices, even though what exactly those gestures are can be up for negotiation or interpretation.

The animations make clear, even though sometimes only through rudimentary depiction, that speech is always accompanied by some type of gesture. This means that it is necessary for teachers to further work with these materials to draw students' attention to their own co-speech gestures. One thing that teachers can do is to have a few students act out the textbook dialogues and the rest of the class observe the co-speech gestures and discuss how they mean. More than one group of students can also enact the same dialogue and teachers can guide students to compare the gestures between different students and consider individual differences. Students could also be asked to comment on the gestures in the animations as an extended speaking activity.

In addition, when using authentic materials, such as TV shows or movies, teachers can draw students' attention to the characters' embodied interaction (gestures and prosody) rather than only emphasizing language aspects (such as vocabulary or grammar). Teachers could also make transcripts of segments of shows/movies, and have some students act out the segment while the other students observe the gestures. The class could then engage in a discussion of whether there are any intercultural differences in gestures (such as between the actors/actresses in the shows/movies and the students themselves) or whether co-speech gestures merely reflect individual differences.

One thing I have noticed in my own students over the years is the lack of facial expression when speaking in English. In the animations, the characters lack variety in their facial expressions. While I am not claiming any causal relations between the animations and the students, this aspect of embodied interaction is something that teachers can point out to students when using authentic materials, and have students' discuss the types of facial expressions they can observe in the actors/actresses in relation to particular speech functions.

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