

**A Usage-Based Approach to Sentence-Level Writing
and Critical Thinking with Digital Video**

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Abstract

This theory-into-practice paper presents an approach to sentence-level writing using digital video. The predominant theory guiding this practice is Michael Tomasello's (2003) *Constructing a Language: A Usage-Based Theory of Language Acquisition*. This paper presents a classroom adaptation of Tomasello's concept of a *joint attentional scene*, which has been built into a descriptive framework called a *shared attentional frame*. This framework is also used to guide classroom assessment and practice in a college-level English for Academic Purposes course. Data were collected as a part of instruction; that is, these instructional strategies with digital video are a normal part of instruction in the author's classes. and these two cases were selected from those students who volunteered to participate in the research. The main objective of the two student-participants as exemplar cases was to complete one sentence stem with a bolded vocabulary word; then create a second sentence with strong context clues that support the meaning of the vocabulary word. On digital video, students then explained how and/or why the first sentence supports the second sentence in a close-up view of the sentences, and they were encouraged to point with a pen or pencil at their sentences as they spoke. Three units of analysis were used to contrast and assess the two exemplar cases: speech, a visual, and the act of pointing. In addition, Scribner's (1997) *Theoretical Comparison of Conceptual Levels* was also used for instruction and as a basis for assessing critical thinking and the student-participants' ability to abstract from the immediate context. Findings have implications for classroom practice and assessment.

Introduction

Approaches to teaching adult English language learners (ELLs) vary across cultures, continents, classrooms, and educational contexts. This paper proposes a flexible method for addressing a variety of language learning objectives with a focus on a few terms and concepts that emphasize a *Usage-Based Theory of Language Acquisition* (Tomasello, 2003). As part of the process of bringing theory into practice, classroom language and digital video activities were guided by an adaptation of Michael Tomasello's concept of a *joint attentional* frame. Two different exemplar cases are contrasted to illustrate one of the many possible avenues for using sentence-completion activities, both as a learning and assessment method through this adaptation of Tomasello's ideas. Additionally, this paper follows through with avenues for further research proposed in Unger (2016), which is part of an ongoing classroom research project to investigate different ways of using digital video cameras to improve adult ELLs writing, reading and critical thinking (see Unger & Liu, 2013; Unger & Scullion, 2013).

For this paper, the data collected were sentence-completion activities presented on video by students from an English for Academic Purposes (EAP) reading course. Vocabulary learning was a major objective of the course. The primary objectives of the sentence completions are to prompt adult ELLs to recognize and create context clues (see Langan, 2013, pp. 13-16), understand sentence-level cohesion, and improve critical thinking abilities. This recognition and creation of context clues is also meant to prompt learners to explain the relationships of one sentence to the next; this part of the overall activity is related to improving the recognition and production of sentence-level cohesion.

The sentence-completion activities prompt students to complete a sentence that has a vocabulary word bolded (see Nist 2010); then create a second sentence that expresses the meaning of the vocabulary word. The second sentence should also have an explicit semantic and contextual relationship with the first sentence. Through this process, learners work at different competency levels with regards to articulating the relationship of one sentence to the next, specifically in how the second sentence supports the meaning of the vocabulary word.

Because of the over-riding influence of the theoretical framework based on Tomasello (2003) and others (Scribner, 1997; van Lier, 2004; Wertsch, 1998; Vygotsky, 1978; 2012), I begin with the theoretical framework and an adaptation of Tomasello's ideas expressed as a *shared attentional frame*, with the units of analysis of *speech*, *a visual*, and *the act of pointing* used to describe ELL participants' sentence-completion activities. Moreover, I present these three units of analysis as avenues for a multi-modal assessment and teaching framework at the sentence-level. The development of the theoretical framework has been presented in prior papers (e.g., Unger 2016; Unger & Liu, 2013) and shapes current classroom practice. In addition, this theoretical framework has guided an ongoing study of digital video cameras and math word problems.

Following the presentation of the theoretical framework, two exemplar cases will be contrasted using descriptions of *conceptual levels* from Scribner (1997), along with speech, a visual, and the act of pointing as units of analysis.

Creating a Usage-Based Approach for Classroom Practice: Shared Attentional Frames

One central feature of Tomasello's (2003) descriptions of how humans acquire language is the idea that humans read the intentions of others in a recursive manner: "The understanding of a communicative intention is therefore a special case of the understanding of an intention; it is

the understanding of another person's intention toward my intentional state" (p. 24). One common example could be the act of greeting someone at work, with "How are you?" It is generally understood that "Good," or the grammatically correct, "I'm doing well" is the proper response, and in some contexts, one must always feel obliged to answer "Great!" In these examples, one understands that the social context implies a short, positive answer (Tomasello, 2003).

The premise is that humans direct the attention of others to specific concrete objects or abstract ideas, thereby transforming the intentions of others. These salient features of human communication are illustrated by Tomasello's descriptions of a *joint attentional frame* (p. 26). The triadic arrangement of a baby, adult, and object is one example. An American who does not speak Hungarian and is approached by a speaker of Hungarian at a train station in Hungary is another example. To paraphrase Tomasello's (2003) examples, with the baby, the adult, and a diaper, when the adult walks into the room holding a diaper, the diaper becomes the focus of attention for the baby and the adult. The baby understands the intended meaning and the sequence of events that will follow. A contrasting moment would be the adult coming in with a toy for playtime. Joint attention is focused on the toy (p. 22). With the example of the American in a train station in Hungary, suppose the American is approached in the middle of the train station and the Hungarian begins to ask directions. Without knowing anything about the topic of the conversation, the American and Hungarian cannot establish a joint attentional frame. If the conversation occurred next to the ticket booth, the Hungarian could point to different items, such as a train schedule with names of places, and a common frame of reference could be established. The Hungarian would be making her intentions clearer by setting up a triadic where the

American would understand that her attention was directed at specific objects in the immediate surroundings so she would understand the Hungarian's intended meaning.

Over the past several years I have tried to create an illustration of how Tomasello's ideas might be adapted for classroom practice by prompting students to create *shared attentional frames*. This shared attentional frame is created by students filming themselves explaining process features of writing summaries, responses, essays; completing sentences and adding a second sentence, as described in this paper, and in my colleague's math classes, solving math word problems. This classroom practice of prompting shared attentional frames is depicted in Figure One.

The Shared Attentional Frame

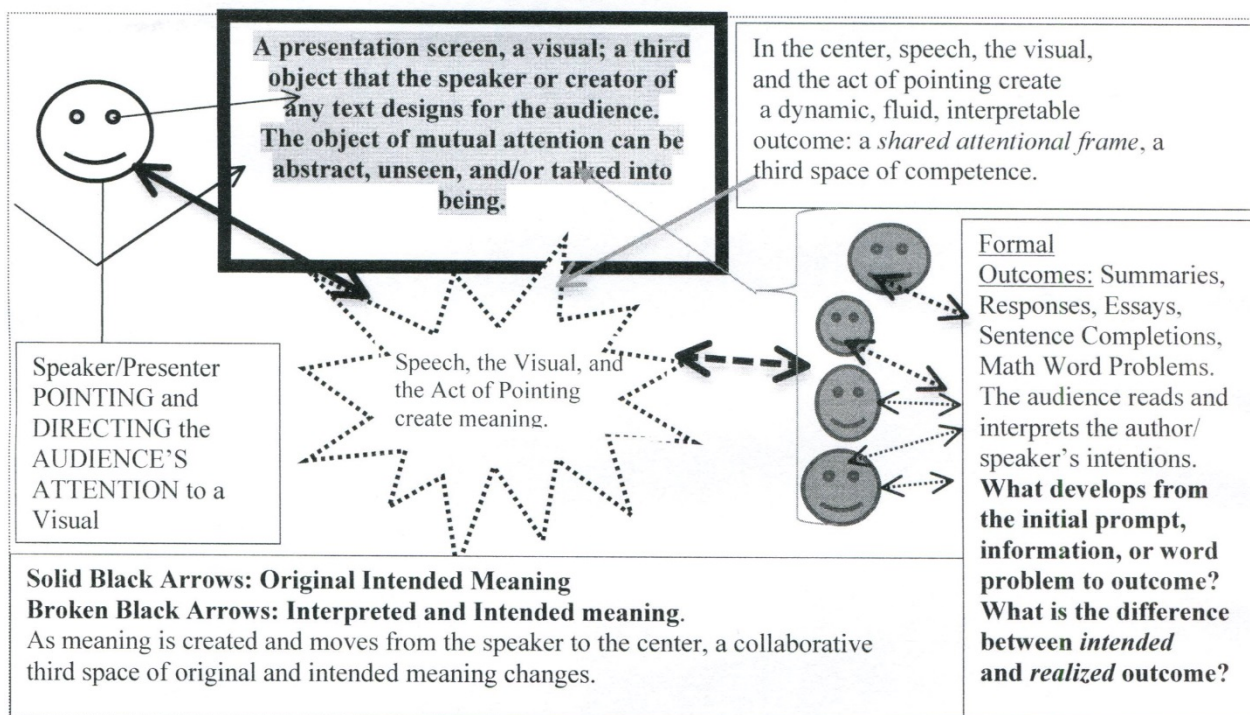


Figure One: The evolving model of a *shared attentional frame*.

This diagram of a shared attentional frame has undergone transformations mainly due to the influence of using digital video cameras with math word problems; however, the objectives remains the same: bring Tomasello's ideas on language acquisition more directly into instruction and assessment across different educational settings and academic borders. The diagram identifies areas of reference and units of analysis in academic types of literacy activities; two central developmental questions are presented on the bottom right corner: "What develops from the initial prompt, information, or word problem to outcome?" and "What is the difference between the *intended* and *realized* outcome?" These are also two ongoing research questions.

Moving from left to right across the diagram to the assessment questions, the speaker is pointing at a visual. On the diagram, this is shown as an explicit act; however, as it states on the model: "the object of mutual attention can be abstract, unseen, and/or talked into being." This includes spontaneous *gesticulations* (see McNeill, 2005; 2012), which are mixed in with the purposeful gesturing that occur on video during student explanations. However, these spontaneous gesticulations differ from McNeill's (2012) description of gesture as part of speech and are not necessarily goal-oriented. These participants used pencils and pens when they pointed; others used fingers and hands; all participants were encouraged to point. However, despite the instructions to point, participants exhibited some spontaneity in their pointing, which was synchronized, or not, with speech.

The solid black arrows pointing to the center signify the speaker's intended meaning, which is a synthesis of speech, the visual, and any pointing that occurs. Directing the attention of a real or imagined audience often becomes salient in the data through an emphasis in tone of voice, the use of transition words or phrases (e.g., on the other hand; however) a pointing gesture (i.e., deictic) or other type of gesture, highlighted text on a visual, or any other signifiers in the

immediate concrete or abstract surrounds. All of these together create speaker intention that is simultaneously interpreted by an audience. However, this is a dynamic multimodal interaction of co-constructed meaning. Note the intended meaning is transformed by the audience in some manner: such is the nature of human communication and *semiosis*, the sign-making and sign-using process (van Lier, 2004). Of course, speakers adjust their utterances for the audience (Bahktin; 1981; 1986).

This model of a shared attentional frame does not represent a static, orderly kind of movement; however, this model captures moments of dynamic and fluid human communicative interaction, much like a sample and photograph of water, which is never truly static. One can only analyze that moment of interaction between hydrogen, oxygen, and any external forces such as currents, tides, winds, and any other natural ecological occurrences (Vygotsky, 1979; 2012; Wertsch, 1998). Any unit of analysis of a communicative event, particularly when language learning is involved, must recognize this interaction and fluidity. This diagram is meant to guide classroom interaction, to arrange and monitor the salient features of the triadic of students with abstract and/or concrete visuals, and the way intended meaning is co-constructed and interpreted for a specific audience.

During this interaction, a third space of co-constructed meaning is created just like in everyday conversation. For example, suppose after a World Cup match two interlocutors are talking about a specific moment in the game when a game-winning shot was made. The description, which most surely would involve some gesturing, is conjuring a mutually understood shared image in each of the interlocutor's mind.

Intended meaning is always transformed to some degree (see Bakhtin, 1981), which is signified in the model by the solid and dotted lines. The arrows at both ends of the solid and

dotted lines signify the dialogic, co-constructed nature of the shared-attentional frame (see Figure One). Speech, the visual, and the acts of pointing that occur can be identified in any communicative event. The aim of this model is to make Tomasello's (2003) ideas more accessible for classroom planning, practice, and assessment.

The Shared Attentional Frame for Classroom Practice and Assessment. For the sentence-completion activities, as well as the ongoing math word problem research, student-participants form a triadic with the camera-operator and any onlookers as the audience, some kind of visual, and pointing; for larger visuals, usually poster paper, a twenty-four inch pointer with a closed hand and an index finger at the end are used to enhance the act of pointing (see an example the pointer used for a math word problem at [Math Word Problem Data: Case Darla](#), password: otter17) . For the sentence-completion activities presented in this paper, the visual was an eight by eleven-and-a-half inch standard sheet of paper with incomplete sentences and bolded vocabulary words as a visual. Students were asked to point at their sentences with a pen while they spoke. In videos not included in this paper, some participants used their fingers and hands.

For the sentence completions, the students held a Canon Vixia HF R600 around eighteen to twenty-four inches above the sheet of paper as they explained different features of a specific sentence and vocabulary word. They were usually in groups of two or three, so sometimes a member of the group would hold the camera above the paper for the speaker. Extensions of this activity included the identification of subject and predicate groups and types of verbs, such as transitive, intransitive, or linking. Most important for the critical thinking component, as stated previously, students were asked to explain the relationship of a second sentence that supported

the meaning of the vocabulary word in the completed sentence stem. The two cases contrasted for this paper were only asked to explain this relationship.

The Research Questions and the Assessment Framework

The research questions and assessment framework are integrated. Recall from the diagram of a shared attentional frame that two questions are presented at the bottom, right-hand corner. These broad research questions are intended to guide classroom planning, practice, and assessment.

1. What develops from the initial prompt, information, or word problem to outcome?
2. What is the difference between *intended* and *realized* outcome?

Intended outcome refers to the expected outcome that is considered *correct*, which would be the ideal outcome that the creator of the prompt intended; realized outcome could be correct or not. Recall that intended meaning is understood to be transformed in some way from the original intended outcome; of course, this varies in STEM (Science, Technology, Engineering, and Math) with regards to an absolute answer, rather than the more subjective outcomes from essay prompts, history and psychology questions and research, and other types of educational contexts where there is more leeway for interpretation. However, the process features of STEM-oriented word problems are just as revealing as the outcomes in the social sciences and humanities (see an example of math word problem data at [Math Word Problem Data: Case Darla](#), password: otter17). The *realized* outcome is an interpretation of the intended meaning, whether the answer is the ideal correct outcome or not.

The Assessment: Theoretical Comparison of Conceptual Levels. American cultural psychologist Sylvia Scibner (1923-1991) followed the ideas of Russian psychologist Lev Vygotsky (1896-1934) and Russian neuropsychologist Alexander Luria (1902-1977) to research

literacy, cognition, and socio-cultural/historical activity (Scribner, 1997; see also Luria; 1976; 1979). As a doctoral student, she proposed a framework for differentiating conceptual levels; specifically, the effects of learning to write on one’s ability to move from one conceptual level to another (Scribner, 1997). She pointed out the representational differences between the number 5 and the algebraic abstraction of X in mathematical equations to introduce a *Theoretical*

Comparison of Conceptual Levels:

An illustration of a concept on the first level is a particular number—“five” for example. The number is a concept which stands for a set of objects. ‘X’ in algebra, however, is a concept which stands for a set of numbers. The meaning of “five” can be expressed by pointing; the meaning of ‘X,’ only through verbal definition by means of which the term is related to the whole system of which it is a part. (p. 179)

Following this comparison of the number 5 and the sign ‘X’, Scribner (1997) provides a table (see Table One), parts of which were used, along with the units of analysis of speech, a visual, and the act of pointing, to contrast and describe the two cases presented in this paper.

Two distinct conceptual levels are described in the following table from Scribner (1997 p. 179).

<i>Level 1</i>	<i>Level 2</i>
<i>Object Concept</i>	<i>“Word Object” Concept</i>
1. Direct relationship to some object or attribute of an object.	1. Indirect relationship to object; object is mediated by some other concept.
Object of thought is an object	Object of thought is a verbal concept (word).
2. Generalizations on the basis of objects or attributes of objects; generalization of things.	2. Generalization of earlier generalizations (concepts)—therefore, generalization of thought.

<p>3. We are aware of the object of thought not of our mental activity.</p> <p>4. Language internalized as inner speech regulates our behavior</p> <p>Through language we become conscious of our behavior; we describe it and reflect upon it.</p> <p>Function: “Analysis of reality with aid of concepts” (Vygotsky)</p>	<p>3. We are aware of the act of thought.</p> <p>4. Written language that is internalized regulates our thinking.</p> <p>Through this new system of language we become conscious of our thought; we can describe it and reflect upon it.</p> <p>Function: “Analysis of thought with aid of concepts” (Vygotsky)</p>
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Table One Theoretical Comparison of Conceptual Levels (Scribner,1993, p. 179)

The most striking features of these contrasts are ways cognition moves from a concrete to an abstract level. Rather than objects, concepts are related to other concepts and mediate activity. Sign systems are created, such as the X being part of the algebraic system of mathematics. Language is a part of both levels. The main difference is that writing enhances the ability to use concepts to mediate activity rather than objects, and awareness of cognition increases at Level 2. From an instructional perspective, this table also has implications for understanding and promoting *metacognition*, the ability to think about one’s own thinking (Schraw, 2007).

Results and Discussion

Because this is a presentation of a specific approach to teaching and assessment using digital video, and contrasting the participant data is a part of showing how the sentence completions can be used for teaching and assessment, the results and discussion are merged.

For the sentence-completion activities, participant data are placed at Level 1 or 2 based on the three units of analysis: speech, a visual, and acts of pointing. The visuals will be compared followed by speech and acts of pointing. The data are digital video of the participants’ reading

their completed sentences and support sentences, both of which are displayed on the visuals, and then they explain the relationship of a vocabulary word to the meaning of the second sentence. Data have been transcribed and internet links and passwords to the video data, visuals, and other information are provided: the multi-modal data display self-corrections and grammatical knowledge.

By using Scribner's interpretation of Vygotsky's (1962) ideas, some limited judgments can be made with regards to the ability of each participant to generalize from the original material. A unique, practical assessment of English competency and critical thinking can be accomplished by examining the various alignments and tensions between visuals, speech, and the act of pointing.

Context for the Data Collection and Two Cases. The data were collected as a part of normal instruction in a lower level English for Academic Purposes course at an open access, four-year, bachelor-degree granting college in the southern U.S. The course emphasized reading comprehension, vocabulary, and writing summaries and responses.

At the beginning of the semester, we reviewed four common types of context clues as described by Langan (2013): "examples, synonyms, antonyms", and, "a general sense of the sentence or passage" (p. 13-16). With the accessibility of computers in the classroom and smart phones, many students seemed inclined to use synonyms in their second sentences.

Students used digital videos two times before this video, with slightly different goals, including the identification of gerunds; subject and predicate groups, and type of verbs. The videos from these two cases were made about nine weeks into the semester. Students had been doing sentence completions individually on word documents or working in pairs, sometimes

working at a computer together to post on a discussion board, or more frequently with this group, working in pairs to complete and write support sentences on poster paper.

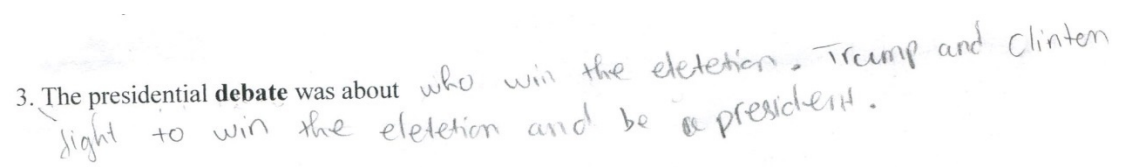
When students worked with the poster paper, they wrote on strips of white butcher-like paper, measuring roughly two-feet wide by three-feet long; they used dark markers and hung the strips on the walls of the classroom with blue painters-tape. Students completed sentences and wrote a second sentence, as shown in the video and in the samples of the two cases from this group (see Figures Two and Three). With the poster-paper, students were grouped in dyads or triads (usually dyads), and stood next to the posters as they co-constructed their answers. They were also encouraged to use their smartphones or one of the computers nearby to look up the meanings of the vocabulary words and appropriate synonyms. Myself and the tutor, who was available and actively assisted in the research, walked around the room helping students complete the sentences by using questions to prompt students to note errors and make corrections. Moreover, we emphasized that students are expected to explain how the first sentence supported the second sentence. Sentence completions have become a part of the normal course of instruction in the reading courses I teach, and I am now adapting these for a Freshmen composition course for those with English as their first language. These are the kind of experiences these two student-participants had with sentence completions before they procuded the data presented in this paper.

The Two Cases. Case Terri and Case Leonard were the only two students out of this small group of six student-participants who chose the sentence with the word *debate* emphasized. Students in these courses come from many different countries (e.g. China, Vietnam, Columbia, Pakistan, Ethiopia, Cuba) with very different formal schooling foundations and English competencies, particularly with vocabulary, reading, and writing. Case Terri is a native

Vietnamese speaker from Vietnam, and Case Leonard is a native Spanish speaker from Honduras. Videos, and much of the data that will be presented in this paper, are available at [Usage-Based Approach to Sentence Level Writing and Critical Thinking with Digital Video](#), password otter17.

Case Terri and Case Leonard: The Visuals.

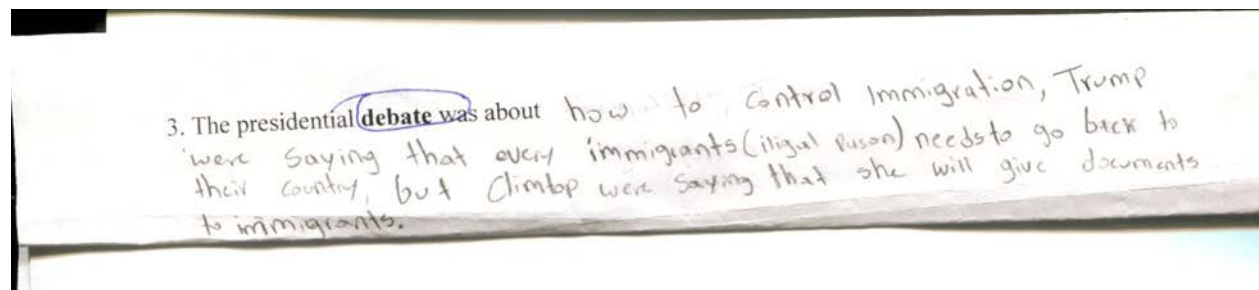
Case Terri.



3. The presidential **debate** was about who win the eletetion. Trump and Clinton fight to win the eletetion and be a president.

Figure Two: Case Terri's Visual: A Completed Sentence and a second sentence. The sentences are "The presidential debate was about who win the election. Trump and Clinton fight to win the election and be a president"

Case Leonard.



3. The presidential **debate** was about how to control immigration, Trump were saying that every immigrants (ilgal rison) needs to go back to their country, but Climbp were saying that she will give documents to immigrants.

Figure Three: Case Leonard's Visual: A Completed Sentence and a Second Sentence, The sentences are: "The presidential debate was about how to control immigration, Trump were saying that every immigrants (ilgal person) needs to go back to their country, but Climbp were saying that she will give documents to immigrants"

The Sentences from the Visuals. Each of the sentences are copied directly from the original visuals, which have been scanned and cropped and appear in Figures Two and Three. Because the penciled in responses might not be clear, they have been copied below Figures Two and Three for comparison and are repeated in Tables Two and Three below.

For the sentence-completion activities, the visuals displayed grammatical competencies for these specific sentences. With five to ten sentence completions per activity, across several visuals, various error patterns could be found. A brief review of Case Terri and Case Leonard’s visuals, as one of three units of analysis (i.e., the visuals, speech, and the act of pointing), demonstrates the potential for assessment and informing instruction.

Grammatically, these sentence stems prompted the addition of an object of a preposition. We had been practicing gerunds as possible objects of prepositions; however, both participants chose noun clauses, which is a structure that works for these sentences. The grammatical errors on completing the first sentences are minor, which seems to be the general pattern for most students.

<p>Case Terri’s Visual:</p> <p>“The presidential debate was about who win the election. Trump and Clinton fight to win the election and be a president”</p>	<p>Case Leonard’s Visual:</p> <p>“The presidential debate was about how to control immigration, Trump were saying that every immigrants (ilgal person) needs to go back to their country, but Clintop were saying that she will give documents to immigrants”</p>
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Table Two: Case Terri and Case Leonard’s sentence completions and second sentences, copied from the visuals.

Case Terri's Visual. Terri was missing “will” before “win” for completing her sentence stem. She also used “a” rather than the more appropriate definite article “the” before “president” Both of Terri’s sentences were simple sentence structures.

Semantically, Terri seemed to equate debate with a fight, and she related the debate to winning the election. This interpretation is based solely on what was on the visual. Her own interpretation, at least as much as she could articulate on the video, revealed tensions between the visual and speech, which we will return to following Case Leonard’s visual.

Case Leonard's Visual. Grammatically, several types of common errors appeared on Case Leonard’s visual. By common, I mean types of errors that are prominent across students in these EAP courses, specifically the comma splice errors, which seem more common among Spanish speakers than others. Also, it is noticeable that Leonard made two subject-verb errors, with the second sentence after the comma splice, along with a lack of parallel structure in these complex sentence structures with *that* clauses as the direct object of the continuous tense, which should have been simple-present tense. Also noticeable are the spelling anomalies, “ilial” and “Climtop”: both word spellings did not seem associated with the pronunciation on the video, which will be presented shortly.

The Differences between the Two Visuals. In contrast to Terri, Leonard was working with more complex sentence structures. Despite the comma splices, lack of parallel structure in verb usage, the mismatch of “every” with the plural “immigrants,” and spelling anomalies, Leonard was moving toward a compound-complex structure. He had more to say, which was prompting him to attempt more complex sentence structures than Terri.

Semantically, compared to Terri, Leonard chose the specific topic of immigration and elaborates on each candidate’s position. On her visual, Terri related the debate to a “fight” to

“win” the election, which suggests a far less complex relationship to the original sentence stem than Leonard was expressing. By making the differences between the candidates’ positions on “illegal” immigration explicit, Case Leonard was making more complex generalizations from the original sentence stem and the word “debate” than Case Terri.

Viewing these differences through the lens of Scribner’s (1997) descriptions of conceptual levels (see Table One), Case Terri’s explanations seemed more aligned with the Scribner’s first attribute: “Direct relationship to some object or attribute of an object. Object of thought is an object” (p. 179). Looking at both the simple sentence structure and the lack of specifics, Terri’s sentences did not express the level of abstraction as Case Leonard. For example, as mentioned previously, Terri equated debate to a “fight” “to win,” along with repeating the phrase “win the election” A total of twenty-one words were in her response with this three-word phrase repeated twice. Terri’s response suggests she was not moving beyond some very basic ideas about a debate; she was not moving much beyond the “object of thought,” which in this example was the completed sentence stem. The second sentence does not generalize very much from the first sentence, simply stating that the debate is a “fight” to be “a president.”

In comparison to Case Terri’s sentence, Case Leonard said that the debate was about “how to control immigration”; he then generalized to Trump’s position that “every immigrants (illegal person) needs to go back to their country.” He contrasted this with Clinton’s position of providing “documents to immigrants.” Leonard’s completed sentence and second sentence expressed a specific topic, of which he is likely to be aware or looked up on the internet during the class activity. Regardless of the origin or motivation, the expansive nature of Leonard’s written response to the word “debate” suggests that he was working at a higher conceptual level

than Terri. We can again use Scribner's first attribute, this time at Level 2, to distinguish Leonard's sentence on the visual from Case Terri's. The first attribute at Level 2 is the "Indirect relationship to object; object is mediated by some other concept. Object of thought is a verbal concept (word)" (p. 179). Leonard demonstrated the concept of comparing two specific positions, and relating these positions to the effects on immigrants. For this specific word and accompanying sentences, the data suggests that Case Leonard was working at a higher conceptual level than Case Terri. We now turn to the oral explanations of the relationship of the second sentence to the first, and how this second sentence supports the first.

Case Terri and Case Leonard's Transcripts (Speech). Contrasting the speech with the participants' writing is one of the most revealing features of any of the digital video data I have been working with over the past two decades, particularly when participants read their responses; then explain some feature of the response, such as how a second sentence supports the meaning of a vocabulary word in a prior sentence. Very often participants will spontaneously edit their speech as they read; their speech is different than what they wrote in some way, usually a correction or a variance from expected usage.

For the transcription, the student-participants' speech are in italics (see Table Three). In Table Three, the reading of their sentences is presented below what they wrote on their visual, followed by their explanation of the relationship of the two sentences. A dash – is used for sharp pauses or breaks. Mispronounced, incomplete, or substituted words are marked in bold. For the purposes of making the comparison between the way the sentences are read compared to the sentences participants wrote, the original sentences from the visual are repeated in Table Three.

Speech: Reading the Sentences. The contrasts between the way Case Terri read her sentences and the way Case Leonard read his sentences were stunning. Most noticeable were the

corrections Leonard made with the subject-verb agreement, whereas Terri used “were” as a replacement for the correct “was” that was on her visual. Terri also revealed that she is weak in some areas of phonemic awareness with her unusual shift from the correct “election” to changing the noun suffix “tion” to “cher.” Terri also dropped the “r” from president. Leonard corrected all his subject-verb agreements, in addition to correcting the plural “immigrants” on the visual to the singular “immigrant” as he spoke. Leonard continued to use the past continuous tense with his comparison of Trump to Clinton, as mentioned before, with the correct subject-verb agreement, but shifted to the simple present tense, which was a more correct usage.

Overall, Case Terri demonstrated some serious phonemic awareness issues, and her change from “was” in writing to the incorrect “were” is puzzling. Moreover, this was followed by an additional mis-reading of the words “election” and “president”. In contrast, Case Leonard was making corrections to subject-verb relationships and adjusting tenses. He also skipped reading the spelling variant “ilgal person.” Again, as with the sentence structure on the visual, the data suggests that Case Leonard was working at a higher conceptual level than Case Terri.

<p>Case Terri’s Sentences on the Visual:</p> <p>“The presidential debate was about who win the election. Trump and Clinton fight to win the election and be a president”</p>	<p>Case Leonard’s Sentences on the Visual:</p> <p>“The presidential debate was about how to control immigration, Trump were saying that every immigrants (ilgal person) needs to go back to their country, but Clintop were saying that she will give documents to immigrants”</p>
<p>Case Terri’s Reading of the Sentences:</p> <p><i>The present debate were about who win the election—electcher. Trump and Clinton fight to win the election and—and to be a pesodent.</i></p>	<p>Case Leonard’s Reading of the Sentences:</p> <p><i>The presidential debate was about how to control immigration. Trump was saying that every immigrant needs to go back to their</i></p>

	<i>country, but Clinton said that she will give documents to immigrants.</i>
Case Terri’s Explanation: <i>The debate is discuss—the debate word mean they gots between something and the something does not is Trump and Clinton try to win the election to be a pesodent.</i>	Case Leonard’s Explanation: <i>So basically, all these sentences support this word debate because it is talking about two people—two diff—two different—difference opinions, so that is a debate</i>

Table Three: Comparison of Speech to the Visual with Participants’ Explanation (see also [A Usage Based Approach to Sentence-Level Writing and Critical Thinking](#) password otter17)

With regards to Scribner’s (1997) conceptual levels, the contrasts in Attribute 3 of Levels 1 and 2 are worth repeating: at Level 1 “We are aware of the object of thought, not of our mental activity”; at Level 2 “We are aware of the act of thought” (p. 179). Case Terri was wrestling with phonemic awareness, which suggests that the “object of thought” was again, as with the previously discussed data from the visual, on the words directly in front of her. In contrast to this “object” level, Case Leonard was making grammatical corrections, which suggests he was working at Level 2, aware of the grammatical corrections he needs to make an “act of thought” (p. 179) beyond the phoneme and word level. The difference in conceptual levels continued to increase when participants explained how their second sentence supported their first.

Speech: Explaining Context Clues. This is the step in the whole process where students were asked to explain the relationship between the first sentence and the second. In addition to the transcripts that were presented in Table Three, these are repeated in Table Four for the ease of comparison. Also recall that pauses and false starts are marked by dashes. Mispronunciations or specifically unusual usage are marked in bold. The differences were striking.

<p>Case Terri's Explanation:</p> <p><i>The debate is discuss—the debate word mean they gots between something and the something does not is Trump and Clinton try to win the election to be a pesodent.</i></p>	<p>Case Leonard's Explanation:</p> <p><i>So basically, all these sentences support this word debate because it is talking about two people—two diff—two different—difference opinions, so that is a debate</i></p>
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Table Four: Transcripts of the Explanation of How the Second Sentence Relates to the First

Terri began with expressing a synonym, which I am assuming was the word “discussion”, which appears on Microsoft Word as the first synonym on the dropdown menu (Many students learned this and many other functions of Word during the course; they were encouraged to use this function for these exercises). However she only said “discuss” before a quick switch to a literal kind of interpretation of the word debate with “they gots between something.” She then described the something as “**does not is** Trump and Clinton try to win the election to be a **pesodent**.”

Again, we find Terri struggling at foundational levels of vocabulary, word order, and phonemic awareness with the words in front of her, much more at an object level than than on her visual and what she read. Although she corrected her pronunciation of “election,” but still dropped the “r” from “pesodent.” Besides not being able to express abstractions much beyond words in front of her, her generalization “to win the election” was repeated, again a part of the visual, which further supports that she was working at an object level. At the grammatical level, after Terri “and,” which was on the visual in front of her, she added “to” in front of “be” to create an infinitive. This was parallel with the prior infinitive “to win.”

In contrast to Case Terri, Case Leonard generalized debate to “two people” with “difference opinions, so that is a debate.” Although he left a conjunction or other type of structure to link two people with “difference opinions,” and struggled at the morpheme level

with “difference” instead of “different,” he created a noun clause as the object of the preposition “about.” His entire definition was at a higher conceptual level than Case Terri, specifically demonstrated by his connection of “debate” to “opinions” and two different people. Leonard was expressing relationships that were not present in the object, which was the visual and his sentences. As he did by relating debate to the candidates positions on immigration, he was able to express ideas beyond the immediate objects (i.e., the words in front of him) to explain precisely why his sentences supported the meaning of the vocabulary word debate. Case Leonard also explained his reasons for making the connections he did with confidence, which was supported by our third unit of analysis, the act of pointing.

The Act of Pointing: *Beats* as an area of Comparison. To be able to understand the implications of the acts of pointing for analyzing the data, some general information about pointing, gestures, and *beats* need to be understood. For analyzing the act of pointing, I am adapting some concepts and terms about gesture from Kendon (2012), McCafferty (2006), and (McNeil, 1992; 2005; 2012). The most important distinction is that the gestures are not purely spontaneous *gesticulations*, because pointing (i.e. *deictic gestures*) at words phrases, and other parts of the visuals had been encouraged (Kita, 2003). Furthermore, there was a visual involved, and the gesture analysis here is not as detailed as the type of analysis proposed by McNeil (1992, 2005).

Beats, are gestures marked by rhythmic up and down movements, which are often associated with errors or word searching (McCafferty, 2002, 2006). Movements similar to beats were prominent as the tip of the pencil or pen moved in the visuals. Most important as a unit of analysis, tracking the act of pointing, specifically when these beat-like gestures occur as

variations, adds more context for assessing language competency that has already been presented by the visual and speech.

Over the past two decades of working with digital video as a part of data collection, or in the past decade using video for English language instruction, and most recently for math word problems, I have observed a certain synchronicity of speech, gestures, and visuals, particularly when speakers are confident and/or at high levels of fluency in English, or with the math word problems, speakers think they are on the right path from problem to solution (see also McNeil, 2005, on the synchronicity of gesture and speech). For the sentence-completion activities, the same general type of synchronicity, or lack of synchronicity, can be found in this third unit of analysis, the act of pointing.

Overall, as mentioned previously, the most striking difference between Case Leonard and Case Terri was the overall smoothness of the pointing; that is, the synchronicity, or lack thereof, between the acts of pointing, speech, and the visual. Case Leonard's pointing generally had more synchronicity with speech and the visual. Case Terri's pen seemed to move in awkward, abrupt movements around those parts of her speech that seemed hesitant. For example, as mentioned previously, the word "election" gave Terri some trouble, though she made the correction. Also, as her explanation of how her second sentence supported the meaning of the vocabulary word was not comprehensible for most readers, her pointing jumped to different parts of her two sentences as she spoke. Towards the end, as she was reading the phrase "to win the election and to be **pesodent**, she pauseed as she inserted a "to" before "be," which aligned with the prior infinitive. As one of many areas of contrast, Terri was depending more on reading words during her explanation, whereas Leonard only used the word "debate." In other words, all of the words Leonard used in his explanation were not in front of him, with the exception of debate.

<p>Oral Transcript Case Terri: <i>The present debate were about who win the election—electcher. Trump and Clinton fight to win the election and—and to be a pesodent. The debate is discus—the debate word mean they gots between something and the something does not is Trump and Clinton try to win the election to be a pesodent.</i></p> <p>Salient Acts of Pointing, Case Terri:</p> <p>Generally, Case Terri followed along with the reading, as one would expect, pausing at each word as she read. She takes a longer pause on the word <i>election</i>, doubting her correct pronunciation for “election” and substituting “electcher.” Then pauses a bit more as she self corrects on the second part of her reading. She also hesitates for a moment as she inserts “to” before “be” to form the infinitive. Her pencil hovers over the word “debate,” and the pencil moves back and forth over <i>debated</i> as she struggles to find the right way to describe the abstract relationships. On the phrase “does not” her pencil does a quick back and forth between the completed sentence on the left and the second sentence and the subject “Trump and Clinton”; to the left on “does,” and to the right on “not.” After “does not” she returns to reading her second sentence with the pencil pausing at each word, in a generally smooth pattern, as she did at the beginning.</p>	<p>Oral Transcript, Case Leonard: <i>The presidential debate was about how to control immigration. Trump was saying that every immigrant needs to go back to their country, but Clinton said that she will give documents to immigrants. So basically, all these sentences support this word debate because it is talking about two people—two diff—two different—difference opinions, so that is a debate</i></p> <p>Salient Acts of Pointing, Case Leonard:</p> <p>Salient acts of pointing occur while Case Leonard is reading along and during his explanation of how the second sentence supports the first sentence. Leonard follows each word, but skips the phrase in parenthesis (“<i>ilgal person</i>), with the word “illegal,” as a spelling variant. When he says “two different” the pen rapidly moves from the word <i>were</i> to the <i>immigrants</i> and back to <i>were</i> until he says “this word debate.” It should be noted that he is equating the word <i>immigrants</i> with <i>ilgal person</i>. As he says “this word debate,” he makes a circling move moment around the word. As he says “two people” he moves the tip of the pen rapidly from the word <i>Clinton</i> to <i>were</i>. The point of the pen remains on <i>were</i> until he says “so that is debate.” On “that is debate” he circles the word <i>debate</i>.</p>
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Table Five: Comparison of Case Terri and Case Leonard’s Act of Pointing (see also [A Usage Based Approach to Sentence-Level Writing and Critical Thinking](#) password otter17)

Besides the overall appearance of improved synchronicity with speech, the visual, and the act of pointing, Case Leonard circled the word debate twice: once making a circling motion around the word on the phrase “this word debate” without touching the paper; then at the end of his explanation, following the phrase, “so that is debate,” he circled the word in blue with his

pen. During his explanation, Leonard paused under “were” as he says “about two people—two diff—two different—difference opinions.” As he struggled to come around to “difference,” rather than the correct “different,” the tip of his pen moved up and down at the end of the first syllable “diff.” As with Terri, Leonard was exhibiting a beat when he was looking for the correct word (see also McCafferty 2008). Overall, as mentioned earlier, Case Leonard exhibited much more synchronicity, in addition to demonstrating a certain surety in his acts of pointing, particularly when he circled the word debate twice, ending his talk with the blue circle, in addition to moving back and forth quickly on “two people.”

Conclusion

The main objectives of the study were to gain insight into students’ meaning-making processes and English competency, as well as *intended* and *realized outcomes*, specifically in how students perceived and articulated the relationships of the completed sentence to the second sentence and the targeted vocabulary word. I have gone into extreme detail to demonstrate how the three units of analysis can be juxtaposed in the context of each participant establishing a shared attentional frame, a third space of competence, which can be used to identify weaknesses and strengths for informing instruction or placement decisions. Through this multi-modal process, the data suggest that students can become more aware of links between usage and intended meaning. These abstract relationships between English language usage, intended meaning, and realized meaning, which are also connected to sentence cohesion and critical thinking, can be made explicit through these sentence-completion activities.

Another objective of the current paper was to explore the adaptation of Scribner’s (1997) *Theoretical Comparison of Conceptual Levels* to interpret and describe the differences in the

abilities of participants to move beyond the immediate concrete level of objects and context and conceptualize abstract connections using the English language. Many questions remain to be explored with regards to integrating Scribner's rendition of Vygotsky's (1962) ideas into this kind of formative assessment. However, the analysis of these two cases should demonstrate the possibilities of using this framework of Scribner's to enhance the potential of Tomasello's (2003) concept of a *joint attentional frame* and other features of his usage-based approach in the English language classroom.

The overall objective was to use digital video and other means to create a type of triadic with an emphasis on finding patterns in grammar and understanding the expression and reading of intentions in a different language, in this context, English. Moreover, students are moving from whatever schooling and literacy they have in their first language, and in many cases, high school in the U.S. as immigrants, to academic levels of English competency. It is an understatement to say this is a challenging task for both teachers and learners of the English language. The data in this paper illustrate how this theoretical approach and the digital video cameras can be used at the sentence level to assist students improved English competency and critical thinking.

Limitations

My intention with this paper has been to put forth a proposal for language teaching, assessment, and learning using digital video cameras and adaptations of Tomasello's (2003) ideas and many other different scholars (e.g., McCafferty, 2002, 2008; Scribner, 1997; van Lier, 2004; Wertsch, 1998). This is not a standard type of study; this is a proposal of theory into practice with limited generalizability. Also, objectivity is weakened due to my deep involvement as a teacher with learners who come from an array of schooling and competency levels in

English. In these circumstances, research to inform teaching, which is the major objective of this type of research, is chaotic. This kind of research happens during the day-to-day challenges of teaching and learning with a diverse group of learners who all progress at different levels and have different instructional needs, as demonstrated by the two student-participant cases introduced in this paper. Moreover, the instructor interactions, as well as a tutor who was often present in the classroom heavily influenced; these interactions, were not sufficiently documented to establish firm conclusions as to any cause and effect relationships.

To overcome all of these limitations, as much as possible, I have tried to be transparent, specifically by providing readers with access to the videos and other raw data. Readers should be able to follow the unfolding of outcomes and make decisions as to the validity of the theories and practice. My hope is for this paper to work as a reference so that these ideas can be adapted to local educational needs and cultural contexts.

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