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Introduction

Grice (1975) coined the term conversational implicature, referring to non-literal meanings that people infer based on the assumption of relevance and contextual information. Since then, implicature has been the critical concept of pragmatics theories that explain principles and mechanisms of human communication. As Morris (1938) originally claimed, syntax and semantics are concerned about the formal structure of an utterance and utterance-level meaning, whereas pragmatics is concerned about what the speaker means by the utterance. Implicature clearly illustrates the connection among syntax, semantics, and pragmatics because it represents a relationship between utterance meaning, or the literal sense of an utterance, and force, or the speaker’s intention behind the utterance (Thomas, 1995).

Theories in the field of pragmatics situate the recognition of the speaker’s intention as the primary goal of communication. This chapter reviews three pragmatics theories that explain the mechanisms behind the recognition of intention: Grice’s (1975) maxims of conversation, Sperber and Wilson’s (1995) Relevance Theory, and Kecskes’s (2014) socio-cognitive approach. The chapter first discusses these theories focusing on their assumptions about how speaker intention is recognized and understood. Then, we illustrate how these theories have informed SLA research as we investigate the development of implicature comprehension. Empirical findings are reviewed in terms of common patterns and generalizations that emerge from the existing findings. The findings are also discussed critically in terms of how research foci and methods are essentially shaped by the theoretical frameworks. Based on the limitations identified in the literature, the chapter concludes with directions for future research.

Grice’s Conversational Maxims in L2 Comprehension of Implicature

Maxims of Conversation

Grice (1975) claimed that a conversation is built upon four maxims that participants follow: quantity, quality, manner, and relevance. The maxim of quantity tells us not to say too much or too little, while the quality maxim tells us to be truthful and not to lie. The manner maxim is about being orderly and avoiding ambiguity, while the relevance maxim means making a relevant contribution to the conversation in progress. These maxims function as a set of rules for
communication, guiding how we understand meaning. When the speaker produces an utterance, the listener understands that the message is relevant to the ongoing discourse and draws the most plausible interpretation of the utterance. For example, when someone is late for a meeting, the utterance ‘You’re always on time’ flouts the maxim of quality because it contradicts with the reality. Still, the listener understands the speaker’s underlying intention and interprets the utterance as sarcasm, which purposefully disregards the maxim to produce humorous effects.

These maxims of conversation can explain how we understand implicature. During conversation, we assume that each participant is making an appropriate contribution in a way that suits the direction of the conversation. Based on this assumption, we seek the most relevant interpretation of an utterance (the speaker’s true intention), even when the utterance seemingly deviates from the preceding discourse or context of communication.

Maxims of Conversation in L2 Implicature Comprehension Research

Adapting Grice’s paradigm, previous studies investigated L2 comprehension of implicature (see also Chapter 32 in this volume). Some studies made an explicit reference to Grice’s maxims by comparing comprehension across different implicature types (e.g., relevance-based implicature, scalar implicature) (Bouton, 1992, 1994, 1999; Roever, 2005; Roever, Wang, & Brophy, 2014). Other studies focused on speech acts by comparing comprehension between direct and indirect speech act utterances (Carrell 1984; Cook & Liddicoat, 2002; Garcia, 2004; Koike, 1996; Yamanaka, 2003). Still others focused on irony, which often presents the greatest deviation from the literal meaning (saying the opposite of what is intended) (Shively, Menke, & Manzón-Omundson, 2008; Yamanaka, 2003). Most studies used a reading instrument, having L2 learners read a dialogue or a sentence and then respond to a multiple-choice question to assess comprehension. Exceptions are Garcia’s (2004) study that used audio input in a listening test, and Yamanaka (2003) and Shively et al.’s (2008) studies using video clips.

One generalization that emerged from these studies is that general proficiency has a strong effect on comprehension. Cross-sectional studies found that higher-proficiency learners outperformed their lower-proficiency counterparts on comprehension of implicature and indirect speech acts (Cook & Liddicoat, 2002; Garcia, 2004). Similar results were found in comprehension of irony (Shively et al., 2008; Yamanaka, 2003). High-proficiency learners were able to detect a clear difference between the utterance meaning and the context, and recognize the ironic intention behind the utterance, while low-proficiency learners comprehended ironic comments literally (Shively et al., 2008; Yamanaka, 2003). Studies using regression analyses revealed a main effect of proficiency on implicature comprehension, overriding other factors such as gender and target language exposure (Roever et al., 2014). Longitudinal studies also found that learners’ comprehension developed naturally as their proficiency matured over time (Bouton, 1992, 1999).

The proficiency impact found in these studies tells us that comprehension of implicature is built on threshold L2 knowledge and abilities. To infer non-literal meaning, learners draw on their linguistic resources (e.g., grammar and vocabulary), as well as general skills of reading and listening. Unless there are other salient cues that assist comprehension, understanding utterance-level meaning is prerequisite to implicature comprehension. Detecting maxim-flouting might be difficult for lower-proficiency learners because, due to their limited linguistic knowledge and skills, they have difficulty comprehending the utterance-level meaning. In contrast, advanced-level learners have sufficient linguistic resources, which help them comprehend utterance-level meaning and further explore meaning behind the utterance.

The proficiency impact is most evident in the wider range of indirectness that high-proficiency learners can handle, which, in turn, informs SLA issues such as developmental order and ultimate
Implicature Comprehension in L2 Pragmatics

attainment in implicature comprehension (see also Taguchi, 2018). Using a cross-sectional
design, Yamanaka (2003) assessed L2 English learners’ comprehension of irony, negative evalu-
ation, parody, and rhetorical question. Low-proficiency learners struggled with irony, but high-
proficiency learners did not. Cook and Liddicoat (2002), on the other hand, assessed L2 English
learners’ comprehension of requests at three directness levels: direct (e.g., Pass me the salt.),
conventional indirect (e.g., Can you pass me the salt?), and non-conventional indirect (e.g., The
meat is a bit bland.). Both conventional and non-conventional indirect requests were difficult for
low-proficiency learners, but high-proficiency learners were able to comprehend conventional
indirect requests and struggled only with non-conventional indirect requests (hinting). Garcia
(2004) examined comprehension of indirect speech acts (requests, suggestions, corrections, and
offers). L2 learners of English with high TOEFL scores were more accurate with all speech act
types than those with lower TOEFL scores, except for indirect requests, which revealed no sig-
nificant proficiency effect. Longitudinal studies also revealed a relationship between proficiency
of relevance implicature, Pope questions (saying ‘Is the Pope catholic?’ to mean that something is
obvious), irony, indirect criticisms, and sequence implicature. Relevance implicatures were rela-
tively easy for learners, but Pope questions, irony, indirect criticism, and sequence implicature
remained difficult even after spending 17 months in the U.S.A.

When we look at implicature types that advanced-level learners struggle with, we can
understand the elements that make comprehension difficult. For one, comprehension difficulty
often results from a larger distance between the utterance-level meaning and intended mean-
ing. This is evident in Cook and Liddicoat’s (2002) findings: Higher-proficiency learners had
difficulty with non-conventional requests (i.e., hinting), which exhibited a larger mismatch
between the surface form and the request intention than with conventional requests. Another
Irony is a rhetorical device in which the propositional and intended meanings are opposite.
The widespread deviation from the literal meaning in irony adds to comprehension difficulty,
as found in Bouton’s (1994, 1999) participants, who struggled with irony after spending more
than a year in the target community.

The difficulty related to irony suggests that L2 learners may not be familiar with the conven-
tion of irony. Saying the opposite of what is intended is a common rhetorical device, and we use
such irony purposefully with a goal of having the listener recognize the opposite intention. The
fact that learners struggled with irony indicates that the rhetorical convention of irony is not eas-
ily accessible in the L2. It is also possible that irony is culture-specific. Irony may be practiced
more in some cultures than in others; as a result, learners may lack experience with irony, adding
to their comprehension difficulty. The difficulty coming from culture-specific convention
was also found in Bouton’s (1992, 1994) studies where Pope questions were difficult to acquire
via exposure alone. Unlike relevance-based implicature that can be understood using L1-based
maxims, Pope questions—asking something that has an obvious affirmative response—involves
a convention specific to the L2. Without knowing this convention, it is nearly impossible to draw
the speaker’s intended meaning from bottom-up, sentence-level processing alone.

While a drastic deviation from the literal meaning (i.e., hinting and irony) and L2-specific
conventions (e.g., Pope questions) can be the cause of comprehension difficulty, very few studies
reviewed here have adapted theoretically informed criteria to operationalize implicature diffi-
culty and design test items accordingly. As a result, the level of comprehension difficulty found
in the data is rather incidental, generating ad hoc explanations about what makes implicature dif-
ficult. Additionally, previous studies used only a small number of items to reveal comprehension
difficulty. Yamanaka’s (2003) study had 12 items, of which only four were irony. Bouton (1994)
used more items (28 total) but only three were Pope questions, and the rest were divided into six
different implicature types. Garcia’s (2004) test had 12 items assessing four different types of
indirect speech acts. The small item pool makes comparison across item categories unreliable. To understand different natures of indirectness across implicature types, we need research using theoretically grounded principles to design items and compare learners’ comprehension across item categories with a goal of clarifying a hierarchy of implicature types. We will review those studies in the next section.

Relevance Theory in L2 Comprehension of Implicature

Relevance Theory

Sperber and Wilson (1995) advanced Grice’s (1975) theory in several important ways. First, they condensed Grice’s four maxims into one, i.e., the maxim of relevance, claiming that the four maxims often overlap. For example, B’s response below flouts the maxim of relevance (not providing the direct answer to A’s question), but it also flouts the maxim of quantity and manner (not providing sufficient and useful information to A’s inquiry):

(1) A: How was your job interview?
   B: I don’t know.

By condensing the four maxims into one, Sperber and Wilson underscored the central role of the principle of relevance in communication. When an utterance is presented, people automatically seek relevance of the utterance even when it is largely unrelated to the preceding information. This is illustrated in the following example adapted from Mey (1995):

(2) A: Let’s go to the movie.
   B: I will bring Kleenex.

B’s utterance is not a typical second-pair response to A’s invitation. Still, we can understand that B’s response is an acceptance of the invitation. We also automatically maximize the relevance of B’s response by actively comparing possible interpretations, such as ‘The movie is a sad’ or ‘B has a cold.’ Hence, relevance-seeking is part of human cognition and takes place automatically whenever information is presented (Sperber & Wilson, 1995).

Another contribution of Relevance Theory is the theory’s solid grounding in cognitive psychology. Sperber and Wilson explained the process of meaning comprehension as an asymmetry between contextual effect and processing load. The contextual effect indicates saliency of meaning presented, while the processing load refers to the degree of effort required for comprehension. When the contextual effect is strong (or meaning is salient), we do not have to process many contextual cues to detect meaning; as a result, our processing load decreases.

When we comprehend meaning, many different assumptions come to our mind. Among those, we select the assumption that has the greatest contextual effect (or most relevance) for the smallest processing load. Several factors affect our processing load: linguistic complexity, number of contextual cues to be processed, and accessibility of the cues (Sperber & Wilson, 1995). When the utterance is linguistically complex and involves a number of contextual cues to process, we need to go through extensive inferencing, resulting in a greater processing load. In Example (2) above, the utterance ‘I will bring Kleenex’ is linguistically simple, but it requires a number of cues, for example, the meaning of Kleenex and its conventional usage, and the type of the movie. In contrast, B’s intention in (3) can be understood almost immediately:

(3) A: Let’s go to the movie.
   B: I have to finish up this paper. It’s due tomorrow.
Understanding B’s refusal intention is relatively easy because B’s response follows the conventional pattern of refusal. When someone invites us to do something, our response is either to accept or refuse the invitation. Because refusing an invitation is a dispreferred response (Pomerantz & Heritage, 2013), which might threaten the interlocutor’s positive face (Brown & Levinson, 1987), we often avoid saying ‘no’ directly and instead use an indirect reply and explain why we cannot accept the invitation. Hence, giving an excuse is a common pattern of indirect refusal. Our knowledge of this convention, which is built upon our previous experiences, works as a contextual effect, making the speaker’s intention salient and predictable.

To summarize, Sperber and Wilson explicated cognitive mechanisms behind the process of inferencing. Comprehension of implicature is driven by our relevance-seeking cognition. When someone says something, we automatically seek relevance of the information by maximizing the use of available contextual cues. The degree of indirectness in an utterance (or strength of implicature) is a function of the number of contextual cues to be processed. The distance between the propositional and intended meaning becomes smaller when meaning is readily accessible via convention and saliency, requiring fewer cues to process.

**Relevance Theory in L2 Implicature Comprehension Research**

The relationship among contextual cues, processing load, and conventionality has been explored in L2 studies (e.g., Taguchi, 2005, 2007, 2008a, 2011, 2012; Taguchi, Li, & Liu, 2013). A distinct feature of these studies is the use of an online listening test and response time data. Response times show how quickly one can respond to the stimuli. Shorter response times indicate relative ease in processing the stimuli, whereas longer response times signal processing effort coming from linguistic, cognitive, and affective demands (see Chapter 18 in this volume). In implicature comprehension, response time data can symbolize the distance between the propositional and intended meaning, and the degree of processing load coming from that distance. Comprehension is faster when the propositional meaning is immediate, but when the proposition is remote, we need to bridge the gap, resulting in longer response times (Hamblin & Gibbs, 2003).

Existing findings support the relationship between the degree of indirectness and the amount of processing load. Specifically, studies found that conventionality encoded in implicature facilitates comprehension, resulting in higher accuracy scores and shorter response times. Here, we will focus on two studies that compared comprehension of conventional and non-conventional implicature among L2 English learners across proficiency levels (Taguchi, 2011) and different time-points (Taguchi, 2012). These studies adapted naturally occurring implicature found in corpora of conversations. Conventional implicatures were operationalized as indirect refusals involving a common pattern of refusal (i.e., giving an excuse when refusing), while non-conventional implicatures were operationalized as indirect opinions that do not involve common discourse patterns. Examples of these implicature types are presented below (Taguchi, 2012, pp. 270 and 275). In (4), B’s refusal (last utterance) is conventional (telling A why he can’t go out to eat). In (5), B’s last utterance is non-conventional and idiosyncratic because different utterances can express how B feels about New York.

(4) Conventional implicature: Indirect refusals

A: Hey Nancy, what are you doing? Do you wanna do something tonight?
B: I don’t know. I was just gonna watch TV.
A: I wanna go out tonight. Maybe we can go to the Japanese restaurant. The new one just opened.
B: I don’t have any money this week to pay the bills.
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(5) Non-conventional implicature: Indirect opinions
A: So, Mary, you and your husband just moved from Florida to New York?
B: Yes, last year.
A: Do you like living in New York?
B: We looked around for two years. My husband and I went all over the United States, and we didn’t find any place we liked better.

Taguchi’s study found that, regardless of proficiency levels, indirect refusals (conventional implicatures) were easier and faster to comprehend than non-conventional indirect opinions. Comprehension of both implicature types developed over time, but the gain size was larger for refusals than for opinions. The facilitation effect of conventionality was found in other languages, including Japanese (Taguchi, 2008b) and Chinese (Taguchi, Li, & Liu, 2013), as well as in different learning contexts (study abroad programs, immersion settings, and formal classrooms) (Taguchi, 2008a, 2011, 2012), different source materials (corpus-based vs. artificially created dialogues) (Taguchi, 2005, 2011), and different response formats (yes-no vs. multiple-choice questions) (Taguchi, 2008a, 2011). The same results were also found in cross-sectional studies (Taguchi, 2011) and longitudinal studies (Taguchi, 2007, 2012).

These findings provide unquestionable evidence of conventionality effect. Critically, the conventionality effect is a property of a shared convention between L1 and L2. Unlike Pope questions that involve culture-specific conventions (Bouton, 1994, 1999), learners are familiar with the indirect refusal convention in L1 and thus can transfer the L1-based convention to L2 comprehension. However, when conventionality is not shared or present, learners need to rely on both linguistic knowledge (bottom-up processing) and contextual information (top-down processing) to derive meaning. As a result, the degree of inferencing becomes extensive, leading to a greater comprehension difficulty and slower-paced progress over time.

The conventionality effect helps us operationalize different types of indirectness, which can be used to explore SLA issues such as the construct of comprehension, developmental order, and L1 transfer. For instance, the order of development found in previous studies (comprehension of conventional implicature preceding that of non-conventional implicature) can be treated as stages of L2 development. These stages can be used to examine pace of development, along with individual factors that may affect the pace (e.g., proficiency, personality). In addition, conventionality can be operationalized from universal and language-specific standpoints so we can examine positive bi-directional transfer based on universal (and shared) conventions, as well as negative transfer or absence of transfer due to L1-specific conventions.

While the facilitative effect of conventionality in implicature comprehension is clear, this generalization is based on the studies that used an instrument with low contextual effect. Most studies used auditory input and did not incorporate visual cues. Hence, the conventionality effect is restricted to the area of linguistic conventionality, and other areas of contextual effect (e.g., visual input) have not been addressed systematically. Critically, previous studies did not compare contextual effects coming from different sources, limiting our understanding of the relationship between contextual cues and processing load.

Indeed, when different signals of contextual effect are compared, linguistic-level conventionality is not always advantageous, as found in Taguchi, Gomez-Laich, and Arufat-Marqués’s (2016) study. They used a multimedia listening test with video-recorded conversations to assess comprehension. Because inferential processing involves a parallel processing of all available signals, both linguistic and non-linguistic (Sperber & Wilson, 1995), multimedia input combining multiple signals at once (e.g., sounds, images, videos, and texts) more closely reflects our real-life inferential processes than does audio input alone. By incorporating multiple sources of input, the
study examined whether L2 Spanish learners’ comprehension differed across items of different conventionality (indirect refusals, indirect opinions, and irony).

Contrary to other studies, the conventionality effect was not found in Taguchi et al.’s study: There was no difference between indirect refusals (conventional implicature) and indirect opinions (non-conventional implicature) in accuracy scores. Indirect opinions were even faster to comprehend than indirect refusals. Introspective interview data revealed the facilitative effect of verbal and non-verbal cues when comprehending indirect opinions. When people express negative opinions (dislike or disapproval), their emotions often appear in facial expressions, gestures, and tone. These visual cues in indirect opinion items reduced the processing load, leading to faster comprehension speed. Drawing on visual cues is economical in comprehension because visual information directly maps onto meaning and helps us bypass the bottom-up processing of an utterance. Notably, the contextual effect coming from visual cues can override that of linguistic conventionality (common indirect refusal patterns), as found in the study.

Other than Taguchi et al.’s study, very few studies have used audio-visual input to assess L2 comprehension of implied meaning. Using video clips from films and TV shows, Shively et al. (2008) examined comprehension of irony in L2 Spanish, and Yamanaka (2003) analyzed implicature comprehension in L2 English, but these studies did not address how learners used visual cues in input or how those cues facilitated their comprehension. Use of multimodal input is critical when studying comprehension because comprehension is not merely the decoding of linguistic input; rather, it is a global process that involves the use of all available cues, both linguistic and non-linguistic, to arrive at meaning (Sperber & Wilson, 1995). Multimedia input makes a greater number of cues available and thus presents a more realistic, theoretically grounded approach to understanding L2 implicature comprehension. The next section discusses a global process of implicature comprehension based on naturalistic data drawn from intercultural communication.

The Socio-cognitive Approach in L2 Comprehension of Implicature

The Socio-cognitive Approach

Grice’s and Sperber and Wilson’s theories situate the recognition of speaker intention as the central goal of communication. They consider that intention exists in the speaker’s mind as a pre-planned object, and the listener’s job is to recognize the intention by using contextual cues and assumptions of relevance. Hence, these theories observe a clear separation between the speaker’s intention and the listener’s interpretation of the intention.

Quite differently, the socio-cognitive approach (Kecskes, 2014, 2016) combines the speaker’s and listener’s perspectives. Kecskes contends that intention is a ‘cooperation-directed practice’ (p. 47); that is, intention is an a priori state of the speaker’s mind, but it is also emergent, as the speaker and listener jointly develop what is actually communicated. The emergent nature of intention is illustrated in the following example (Kecskes, 2014, p. 9):

(6) Sam: Coming for a drink?
   Andy: Sorry, I can’t. My doctor won’t let me.
   Sam: What’s wrong with you?

Kecskes explains that the last utterance by Sam is ambiguous and generates implicature. It could be a sincere question about Andy’s health, or it could be sarcastically asking Sam why he takes the doctor’s advice seriously. The Gricean paradigm of logical inferencing does not help disambiguate this implicature. Similarly, the relevance-theoretic account of attending to salient cues (intonation, facial expressions) may not lead to a complete understanding. What is likely to
happen in this situation is a follow-up negotiation sequence between Sam and Andy. Andy might ask a clarification question such as ‘What do you mean?’ Alternatively, Andy might comprehend the question literally and explain his health problems to Sam, or he might respond with laughter as a reaction to a sarcastic comment. Hence, the actual meaning of Sam’s utterance is emergent and locally situated as Sam and Andy negotiate to reach joint understanding.

The socio-cognitive approach is a useful framework for understanding intercultural pragmatics (Kecskes, 2014). In intercultural communication, participants bring their own L1-based assumptions, norms, and expectations from their experience. However, these norms and assumptions are not fixed. They are negotiated and redefined as speakers strive to establish mutual understanding. Individuals’ prior norms eventually develop into new hybrid norms reflecting the emergent situational characteristics. As Kecskes (2014) contends, ‘interculture’ involves participants’ ‘mutual transformation of knowledge and communicative behavior rather than transmission’ (p. 44).

Participants from different cultures do not necessarily have a common background readily available to them. They need to actively seek and co-construct shared assumptions. Those assumptions are called common ground (Clark, 1996), mutual cognitive environment (Sperber & Wilson, 1995), or presumed shared beliefs (Zegarac & Spencer-Oatey, 2013). As Clark (1996) argues, participants must establish shared knowledge to understand others and to be understood by others. When speakers actively seek for common ground, negotiation of meaning—in the form of accommodation, interactional management, and problem solving—occurs frequently, characterizing the nature of intercultural communication.

In summary, unlike Grice’s or Sperber and Wilson’s theories, the socio-cognitive approach attends to two types of intention in synergy: prior intention and emergent intention. Intention is individual and pre-planned, but it is also emergent, reflecting situational experiences shared among speakers. The socio-cognitive approach features the ‘privatization’ of meaning, where the speaker ‘blends his prior experience with the situational (current) experience, and makes an individual understanding of collective experience’ (Kecskes, 2016, p. 50). The privatization of meaning often occurs in intercultural communication where speakers of different cultural backgrounds get together and communicate in search for common ground.

The Socio-cognitive Approach in L2 Implicature Comprehension Research

Given the paucity of available findings under the socio-cognitive approach in L2 implicature comprehension, we will present our original data in this section. By analyzing a conversation between two speakers of English as a lingua franca, we will illustrate how implicatures emerge from participants’ different cultural assumptions and how participants try to achieve mutual understanding of implied meaning. Our data shows that implicature comprehension is not always an individual process, as in Grice’s maxims or Relevance Theory. Rather, it is a collaborative process that is locally negotiated among participants.

Participants and Data

The participants were two female students (Japanese and Chinese) enrolled in the graduate program in an English-medium university in Japan. The Japanese participant was from Osaka and enrolled in the TESOL program. The Chinese participant was from Xian and enrolled in the Communication Studies program. The data was a 20-minute naturalistic conversation between the two participants, who had a free-flowing discussion based on topics provided by the researchers. The conversation was audio-recorded and transcribed using existing conventions (Sacks, Schegloff, & Jefferson, 1974; Schegloff, 2007; Wong & Waring, 2010) (see Appendix). Adapting the socio-cognitive approach, we analyzed how two types of intention—a priori intention inherent
in the speaker’s mind and an emergent intention negotiated between the speakers (Kecskes, 2014, 2016)—co-occur in the process of common-ground seeking.

Findings: Collaborative Disambiguation of Implicature

In Excerpt 1, the Chinese speaker begins a discussion on pros and cons of early English education in elementary schools in Japan. Starting the discussion, she asks whether the Japanese speaker studied English when she was in elementary school (line 27). The Japanese speaker responds saying that she learned English in a cram school (line 31). This response is ambiguous and generates implicature. The fact that she learned English in a cram school essentially means that she did not study English in an elementary school; however, the Chinese speaker does not understand this meaning because cram schools have different meanings in China. In Japan, cram schools focus on materials that are either absent or limited in formal schooling, whereas in China cram schools primarily teach exam-taking techniques that are closely tied with school curriculums. Critically, misunderstanding occurs in both parties because the Japanese speaker also fails to recognize the intention behind the Chinese speaker’s question. The question was about whether the Japanese speaker learned English as part of an elementary school curriculum, not about learning English elsewhere (e.g., extracurricular activities) when she was of her elementary school age. Hence, the Japanese speaker’s response (learning English in a cram school) is not a relevant answer to the Chinese speaker’s question.

In order to solve this miscommunication, the Chinese speaker repeats the same question in line 43. When the Chinese speaker mispronounces the word ‘when’ as ‘one’, both speakers try to clarify the meaning: The Chinese speaker provides self-repair (line 47), and the Japanese speaker provides a confirmation check (line 48). This effort, however, fails again, and the misunderstanding (or failure to recognize each other’s intention) remains.

Excerpt 1

27 C: yeah, “but°How about, how about (. one you’re in your elementary school, did you=
28 C: =learn the (.English? One you’re in elementary school?
29 J: Me?
30 C: Yeah.
31 J: Ah:, actually I started, ah, to learn English (. ah, with the:: in the:: cram school? from the= 32 J: =elementary [school, in elementary school, so I didn’t have chance to learn English so= 33 C: [ah, yeah
34 J: =much but I learned alphabet?= 35 C: Yeah
36 J: =in six grade and fifth grade 37 C: $Oh::$: 38 J: Only that so 39 C: So early.
40 J: Yeah, but I think it’s good (. thing to, for children to be familiar with (. um
41 C: Like English
42 J: Yeah, English
43 C: Yeah so (. [why, yeah, for one (. you are (. a:: elementary school student, did you learn=
44 J: [listening skill
45 C: =English? at that time, one your
46 J: Why?
47 C: ONE, WHEN
48 J: When?
49 C: When, when you’re, when you’re in elementary school kids=
50 J: Third [grade or fourth grade?]
51 C: =did you (learn them)? So you learn it from third grade one you’re in elementary=
52 C: =school.
53 J: Yeah, or fourth grade.
54 C: ( ) you told me you’re in a private school right?
55 J: NO, no, no, no. it’s from my middle school? so in elementary school, I was in the=
56 J: =public.
57 C: Oh, so you didn’t learn English from elementary school.
58 J: In cram school? I learned.
59 C: Yeah, it’s it’s it’s it’s early in elementary school, early from the class, not the=
60 C: =outside (.) °space°
61 J: No (.) not, for fifth and six grade, I learned um [only…
62 C: [Yeah, but it’s not, not the school offer,
63 C: =right?]
64 J: <I don’t know> it is school offer or not.
65 C: Is that a mean if it is school offered it’s in the um, in the public elementary school that,=
66 C: =you just go to elementary school you (.) you’re that learning the from just in the class,=
67 C: =but you go to outside the, like (.)
68 J: Un
69 C: Yeah, to learn (it)
70 J: Yeah
71 C: So, it’s mean (.) your age that you (dida) learn English from elementary school, yeah=
72 C: =from just from your school, right?
73 J: Un

Following this, in line 57, the Chinese speaker once again tries to clarify the meaning, but the Japanese speaker still provides the same indirect answer (line 58). Not getting the answer she wants, the Chinese speaker tries to clarify her intention in subsequent turns. She emphasizes that her question is about learning English as part of the school’s offerings, not outside the formal school context (cram schools). What is noticeable here is a greater degree of explicitness and an elaboration in her clarification sequences. She provides a confirmation tag (‘… right?’ in lines 63 and 72); paraphrases her sentence to confirm her interlocutor’s meaning (‘Is that a mean …’ in line 65 and ‘So, it’s mean …’ in line 71); elaborates on her explanation (line 66); and seeks confirmation by repeating the same information (lines 71–72). This intensive clarification work reflects the Chinese speaker’s effort toward achieving mutual understanding. Her clarification work is also contingent upon her interlocutor’s reaction to her utterances. The Chinese speaker seeks confirmation of her stated proposition in lines 62 and 63 (‘it’s not, not the school offer, right?’), but the Japanese speaker does not confirm this, saying that she does not know. Lacking confirmation, the Chinese speaker keeps clarifying her intention.

This segment illustrates the process of common ground seeking in several ways. First, we can see that the process takes place through turn-taking in a sequentially organized discourse. Both speakers incorporate interpretive work of what their interlocutors mean turn-by-turn, while using interactional resources to co-construct meaning. The amount of resources used (e.g., confirmation check, paraphrasing, and repetition) is upgraded or downgraded depending on how much mutual ground they are able to establish at the moment.

In addition, the process of common ground seeking reflects the synergy between the speaker’s prior mental state and the shared situational experience. The Chinese and Japanese speakers draw on their own assumptions and expectations from their prior cultural repertoires. The Japanese

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speaker assumes that her response, albeit indirect, is clear enough for her interlocutor’s question based on her prior knowledge of Japanese cram schools. The Chinese speaker’s failure to recognize this intention indicates that she also operates on her own assumptions coming from her understanding of cram schools in China. However, these individual cultural experiences are negotiated and redefined in their actual situational experience. Misunderstanding and miscommunication—as evidenced in hesitations, repetitions, clarifications, and confirmation checks—are part of the situational experience. The speakers react to this reality by implementing a series of clarification sequences. During this process, the prior intention (or original meaning) blends with the current situational experience, leading to a collective understanding. The speakers try to reformulate their prior intentions in a way that allows them to fit the actual situation. In essence, miscommunication, which is common in intercultural communication, serves as a driving force for creating the basis for common ground.

Appraisal of the Current Literature

Three decades of empirical work have advanced our understanding of how L2 learners comprehend non-literal, implied meaning. Characteristics of the empirical practice can be summarized as follows. First, existing studies have maintained a close connection with the mainstream theories of pragmatics. Grice’s maxims, Relevance Theory, and the socio-cognitive approach all situate the recognition of speaker intention as the central goal of communication, but they differ in their explanations of how such intention is recognized. Grice’s maxims use logical inferencing and presumption of relevance as explanatory force, while Sperber and Wilson present the cognitive inferencing model by drawing on psycholinguistic concepts of saliency, processing load, and economy of communication. The socio-cognitive approach takes both a mentalist and a social-interactionalist approach to meaning comprehension, emphasizing that intention is both pre-existing in the speaker’s mind and shared among participants.

These different theoretical accounts have shaped the investigative foci of L2 implicature research. Some studies focus on the state of non-literal comprehension and proficiency effect on comprehension. Other studies focus on different degrees of indirectness by drawing on the concepts of contextual effect and processing load. Still others focus on the process rather than the product of comprehension to reveal how implicature comprehension manifests as a distributed effort among participants. These different research foci tell us that implicature comprehension is both a cognitive and a social phenomenon, depending on which theoretical accounts are adapted.

Another observation of the existing practice is its increasing diversification of research methods. Most studies in the 1980s to mid-2000s used a reading instrument with a series of written conversations as input, followed by multiple-choice questions. Since the mid-2000s this practice has been replaced with the use of auditory and visual input. Real-life conversations are usually heard, not read, and also require on-line processing where listeners cannot control the rate at which information is taken in. As such, a test involving audio-visual input reflects real-life language use more closely than does written input. A conversation task can further promote the authenticity of data. In a listening or reading test, learners are third-party observers, eavesdropping other peoples’ conversations and detecting implied intentions involved in the conversations. However, in a face-to-face conversation, learners are participants themselves who generate and clarify implicature emerging from their own interactional experiences. In a real-life conversation, implicature comprehension requires abilities beyond basic linguistic processing. It extends to the use of communication strategies (e.g., clarification requests and confirmation checks) and negotiation skills to develop mutual understanding. Conversation data helps reveal these multiple skills and strategies involved in comprehension.
These various data collection and analysis methods also influence the conclusions we can draw about implicature comprehension from the data. A reading test with written conversations can only reveal whether or not learners can recognize implied meaning. On the other hand, a listening instrument and response time data available from the instrument help us see the distance between the propositional and intended meaning, as well as the relationship between the distance and the amount of effort required for comprehension. A multimedia instrument incorporating visual and auditory cues helps us see which cues work best as salient signals and facilitate comprehension. Real-time conversation data can reveal participants’ use of communication strategies to derive meaning, going beyond their linguistic knowledge and listening skills. These different findings coming from different research instruments confirm that implicature comprehension is a global process involving multiple resources—linguistic, cognitive, and interactional—in one setting.

Finally, three decades of research have revealed a close relationship among implicature comprehension, L2 learning, and development. The relationship is observed in the topics addressed in the research, including L1 transfer, developmental pace, and factors affecting development. Studies showed that learners are able to transfer their L1-based inferencing skill and relevance maxim to L2 comprehension. Transfer has a facilitative effect when meaning encodes a shared convention between L1 and L2, but when an utterance involves a culture-specific convention (e.g., Pope questions) or does not contain any conventional features, comprehension becomes difficult. Other than conventionality, distance between the propositional and intended meaning, as well as availability of audio-visual cues, influence comprehension. Proficiency also has a clear advantage for implicature comprehension, sometimes overriding other factors such as study abroad experience (Roever et al., 2014; Taguchi, 2011). Due to linguistic and skill-specific constraints, low-proficiency learners often devote their resources to utterance-level comprehension. In contrast, high-proficiency learners can take advantage of their advanced-level linguistic knowledge to free up some of their processing resources so they can attend to information beyond the utterance-level to disambiguate implied meaning.

**Conclusion and Future Directions**

Having observed these generalizations that emerge from past research, we conclude this chapter with several directions for future research.

**Future Direction 1: Innovation in Instrumentation—Assessing Implicature Comprehension as a Global Process**

Future research should expand the scope of instrumentation in assessing L2 implicature comprehension. Previous studies mainly used a highly controlled, decontextualized listening or reading test with researcher-made dialogues, limiting the generalizability of the findings in real-life situations. This limitation can be solved by developing instruments that reflect real-life inferential practices. Particularly useful in this direction is the use of multimodal input combining visual, auditory, and textual information. As Sperber and Wilson (1995) contend, comprehension is not just about decoding linguistic input; it is a global process in which all available cues, both linguistic and non-linguistic, are simultaneously used to infer meaning. To assess the global process, instrument design needs innovation. Recent advancement in technology should help us incorporate a number of contextual cues to simulate real-life comprehension. We can examine how learners attend to paralinguistic cues, such as voice tone, stress, gestures, head nods, or gaze directions, and use them to draw inferences. By incorporating these features of authentic interaction, we can assess implicature comprehension at the discourse-level, regulated by all forms of semiotic activity.
Future Direction 2: Situating Implicature Comprehension in an Interactional, Interpretive work

Empirical data and findings under the socio-cognitive approach (Kecskes, 2014) are seriously under-represented in the literature, and thus future research in this area is needed. Previous studies typically treated learners as passive recipients of information and did not examine their active involvement in the process of joint understanding of implicature. Future researchers can commit to discourse analysis or conversation analysis as a methodological option to reveal how participants interactionally disambiguate implicatures that emerge in ongoing discourse (see Chapter 15 in this volume). Researchers can focus on the elements of adaptability and contingency as learners collaboratively establish meaning by using available resources. Such analyses will help us move from the study of comprehension as an individual process to a shared process among participants.

Future Direction 3: Investigating Longitudinal Development of Implicature Comprehension

Existing studies have primarily focused on whether or not learners can comprehend implied meaning in L2, and very few studies have addressed development of comprehension in a longitudinal design. The hierarchy of difficulty among implicature types found in previous studies can help us infer the order of development—which implicature type is easier to comprehend and thus comes at an earlier stage of development than others. However, the implicature types examined in the existing studies have been restricted to the dichotomized categories of conventional and non-conventional implicature (e.g., Taguchi, 2012). This practice needs to be improved in the future. Researchers can develop other categories of implicature so those categories can be used to document patterns of development.

Future Direction 4: Applying SLA Theories to Examine Implicature Comprehension

The current practice can be advanced by adapting insights coming from SLA theories. A critical question for future research is how implicature comprehension develops over time. Existing studies have primarily focused on factors affecting comprehension (e.g., proficiency, study abroad experiences, and length of formal study), revealing individual learners’ influences on development, but studies have not systematically addressed the underlying mechanisms that drive development. We can resort to SLA theories to unveil the mechanisms that help move learners from their current stage to a higher stage of implicature comprehension. For example, Schmidt’s (1993) noticing hypothesis can be adapted as a guiding framework to design an instructional study on implicature development. Schmidt contends that input becomes intake and leads to acquisition if learners notice the input (see also Chapter 8 in this volume). The initial phase of input selection and attention controls learners’ access to consciousness and awareness of input. This initial phase is critical for the subsequent phase—intake and internalization of linguistic forms contained in the input. The noticing hypothesis has been widely used in instructional intervention research, as seen in a large number of studies comparing explicit and implicit teaching methods (for a review, see Taguchi, 2015). Despite this popularity, the noticing hypothesis has rarely been used in teaching implicature (but see Kubota, 1995). Future research can explore how consciousness and attention can facilitate learning of implicature by using tasks focusing on explicit learning, such as consciousness raising, input enhancement, and focus-on-form approaches.

Another useful SLA theory for implicature comprehension is the language socialization approach, which postulates that learners are socialized into the use of particular linguistic forms and their socio-cultural meanings through guided assistance from community members.
Adapting this theoretical approach, we can analyze a learner’s routine participation in community activities to see how a shared understanding is achieved between the learner and a community member. We can focus on instances of miscommunication arising from non-literal meaning and analyze how such misunderstandings get solved through explicit and implicit socialization. Explicit socialization may occur when a misunderstanding arises from a culture-specific communicative convention (e.g., sarcasm) and a community member providing direct information about the convention. Implicit socialization can be observed in negotiation and clarification sequences where community members implicitly model strategies that learners can use to clarify meaning. An exemplary attempt in using the socialization approach is Shively’s (2013) study that documented an L2 Spanish learner’s development in understanding and creating humor in a study abroad context. She recorded a naturalistic conversation between the learner and a community member (host father and friend) over one semester and coded instances of humor as either successful or failed. The learner’s humor competence developed as he observed other people’s humor and reflected on others’ reactions to his own humor attempts (see Chapter 5 in this volume for the construct of humor).

Compared with the field of pragmatics where theories have evolved over time with new theories refining or replacing old theoretical accounts, the SLA field observes diversity through a number of co-existing theories that explain L2 learning and development. We believe that different theoretical frameworks can collectively strengthen our understanding of the changes within pragmatic systems and influences on these systems. We also believe that pragmatics theories and SLA theories together can help us cultivate a more informed study design to examine L2 learners’ development of implicature comprehension. Explicit application of SLA theories focusing on learning and development, combined with application of pragmatics theories explicating the construct of comprehension, will help us explore what L2 learners develop in implicature comprehension and how they develop.

Suggested reading

This book presents intercultural pragmatics as a field of research that studies how speakers with different first languages and cultural backgrounds communicate with each other using a common language. The book presents the socio-cognitive approach as the theoretical foundation for intercultural pragmatics. The book presents a contrast between the cognitive-philosophical approach and the sociocultural-interactional approach, which serves as a useful reading on Gricean and neo-Gricean accounts of meaning comprehension, as opposed to the discursive pragmatics approach to meaning comprehension. The socio-cognitive approach that blends these two perspectives presents another theoretical perspective to meaning comprehension.


This book presents a comprehensive review of L2 pragmatics research over the past decades. Chapters 2 and 5 are particularly relevant to the present chapter. Chapter 2 presents the representation of pragmatic competence with implicature comprehension being part of the representation. Chapter 5 focuses on longitudinal studies and addresses developmental trajectories of pragmatic competence. The chapter summarizes findings from four key areas: implicature comprehension including psycholinguistic aspects of development, recognition and production of routine formulae, speech-act based research on politeness and appropriateness, and research in discursive pragmatics on extended conversation.

References


**Appendix: Transcription Conventions**


(.) timed pause shorter than 1.0 second
(3.2) timed pause longer than 1.0 second
hehh, hahh laughter syllables
wo(h)rd (h) laughter within words
$word$ smiley voice
.hh inhalation
((sniff)) non-speech sound, non-verbal action, description
cu- cut-off
lo:ng stretch
(word) unclear or inaudible word
run= run on/latch
=on
? rising intonation
. falling intonation
: stretch
WORD louder voice
ºsoftº softer speech
>fast< faster speech
<slow> slower speech
over[lap] overlap
[overlap]
… omission
word Italic text indicates non-English word (e.g., Japanese)
***** Individual name.
word Underlined words indicate ‘incorrect’ pronunciation. ‘Incorrect’ pronunciation means the pronounced sounds are far from the received pronunciation.