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Research Timeline

Research timeline: Second language communication strategies

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Introduction

Speakers of a second language (L2), regardless of proficiency level, communicate for specific purposes. For example, an L2 speaker of English may wish to build rapport with a co-worker by chatting about the weather. The speaker will draw on various resources to accomplish her communicative purposes. For instance, the speaker may say 'falling ice' if she has forgotten the word 'hail' or may repeat the last few words of her interlocutor's utterance to show that she is listening and engaged. The term COMMUNICATION STRATEGIES (CSs) refers to the strategic use of various resources (both linguistic and non-linguistic) for communicative purposes. While speakers also use CSs in their native languages (L1s), research on L2 CS use is particularly interesting because speakers' L2 linguistic resources and the associated cognitive processes are typically less developed, compared to those in their L1. Therefore, for L2 users to accomplish their communicative purposes in the L2, it is important that they effectively use the resources available to them. This research timeline presents key developments in theoretical understanding and empirical research targeting L2 CSs, mainly in oral communication. The timeline places particular emphasis on the evolution of theoretical approaches to the study of CSs and the consequent expansion of research in terms of the nature of participants, speech samples, and analytical tools used.

Early work on CSs focussed on definition and categorization. For a few early L2 acquisition theorists, for example, CSs were understood as instances of error, originating from incomplete knowledge of the target language (Richards 1971). Most other definitions included the notion of CSs as L2 users' potentially conscious reactions to problems in communicating their message. Early taxonomies of CSs were based on documenting surface-level characteristics of CSs, such as message reformulation, word coinage, or topic switch (e.g., Ervin, see timeline). Later taxonomies included a focus on speakers' cognitive processes by specifying the source of information (e.g., their L1) contributing to speakers' use of a CS, such as code-mixing (e.g., Bialystok, see timeline). However, by the early 1990s, CS frameworks incorporated a psycholinguistic perspective (e.g., Poulisse, Bongaerts & Kellerman, see timeline), drawing on specific cognitive and linguistic models of language learning and use, such as those of Levelt

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(1983, 1989, 1993, 1995). Versions of these frameworks continue to be used, often applied to research focussing on relationships between L2 users' individual differences, such as L2 proficiency, and their use of CSs.

The use of cognitive frameworks to describe CSs was linked to particular kinds of participants and speech samples. Speaking tasks given to participants, explicitly identified as L2 LEARNERS, were meant to generate challenges in communication so that CSs would be produced and then tallied and analyzed. Early speaking tasks were often monologic, to reduce variability which could arise from interaction with an interlocutor. However, a seminal 1990s study on the naturalistic use of CSs between L2 English speakers introduced a theoretical approach which came to be known as interactional (Firth, see timeline). In this approach, communication is not conceived as a process of speakers being more or less successful in communicating messages to each other. Rather, communication is a process of interlocutors co-constructing and jointly achieving understanding. The emphasis here is on the ways that interlocutors co-construct understanding, not on learners' gaps in linguistic resources. Therefore, CSs are not solely problem-oriented; instead, they encompass all resources used by interlocutors to achieve orderly interaction in a given context. Within this approach, the proper object of analysis is interactive, naturalistic communication (i.e., not controlled or guided by researcher-provided tasks or prompts), and CS use cannot be explained apart from its interactional context.

In the following decade, both cognitive/psycholinguistic and interactional approaches to CS research were used, with increasing attention paid to measuring the effects of CS use on communication and to training learners to use CSs. Firth & Wagner (see timeline) drew a clear distinction between cognitive/psycholinguistic and interactional approaches. They criticized the 'traditional' perspective in L2 acquisition research, arguing that it prioritizes cognitive models of language learning and use and presents L2 speakers as deficient language users. Cognitive/psycholinguistic approaches to investigating CS use continued into the late 1990s and early 2000s. However, most research fell into one of two streams: pedagogical training, which generally adopted taxonomies from the cognitive/psycholinguistic tradition, and studies conducted within the lingua franca approach, where naturalistic language use in pairs or groups of primarily L2 English speakers was analyzed for the ways the speakers jointly worked to successfully communicate.

The early 2000s witnessed the emergence and rapid expansion of research targeting CS use in computer-mediated communication. Early studies focussed on synchronous text-based communication, such as chat, but more recent research has kept pace with the possibilities afforded by technological advances, including 3D virtual reality systems. These technology-mediated studies have generally taken a cognitive/psycholinguistic approach to classifying CSs. In contrast, the great majority of CS research on English as a lingua franca in the past decade has been from the interactional perspective, with an increasing range of research contexts under study, such as professional workplaces, customer service centers, and university seminars.

From the 1980s onward, CSs were seen as potential solutions to L2 speakers' communicative problems, and cognitive/psycholinguistic researchers hoped to identify particular CSs which could be highly effective for L2 speakers in resolving interactional misunderstanding. However, even across studies using common taxonomies, no clear trends

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for effective CSs have been uncovered. This lack of consensus on what constitutes an effective CS is likely due to the situation- and interlocutor-specific nature of effective CS use. Rather than trying to identify CSs which are generally effective, it may be more productive for L2 researchers, teachers, and users to exploit the available opportunities for meaningful and interactive communication, while also reflecting on how and why the use of particular CSs in particular instances was more or less effective.

This timeline includes three themes prominent in CS-themed publications:

- Theoretical. Frameworks (**F**) refer to extended discussions of theoretical conceptualizations through which CSs can be explained and identified. These frameworks are often paired with taxonomies (**T**), explicit classifications and examples of CSs. Theoretical approaches used by researchers in CS research are often explicit, especially in early publications. In cognitive/psycholinguistic approaches (**C**), CSs are framed as ways that individual L2 users try to solve problems in communicating their message. In interactional approaches (**I**), the use of strategies is not presented as problem-based but as inherent to communication which is socially constructed.
- Methodological. The language samples analyzed in CS research are of two main types: naturalistic (**N**), referring to language used in unprompted and real-life interactions, or research-based (**R**), meaning that language samples are elicited or prompted by researchers or researcher-provided tasks. In some studies, CSs have been examined in relation to measures of individual differences (**ID**s), such as L2 proficiency. In other studies, CSs have been evaluated for their effectiveness (**E**) or clarity in communicating a message. A small number of publications have also included retrospective interviews or stimulated recalls (**SR**) in order to elicit L2 speakers' views or memories of their CS use. This theme also embraces research featuring technology (**Tech**).
- Pedagogical. Pedagogically-oriented research (**P**) refers to studies in which L2 users received training on the use of CSs and were evaluated pre- and post-training.

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YEAR	REFERENCE	ANNOTATION	THEME
1972	Selinker, L. (1972). Interlanguage. *International Review of Applied Linguistics* 10.3, 209–231.	**Selinker** outlines types of data and psychological processes which could be used to explain learners' knowledge about the target language and their production of interlanguage. He posited that L2 learners rely on one such process (namely, the use of L2 CSs) to communicate with target language speakers and that CS use contributes to fossilization, or cessation of L2 learning.	**F, C, T**
1975	Rubin, J. (1975). What the 'good language learner' can teach us. *TESOL Quarterly* 9.1, 41–51.	**Rubin** describes strategies used by 'good language learners,' based on her own observations and those of other language teachers and learners. One set of strategies she describes is 'using whatever knowledge he [the learner] has to get his meaning across,' giving such examples as circumlocution and word coinage.	**F, C, T**
1976	Tarone, E., A. Cohen & G. Dumas (1976). A closer look at some interlanguage terminology: A framework for communication strategies. *Working Papers on Bilingualism* 9, 76–90.	**Tarone, Cohen & Dumas** delineate a framework and taxonomy for CSs, which they call 'systematic attempt[s] . . . to express or decode meaning in the target language, in situations where the appropriate systematic target language rules have not been formed.' (p. 78) Their taxonomy includes phenomena which may not be under speakers' conscious control (e.g., overgeneralization) and also more strategic phenomena, such as topic avoidance.	**F, C, T**
1978	Tarone, E. (1978). Conscious communication strategies in interlanguage. In H. D. Brown, C. Yorio & R. Crymes (eds.), *On TESOL '77: Teaching and learning English as a second language*. Washington, DC: TESOL, 194–203.	Drawing on TARONE ET AL.'s[1] (1976) earlier framework, **Tarone** is the first to document and analyze the elicited use of CSs. Learners of English told picture stories in their first languages and in English, and later reviewed their task performance in English. Five basic types of strategies are found: avoidance, paraphrase, conscious transfer, appeal for assistance, and mime.	**T, C, R, SR**

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1979	Ervin, G. L. (1979). Communication strategies employed by American students of Russian. *The Modern Language Journal* 63.7, 329–334.	**Ervin** describes CSs used by American learners of Russian. This research represents one of the first attempts to link CS use to evaluations by different listener groups. Findings show some relationship between ratings and CS use, but no clear link between particular CSs and comprehensibility (degree of understanding).	**T, R, E**
1980	Canale, M. & M. Swain (1980). Theoretical bases of communicative approaches to second language teaching and testing. *Applied Linguistics* 1.1, 1–47.	In a paper which shaped much second language acquisition (SLA) research in the 1980s, **Canale & Swain** propose a framework which describes a language learner's communicative competence. This framework is envisioned as a means of organizing and developing L2 teaching and assessment so as to promote learners' ability to communicate in an L2. One of the competences described is strategic competence, defined as CSs which are employed in communication breakdowns stemming from lack of linguistic or sociolinguistic knowledge.	**F, T**
1980	Faerch, C. & G. Kasper (1980). Processes and strategies in foreign language learning and communication. *Interlanguage Studies Bulletin* 5.1, 47–118.	A landmark paper by **Faerch & Kasper** outlines a theoretical framework which explicitly refers to learners' mental processes in defining CSs. Defined as 'potentially conscious plan[s] for solving what to the individual presents itself as a problem in reaching a particular communicative goal' (p. 81), CSs require two components: problem-orientedness and potential consciousness. Use of CSs is envisioned in two situations: the planning and the realization of language use. In both situations, strategies are categorized as either reduction strategies (avoiding, limiting, or changing the message) or achievement strategies (using alternative approaches to communicating the message), with relevant examples provided.	**F, C, T**

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YEAR	REFERENCE	ANNOTATION	THEME
1980	Tarone, E. (1980). Communication strategies, foreigner talk, and repair in interlanguage. *Language Learning* 30.2, 417–431.	**Tarone** outlines a framework in which CSs are defined as 'mutual attempts of two interlocutors to agree on a meaning in situations where the requisite meaning structures do not seem to be shared.' (p. 419). This definition includes another interlocutor and assumes negotiation of meaning and a shared goal of successful communication, an approach which is later termed 'interactional.' CSs are contrasted with language learning strategies, defined as learners' attempts to develop linguistics and sociolinguistic competence in the target language. She contrasts functionally oriented perspectives on CSs with more formally oriented frameworks for repair and foreigner talk, which focus on meaning but especially on linguistic forms and discourse structure.	**F, I**
1980	Váradi, T. (1980). Strategies of target language learner communication: Message adjustment. *International Review of Applied Linguistics* 18.1, 59–71.	**Váradi**, in a paper originally presented at a conference several years earlier, presents a schematic flowchart showing how intended messages may change into surface language forms. Using written data from classroom-type tasks, he illustrates various CSs or 'message adjustments.'	**F, C, T, R**
1983	Bialystok, E. (1983). Some factors in the selection and implementation of communication strategies. In C. Faerch & G. Kasper (eds.), *Strategies in interlanguage communication*. London: Longman, 100–118.	**Bialystok** investigates factors (e.g., L2 proficiency or task type) which might influence the ways in which particular L2 speakers use particular CSs at particular times with particular effects. The CS taxonomy is framed according to the source of CSs, such as speakers' L1 or non-linguistic/contextual information. All three targeted proficiency groups used the same number of CSs, but the more advanced group used relatively more L2-based CSs. This study exemplifies an experimentally controlled psycholinguistic investigation of elicited CSs.	**F, C, T, R, E, IDs**

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1983	Faerch, C. & G. Kasper (eds.) (1983). *Strategies in interlanguage communication*. London: Longman.	**Faerch & Kasper's** edited volume presents a range of theoretical and empirical perspectives on how CSs are conceptualized (e.g., as reduction or achievement strategies) and analyzed by researchers, and how they are used by learners. The volume is the first to showcase studies by multiple researchers (almost entirely based in Europe and North America) on various aspects of L2 CSs, and the first to feature both psycholinguistic and interactional approaches.	**F, C, T, I, R, N, P**
1983	Haastrup, K. & R. Phillipson (1983). Achievement strategies in learner/native speaker interaction. In C. Faerch & G. Kasper (eds.), *Strategies in interlanguage communication*. London: Longman, 140–158.	**Haastrup & Phillipson** are among the first to use interactional data to explore profiles of CS use by L2 English speakers in Denmark, who participated in semi-guided conversations with L1 English speakers. They examine the relative efficacy of particular CSs for resolving communication breakdowns. Strategies which rely on L2 speakers' knowledge of Danish are shown to be less effective than other strategies, an unsurprising finding given that the L1 English speakers were recent arrivals in Denmark. No other links between CS use and efficacy could be determined.	**R, I, E**
1983	Levelt, W. J. (1983). Monitoring and self-repair in speech. *Cognition* 14.1, 41–104.	In a paper targeting psycholinguistic processes involved in self-repair of speech, **Levelt** outlines his original version of a psycholinguistic model for speech production involving two main components: message construction and formulation. This model, which has become influential in CS research carried out within the cognitive/psycholinguistic approach, has been particularly exploited for motivating CS taxonomies and for positing links between the use of particular CSs and specific difficulties learners may encounter in speech production.	**F, C**

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1984	Faerch, C. & G. Kasper (1984). Two ways of defining communication strategies. *Language Learning* 34.1, 45–63.	In a review of theoretical approaches focusing on CSs, **Faerch & Kasper** outline two main approaches: psycholinguistic and interactional. They recap and elaborate on descriptions from FAERCH & KASPER (1980) and TARONE (1980), arguing that the psycholinguistic approach to CSs can include Tarone's interactional definition because CSs are used in contexts where interlocutors jointly work towards solving a communication problem.	**F, C, I**
1985	Paribakht, T. (1985). Strategic competence and language proficiency. *Applied Linguistics* 6.2, 132–146.	**Paribakht** investigates how L2 speakers' language proficiency is related to CS use. L1 English speakers and L2 English users described concrete and abstract nouns to L1 English speakers until successful noun identification or topic abandonment, with CSs categorized by the source of information used, as in BIALYSTOK (1983). Intermediate speakers used more L1-based CSs, compared to other groups, while advanced speakers used conceptual knowledge more than intermediate speakers. Paribakht concludes that L2 speakers' proficiency is linked to how they use CSs.	**R, C, E, IDs**
1987	Poulisse, N., T. Bongaerts & E. Kellerman (1987). The use of retrospective verbal reports in the analysis of compensatory strategies. In C. Faerch & G. Kasper (eds.), *Introspection in second language research*. Clevedon: Multilingual Matters, 213–229.	**Poulisse**, **Bongaerts & Kellerman** report on the use of stimulated recall methodology with L2 speakers in order to collect more data on their use of CSs. Researchers describe the procedure used for stimulated recall and provide examples of the ways in which stimulated recall helps identify CSs more reliably. This is one of the earliest studies to employ stimulated recall as a means of identifying and exploring the use of CSs.	**R, C, SR**

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1989	Bongaerts, T. & N. Poulisse (1989). Communication strategies in L1 and L2: Same or different? *Applied Linguistics* 10.3, 253–268.	**Bongaerts & Poulisse** propose a taxonomy comprising two main CSs: conceptual and linguistic. Conceptual strategies involve analysis and manipulation of the concept being communicated, while linguistic strategies involve exploiting knowledge of one or more linguistic systems. This taxonomy is applied to groups of L1 Dutch speakers describing abstract shapes in Dutch, then in English. Most speakers used conceptual strategies which referred to the shape as a whole and its similarity to a real object, with no clear difference in strategies used in Dutch and English. This paper is a key development for CS conceptualizations drawing on speakers' cognitive processes.	**F, C, T, R**
1989	Corrales, O. & M. E. Call (1989). At a loss for words: The use of communication strategies to convey lexical meaning. *Foreign Language Annals* 22.3, 227–240.	**Corrales & Call** explore links between L2 learners' CS use, their language proficiency, and type of task. Researchers interpret their findings to suggest that learners' CS use increases up to a certain level of proficiency, then decreases as proficiency improves. This study is among the first to investigate longitudinal development of CSs.	**P, R, IDs**
1990	Bialystok, E. (1990). *Communication strategies: A psychological analysis of second-language use*. Oxford: Cambridge University Press.	**Bialystok** proposes that CSs are not different from 'ordinary' language processing and so must be explained within the framework of language processing. Bialystok posits CSs as a product of two language processing components: analysis of linguistic knowledge and control of linguistic processing. She links the analysis component to CSs involving the expression of features which accurately convey speakers' meaning (e.g., providing a definition). She links the control component to CSs involving changes in the channel of expression (e.g., using the L1). Differently from FAERCH & KASPER (1980), the criteria of problem-orientedness, consciousness, and intentionality are considered irrelevant. Bialystok suggests that speakers can learn to use language more effectively through being taught language (increasing linguistic knowledge) rather than strategies.	**F, C, T, R, IDs**

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1990	Firth, A. (1990). 'Lingua franca' negotiations: Towards an interactional approach. *World Englishes* 9.3, 269–280.	**Firth** outlines an interactional approach to applied linguistics and L2 acquisition research. Communication and meaning are understood as being jointly constructed and achieved in interaction. Using Conversation Analysis, Firth analyzed excerpts of telephone conversations between L2 English businessmen negotiating agreements, showing that utterances which are potentially unclear in meaning are often ignored or bypassed when the ambiguity is irrelevant to interlocutors' ongoing discourse. Firth's paper showcases L2 research in which CSs are practices in naturalistic interactive communication, not solely practices provoked by communication problems.	**F, N, I**
1990	Poulisse, N., T. Bongaerts & E. Kellerman (1990). *The use of compensatory strategies by Dutch learners of English*. Dordrecht: Foris.	**Poulisse, Bongaerts & Kellerman** report on the Nijmegen project targeting the use of lexical CSs by 45 L1 Dutch speakers. The authors propose a new model for use of lexical CSs by L2 speakers, drawing on Levelt's (1989) model of speech production, which comprises four components: message generation, grammatical encoding, phonological encoding, and articulation. No clear pattern was seen for differences in proficiency or effectiveness in CS use. This study is unique among experimental studies of CSs in that it features numerous participants of different proficiency levels, careful control of extraneous factors, and painstaking design of tasks, procedures, and coding.	**F, C, T, R, SR, IDs, E**
1991	Rost, M. & S. Ross (1991). Learner use of strategies in interaction: Typology and teachability. *Language Learning* 41.2, 235–273.	In a rare study targeting listeners' CSs, **Rost & Ross** explore the clarification questions asked by L2 listeners during communicative interactions. They show that certain types of questions tend to be linked to certain levels of L2 proficiency. They also show that L2 learners can be trained to use certain questioning strategies in interactions, and these strategies can also shape their understanding of a spoken text.	**T, R, C, P, IDs, E**

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1991	Yule, G. & E. Tarone (1991). The other side of the page: Integrating the study of communication strategies and negotiated input in SLA. In R. Phillipson, E. Kellerman, L. Selinker, M. Sharwood Smith & M. Swain (eds.), *Foreign language pedagogy: A commemorative volume for Claus Faerch*. Clevedon: Multilingual Matters, 162–171.	**Yule & Tarone** propose an alternative analytical framework for research in comprehensible input. They suggest that instead of focussing only on how native or expert speakers make speech comprehensible in interaction, researchers consider the contributions of all interlocutors, including their CS use, which serve to resolve problems in communication. They also suggest that researchers refrain from making unsupported claims about comprehensible input and optimal conditions for language acquisition, limiting their claims to how learners can enhance their interactive communication.	**F, C, R**
1995	Dörnyei, Z. (1995). On the teachability of communication strategies. *TESOL Quarterly* 29.1, 55–85.	**Dörnyei** describes a quasi-experimental strategy training intervention for secondary school students in Hungary. He reports that students receiving strategy training showed a significant increase in the quality and quantity of many of the targeted strategies, compared to untrained students. No link was found between students' L2 proficiency and gains in CS use. This is among the first CS intervention studies to include treatment and comparison groups and multiple measures of development.	**C, R, P, IDs**
1997	Dörnyei, Z. & M. L. Scott (1997). Communication strategies in a second language: Definitions and taxonomies. *Language Learning* 47.1, 173–210.	**Dörnyei & Scott** review various CS taxonomies and approaches, and adopt a psycholinguistic approach, which categorizes CSs through models of speakers' cognitive processes. They suggest a framework for understanding the source of problems addressed by CSs: own-performance, other-performance, and processing time pressure. The authors outline three basic types of CSs: direct, which give 'an alternative, manageable, and self-contained' way of expressing meaning, such as circumlocution; indirect, which promote conditions for mutual understanding, such as using fillers; and interactional, requiring cooperation between interlocutors to address comprehension problems. This paper provides a comprehensive overview of the main theoretical approaches to, and criticisms of, CS research.	**F, C, T**

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1997	Firth, A. & J. Wagner (1997). On discourse, communication, and some fundamental concepts in SLA research. *The Modern Language Journal* 81.3, 285–300.	In this position paper, **Firth & Wagner** call for L2 researchers' awareness and acceptance of 'contextual and interactional dimensions of language use.' They criticize much existing research as biased towards cognitive orientations, with views of L2 speakers as deficient. Drawing on CS research, they argue that meaning is a social not individual phenomenon and that communicative problems do not originate in individual speakers but are recognized as problems in interaction.	**F, I**
1997	Kasper, G. & E. Kellerman (1997). *Communication strategies: Psycholinguistic and sociolinguistic perspectives*. London: Longman.	**Kasper & Kellerman**'s edited volume showcases theoretical and empirical research on CSs from different disciplines, such as sociolinguistics (including interactional approaches), psycholinguistics, and language pathology. Several papers taking a sociolinguistic approach question the conceptualization of CSs as primarily problem-oriented, emphasizing CSs as multi-functional devices and highlighting the need to consider the communicative context and interlocutors' goals and background. This volume allows readers to appreciate different perspectives on CS research.	**F, C, T, I, IDs**
1997	Poulisse, N. (1997). Some words in defense of the psycholinguistic approach: A response to Firth and Wagner. *The Modern Language Journal* 81.3, 324–328.	**Poulisse** responds to FIRTH & WAGNER (1997), arguing that skill learning and speech perception/production are psycholinguistic processes, so a primarily psycholinguistic approach to L2 learning is unsurprising. She charges FIRTH & WAGNER with misinterpretation and misrepresentation of previous research. However, she agrees that meaning is social and negotiable between interlocutors, but underlines that in planning speech, a given speaker herself conceptualizes a message with particular meaning.	**F, C**

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1997	Rampton, B. (1997). A sociolinguistic perspective on L2 communication strategies. In G. Kasper & E. Kellerman (eds.), *Communication strategies: Psycholinguistic and sociolinguistic perspectives*. London: Longman, 279–303.	**Rampton** analyzes his own and other researchers' published data using a sociolinguistic perspective, explaining speakers' language use, including CSs, as part of typical language practices in that context (e.g., school playgrounds). The study is one of several that highlights CS use as variable, culturally embedded, and linked to social relationships.	**F, I, N**
1997	Vandergrift, L. (1997). The Cinderella of communication strategies: Reception strategies in interactive listening. *The Modern Language Journal* 81.4, 494–505.	**Vandergrift** uses ROST & ROSS'S (1991) taxonomy to explore how CSs are used by L2 listeners to enhance their understanding during interaction. Compared to intermediate-level learners, novice-level learners predominantly used kinesic strategies, such as cocking their heads, to show problems in understanding. They also used global reprises and comprehension checks to elicit repetitions or clarify understanding. Intermediate-level learners used fewer kinesic strategies, favouring backchannelling to show interlocutors they were attending to and understanding utterances. This paper is one of the few to explore listeners' CSs in interaction.	**R, C, IDs**
1997	Williams, J., R. Inscoe & T. Tasker (1997). Communication strategies in an interactional context: The mutual achievement of comprehension. In G. Kasper & E. Kellerman (eds.), *Communication strategies: Psycholinguistic and sociolinguistic perspectives*. London: Longman, 304–322.	**Williams**, **Inscoe & Tasker** investigate how L2 English teaching assistants (TAs) and native English undergraduate students achieve mutual understanding in chemistry laboratory sessions. The interactions between L2 TAs and L1 students are described as joint accomplishments in communication. Both parties used relatively closed exchanges, such as positively-oriented confirmation checks, to maintain mutual understanding and advance in assigned tasks. CS use is explained by interlocutors' shared goal, namely, for students to complete tasks correctly using TAs' expertise. This paper follows from FIRTH (1990) in exemplifying research on interactive CS use in authentic settings which requires contextual information.	**N, I**

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1998	Dörnyei, Z. & J. Kormos (1998). Problem-solving mechanisms in L2 communication: A psycholinguistic perspective. *Studies in Second Language Acquisition* 20.3, 349–385.	**Dörnyei & Kormos** develop DÖRNYEI & SCOTT's (1997) framework to define CSs as L2 speakers' problem-solving mechanisms when faced with communication difficulties. Problem sources are: L2 resource deficits, processing time pressure, perceived deficiencies in one's own output, and perceived deficiencies in the interlocutor's output. Various problem sources are linked to pre- or post-articulatory phases of Levelt's (1989, 1993, 1995) speech production model. CS types are discussed and exemplified using speech and stimulated recall data. Finally, unresolved areas and future directions for research are presented. To date, this framework is the most sophisticated account of CS use from a psycholinguistic perspective.	**F, C, T, R, SR**
2000	Meierkord, C. (2000). Interpreting successful lingua franca interaction: An analysis of non-native/non-native small talk conversations in English. *Linguistik Online 5*. Available at: http://linguistik-online.com	**Meierkord** explores naturalistic interactions between speakers using English as a lingua franca (English used between L2 speakers). She assumes that communication norms are not those of the native speaker culture; such norms are influenced by speakers' interlanguage but are also implicitly worked out in interactions (inter-cultural norms). Meierkord suggests two principles shaping lingua franca speakers' oral interactions: the desire to save face for everyone involved and the wish to appear non-threatening. For example, speakers will try not to embarrass interlocutors by using unfamiliar language and will use many supportive back-channels. This article heralded an upsurge of research targeting CSs in lingua franca communication.	**F, N, I**
2000	Scullen, M. E. & S. Jourdain (2000). The effect of explicit training on successful circumlocution: A classroom study. In J. F. Lee & A. Valdman (eds.), *Form and meaning: Multiple perspectives*. Boston: Heinle & Heinle, 231–252.	**Scullen & Jourdain** investigate the effects of focussed classroom training and practice versus only practice on L2 French learners' use of circumlocution. Trained learners were taught three approaches (use of superordinate terms, analogy, description) to describe unusual objects for identification by listeners. Both trained and untrained learners became more successful at using circumlocution after practice sessions, but were not different from each other. This study presages a decade of research, drawing on previous CS taxonomies, such as PARIBAKHT'S (1985), to investigate CS training effects.	**C, P, R, E**

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2001	Faucette, P. (2001). A pedagogical perspective on communication strategies: Benefits of training and an analysis of English language teaching materials. *Second Language Studies* 19.2, 1–40.	**Faucette** summarizes theoretical arguments for providing CS instruction to learners. She surveys learning materials which are either widely used, strategy-oriented, or considered from her experience to likely be relevant to CS instruction. She identifies materials which present or practice specific CSs, finding that, compared to teachers' materials, a much more limited set of CSs are typically included in learners' materials. For both types of materials, the CSs most frequently covered are approximation, circumlocution, and appeals for assistance.	**C, P**
2003	House, J. (2003). Misunderstanding in intercultural university encounters. In J. House, G. Kasper & S. Ross (eds.), *Misunderstanding in social life: Discourse approaches to problematic talk*. London: Pearson, 41–104.	**House** integrates opinion with brief presentation of data from an elicited discussion between four users of English as a lingua franca. Using discourse analysis and retrospective interviews, she finds very few instances of communication breakdown. To resolve misunderstanding, interlocutors often echoed the last few words of the speaker. This strategy had various functions, including helping comprehension, showing uptake, or asking for confirmation. As in MEIERKORD (2000), utterances were often co-constructed as a means of showing solidarity as users of English as a lingua franca.	**F, R, I, SR**
2003	Smith, B. (2003). The use of communication strategies in computer-mediated communication. *System* 31.1, 29–53.	**Smith** is among the first to investigate CS use in computer-mediated communication (CMC). L2 learners used CSs to construct meaning and get around potential communication challenges during weekly task-based chat sessions (reading and writing text-based messages). After each session, learners were tested on their receptive knowledge of particular lexical items from the task. Learners used a variety of CSs, as in face-to-face interaction, but employed one CS at a time per turn. This single-strategy use was more effective than mixed-strategy use for immediate receptive lexical knowledge.	**T, P, I, Tech, E**

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2005	Nakatani, Y. (2005). The effects of awareness-raising training on oral communication strategy use. *The Modern Language Journal* 89.1, 76–91.	**Nakatani** explores the effects of training which raises L2 learners' awareness of and reflection on CS use in oral interaction. One group received CS training with classroom and out-of-class tasks, with reflection on CS use as an important element. The untrained group engaged in small-group communication activities. The trained group had significantly higher speech ratings and used some CS types more frequently, compared to the untrained group. This is a rare study exploring longitudinal effects of CS training with awareness-building and reflection.	**P, C, R, E, SR**
2006	Gullberg, M. (2006). Handling discourse: Gestures, reference tracking, and communication strategies in early L2. *Language Learning* 56.1, 155–196.	In the area of embodied cognition, **Gullberg** explores whether low-ability L2 learners are overexplicit both in speech and gesture when referring to previously mentioned lexical noun phrases, and whether this phenomenon might represent an interactional CS. She concludes that overexplicit use of noun phrases demonstrates learners' stage of acquisition rather than a CS, and that overexplicit gestures are not used *primarily* as interactional CSs, but can be used for interactional and strategic purposes. This is among the first focussed investigations of non-verbal behaviour in the context of CSs.	**C, I, R**
2006	Mauranen, A. (2006). Signaling and preventing misunderstanding in English as a lingua franca communication. *International Journal of the Sociology of Language* 177.1, 123–150.	**Mauranen** explores the incidence of communication breakdown in university degree programs where English is used as a lingua franca. As in FIRTH (1990) and MEIERKORD (2000), she found that actual misunderstandings were infrequent, but that CSs such as self-repair were often used to prevent misunderstandings. This article is among the first in growing research on naturalistic lingua franca communication and CS use in academic settings.	**I, N, E**

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2006	Naughton, D. (2006). Cooperative strategy training and oral interaction: Enhancing small group communication in the language classroom. *The Modern Language Journal* 90.2, 169–184.	**Naughton** investigates CS training effects on small-group interaction with L2 English learners. The eight-week training was aimed to help learners communicate more effectively in small groups, but also to communicate in ways that add to L2 learning. The targeted CSs were interactional, promoting cooperation between the interlocutors. The trained group showed a significant increase in the frequency of the four interactional strategy types, while the control group showed no significant increase. Although similar in some ways to SCULLEN & JOURDAIN (2000) and to NAKATANI (2005), this CS training study focuses on the seldom-explored domain of small-group interaction.	**P, I, R**
2010	Collier, S. (2010). Getting things done in the L1 and L2: Bilingual immigrant women's use of communication strategies in entrepreneurial contexts. *Bilingual Research Journal* 33.1, 61–81.	**Collier** observes four bilingual immigrant women entrepreneurs to analyze how they use CSs in their two languages to make a success of their businesses. The women's CS use is set in the context of their identities as entrepreneurs and as immigrant women who are L2 English speakers. Utterances were classified using a speech acts framework. The L1 was often used to encourage co-workers and employees emotionally, to support relationships, and to give information about tasks and customers' needs. The L2 was used to build rapport with customers through small talk and to confirm information about customers' needs. This study, which does not use a typical CS framework, exemplifies CS research which takes social context and speaker identity as essential aspects.	**I, N**
2010	Khamis, H. (2010). Communication strategies in computer-mediated communication: An Egyptian EFL context. *CALICO Journal* 28.1, 35–48.	**Khamis** examines how L2 English learners use CSs in synchronous and asynchronous written CMC during an assigned decision-making task. He found that in synchronous communication, learners most frequently used CSs to continue discussion on a topic or to make comments which were not related to the task but added a personal dimension. Learners also used many fewer CSs during asynchronous computer-mediated communication. Following on from SMITH (2003), this study demonstrates multiple ways in which CSs continue to be framed, particularly in CMC.	**T, R, Tech**

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YEAR	REFERENCE	ANNOTATION	THEME
2010	Nakatani, Y. (2010). Identifying strategies that facilitate EFL learners' oral communication: A classroom study using multiple data collection procedures. *The Modern Language Journal* 94.1, 116–136.	In additional CS pedagogy research, **Nakatani** explores the effects of CS instruction on CS use and oral communication. University students in Japan took weekly English classes which included CS strategy training. Weekly roleplays and written and oral pre- and posttests, as well as SRs of the oral posttests and self-reports were used to measure students' development in CS use and their oral communication. Oral posttest scores were predicted by students' use of backchannelling or shadowing and students' signalling negotiation for meaning. Oral posttest scores weakly correlated with self-reported use of several CS types, and higher proficiency students showed awareness of using a range of strategies.	**P, C, R, E, IDs, SR**
2014	Burch, A. R. (2014). Pursuing information: A Conversation Analytic perspective on communication strategies. *Language Learning* 64.3, 651–684.	**Burch** proposes that the concepts of planning and compensation which have been central to cognitive explanations of CSs are not specific to individual L2 users but are socially viewable participant concerns. Using Conversation Analysis in ways similar to FIRTH (1990), Burch examines a conversation between an L1 and an L2 speaker of Japanese to demonstrate how the interlocutors make planning and compensation visible and relevant through their talk and interactional moves. Burch also cautions against using CS taxonomies to show CS use because identification of discrete CSs obscures how they are used in concert to achieve multiple interactional goals simultaneously.	**F, I, R**
2014	McNeil, L. (2014). Integrating computer-mediated communication strategy instruction. *Computer Assisted Language Learning*. Published online 15 July 2014.	**McNeil** investigates the effect of computer-based CS training on L2 learners' CS use. Over ten weeks, one group of L2 English university students watched video tutorials and completed text-based chatting and reflective tasks. The comparison group did the same chatting tasks but completed readings instead of the tutorial and reflective tasks. Using DÖRNYEI & SCOTT'S (1997) taxonomy, McNeil found that the treatment group used more CSs overall than the comparison group, though not significantly more of each CS type. This study illustrates the continuing expansion of CS research into technology-related domains.	**P, R, C, Tech**

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2014	Shih, Y.-C. (2014). Communication strategies in a multimodal virtual communication context. *System* 42.1, 34–47.	**Shih** explores how users of a 3D virtual environment system used CSs in their L2. Users could see avatars and video feeds of themselves and others, and hear or read voice- or text-based chat. L2 English speakers completed discussion and roleplaying tasks over one academic year by interacting with each other and with an instructor. The most frequent CSs were non-verbal, such as gestures, laughter, or facial expressions. The most frequent verbal CSs were gambits and fillers, appeals for assistance, and paraphrases. For most types of CSs, significantly more were used in roleplaying than in discussion. This paper is the first to investigate CS use in 3D virtual environments.	**P, R, C, Tech**
2015	Guénette, D., S. Kennedy, S., Allard & J. Murphy (2015). Interactions verbales et résolution de malentendus en français L2 entre locuteurs de L1 commune et différente: une étude de cas. *Language, Interaction, and Acquisition* 6.2, 237–269.	**Guénette et al.** explore the use of CSs by pairs of L2 French speakers across three different tasks. The most frequently used CSs were feigned understanding and paraphrasing, and pairs who shared a common L1 did not differ notably from different-L1 pairs in their CS use. This research shifts the study of CS use by lingua franca speakers to more controlled settings, examining a lingua franca other than English.	**C, R, IDs, SR**

[1]Authors' names are shown in small capitals when the study referred to appears in this timeline.