

What do second language speakers really need for real-world interaction? A needs analysis of L2 Chinese interactional competence

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Abstract

A primary undertaking in communicative language teaching is to ensure second language (L2) speakers develop the ability to interact in real-world communicative events, a skill known as interactional competence (IC). Thus far, there have been few needs analysis studies conducted on L2 IC, posing challenges when ascertaining whether the teaching and testing of L2 IC are empirically grounded. Henceforth, the researcher carried out a needs analysis to systematically investigate the IC learning needs of speakers of L2 Chinese, which in itself represents an under-investigated target language in present-day needs analysis literature. A considered methodology was utilized to elicit triangulated information from 18 participants. Content analysis of the elicited data identified seven IC learning categories: (1) social actions, (2) sociopragmatic knowledge, (3) pragmalinguistic knowledge, (4) interactional structure, (5) content knowledge, (6) linguistic resources, and (7) nonverbal resources. Results revealed disaffiliative social actions (e.g. complaining) to be most challenging. The management of social actions was mediated by speakers' sociopragmatic knowledge (e.g. social distance) and pragmalinguistic knowledge (e.g. formality devices). Other learning categories such as interactional structure (e.g. topic development) and nonverbal resources (e.g. gaze) contributed to successful interaction at a more foundational level. Based on these findings, this article proposes a three-tier IC needs model to conceptualize the hierarchical interrelationships among the seven categories. In addition, the researcher generated lists of IC learning needs for each category and subcategory to assist language educators with developing targeted IC teaching and assessment tasks. The IC needs model and needs lists constitute a pedagogical toolkit for the systematic incorporation of IC in task-based language teaching, language curricula and language programs. This article also discusses how methodological considerations and innovations formulated in the study can contribute to needs analysis research in general.

Keywords

assessment tasks, Chinese, communicative competence, communicative language teaching, interactional competence, language curriculum, language program, needs analysis, social action, task-based language teaching, triangulation

I Introduction

Contemporary teaching and testing of second language (L2) competence has a strong focus on L2 speakers' ability to communicate effectively in real-world settings, which is defined as L2 speakers' communicative competence (Bachman & Palmer, 1996; Canale & Swain, 1980). A crucial component of communicative competence is L2 speakers' ability to manage interaction on a moment-by-moment basis, termed their interactional competence (IC; Dai, 2021; Hall & Pekarek Doehler, 2011; Roever & Dai, 2021). Much of the research in L2 IC so far has utilized conversation analysis (CA) to explicate specific interactional methods and practices in particular social actions and social contexts. Examples include how L2-English tertiary students propose a meeting time with their classmates over multiple turns (Youn, 2020), how L2-English test-takers demonstrate attentive listening when engaged in a discussion task on tourism (Lam, 2021), or how L2-French speakers manage storytelling when interacting with their host families (Pekarek Doehler & Berger, 2018). This body of research has provided invaluable insight into how IC can be taught, learnt and assessed. However, to date what is under-investigated in IC scholarship are the specific learning needs of L2 speakers in relation to interaction. Should we focus on teaching L2-Arabic speakers how to make a complaint or how to display agreement first? If it is the former, do we start with complaining in workplace or everyday informal scenarios? Do these decisions apply to other target languages such as L2 Spanish? If IC is to be systematically integrated into current L2 language curricula, programs and tests, it is important to identify these learning needs through needs analysis (Long, 2005a). This study uses needs analysis to shed light on the interactional needs of speakers of L2 Chinese, a target language that has witnessed exponential growth in learner population (CCIS, 2019) but so far is underrepresented and under-investigated in the needs analysis literature (Ma et al., 2017). A recent special issue (Gong et al., 2020) on the teaching and learning of L2 Chinese highlights the lack of attention to the development of L2-Chinese speakers' interactional ability, as most research in this area focuses on literacy development. A methodic needs analysis on L2-Chinese IC is therefore in order.

II Background

1 *L2 interactional competence*

Research in L2 IC offers a sociolinguistic-interactional alternative to the traditional psycholinguistic-individualist conceptualization of L2 competence in L2 teaching and testing (Roever & Kasper, 2018). Instead of understanding language use as consisting of componential linguistic devices divorced from the social world where they are deployed,

L2 IC foregrounds the sociality of interaction, emphasizing that language use is a fundamentally social, interactional endeavour. The focus on the real-world context defines L2 IC as an ability to make recognizable to interactants our social actions, to attend to our social roles vis-à-vis the ones of our interactants, and to design our language contingently in interaction and for interaction (Dai et al., 2022a; Hall & Pekarek Doehler, 2011). Here the key concept – social actions – is speakers' ability to do things with words in an interactive fashion, such as making a request to a neighbour, lodging a complaint to a manager, or opening up the telling of a story to a friend. For researchers familiar with the field of interlanguage pragmatics, the definition of social actions in L2 IC can appear similar to the one of speech acts (Searle, 1969), although the two concepts differ in how they are theorized. Under the influence of CA methodology, L2 IC highlights how social actions unfold on a contingent, co-constructed, turn-by-turn basis between speaker and interlocutor. In comparison, traditional speech act research in interlanguage pragmatics tends to isolate speaker utterances from their interactional context and focus on the effect of speaker utterances on interlocutors. Despite conceptual and methodological differences, both social actions and speech acts are concerned with functional language use in real-world communication.

Since the concept of IC was first introduced to L2 education over three decades ago (Kramsch, 1986), a wealth of L2 IC studies has employed CA to examine various interactional features situated in different social actions and contexts (Al-Gahtani & Roever, 2012; Barraja-Rohan, 2011; Huth & Taleghani-Nikazm, 2006). The ethos of L2 IC is aligned with the general communicative language teaching movement (Canale & Swain, 1980; Hymes, 1972) as experienced in the broader language education landscape since the 1970s. The foundational text on L2 communicative competence by Canale and Swain (1980) highlights the interactional, pragmatic, and sociocultural dimensions of interpersonal communication by positing 'communication to be based in sociocultural, interpersonal interaction, to involve unpredictability and creativity, to take place in a discourse and sociocultural context . . .' (p. 29). These defining features of communicative competence that Canale and Swain (1980) propounded are embodied in the conceptualization of L2 IC, which foregrounds the contingent, pragmatic, and co-constructed nature of interaction.

Although IC research has a strong methodological tradition to use CA to understand how interaction happens at a fine-grained, turn-by-turn level, it is worth noting that inter-action is invariably embedded in the broader sociocultural-pragmatic dimension of communication. In one of the seminal texts on L2 IC conceptualization, Hall and Pekarek Doehler (2011) situated IC in 'our social role relationships, and memberships in our social groups and communities', specifying that IC includes 'knowledge of social-con- text-specific communicative events' (p. 1). Galaczi and Taylor (2018) proposed a similar argument that IC – 'the ability to co-construct interaction in a purposeful and meaningful way' – is influenced by 'sociocultural and pragmatic dimensions of the speech situation and event' (p. 226). The focus on social actions and their accompanying sociocultural- pragmatic contexts in IC therefore addresses the central concern in L2 communicative competence and communicative language teaching, which is how L2 speakers develop the ability to interact effectively in real-world communicative events.

In terms of understanding what influences L2 IC, Waring (2013) posits that the importation of the dichotomic concepts of sociopragmatics and pragmalinguistics (Leech, 1983) from interlanguage pragmatics can be facilitative. Sociopragmatic competence is a speaker's knowledge of the sociocultural norms in the L2 community while pragmalinguistic competence is a speaker's ability to deploy linguistic resources to fulfil pragmatic functions. Both sociopragmatic and pragmalinguistic competences impact on L2 speakers' IC as they collaboratively contribute to speakers' ability to launch social actions in an interactional manner in specific sociocultural-pragmatic contexts. Apart from these two competences, speakers' content knowledge of communicative events, ability to use nonverbal resources such as gesticulating, and understanding of how interaction unfolds can also influence their L2 IC.

As L2 IC receives growing attention in communicative language teaching, a pertinent question that has surfaced is how IC can be incorporated in L2 pedagogy and assessment (for a recent edited special issue on this topic, see Dai et al., 2022b). Since IC is concerned with how L2 speakers deploy social actions in specific sociocultural-pragmatic contexts, L2 teachers need clear guidance on what social actions and sociocultural-pragmatic contexts to teach in a communicative language syllabus. A methodical approach to identifying the learning targets of IC is needs analysis.

2 *Needs analysis and triangulation*

Although few needs analysis studies have been conducted on L2 IC, needs analysis is a commonly used research method to identify a particular L2-speaker group's learning needs in language education (Alhassan, 2021; Brown, 2009; Chaudron et al., 2005; Gilabert, 2005; Huang, 2010; Jasso-Aguilar, 2005; Lambert, 2010; Long, 2005a, 2005b; Malicka et al., 2019; Mochizuki, 2017; Oliver et al., 2013; Ren, 2022; Swales, 2001). Without rigorous needs analysis, language teachers cannot be confident if the language tasks they use actually address L2 speakers' most urgent learning needs. Long (2016) highlighted this concern by issuing a trenchant message that most commercial language teaching materials on the market are 'written, on the basis of textbook writers' intuitions, for all students and for no students in particular' (p. 6). In order for the teaching and assessment of IC to be effective and relevant for L2 speakers, systematic needs analysis studies need to be conducted to identify the target social actions and sociocultural-pragmatic contexts to be included in IC teaching and assessment tasks.

When undertaking needs analysis, researchers generally start by developing a defensible methodology that best captures their target L2-speaker group's specific language needs. One of the techniques frequently employed in needs analysis literature to enhance methodological validity is triangulation (Chaudron et al., 2005; Cowling, 2007; Lambert, 2010; Long, 2013). Brown (2001) identified seven types of triangulation, which include triangulation of data sources, investigators, need analysis theories, procedures, disciplines, data gathering times, and sites. Such an exhaustive approach is rarely implementable due to financial and time constraints. After surveying 39 needs analysis studies on English for specific purposes in the last 30 years, Serafini et al. (2015) argued that a more actionable starting point is to consider how information sources can be triangulated.

There are many benefits in going beyond one information source when conducting a needs analysis. Though it is not uncommon that L2 needs analysis studies rely solely on L2 speakers as informants (Cabinda, 2013; Chaudron et al., 2005; Holme & Chalauisaeng, 2006), such an approach does not engage the perspectives of other relevant stakeholders. Even in-service L2-speakers, defined as L2-speakers that actively use the target language for communicative purposes in the target language use domain (Long, 2005a, 2005b; Serafini et al., 2015), cannot always pinpoint the sources of their communication plights. Different perspectives, such as those sourced from language teachers, young L2 speakers' parents, L2 speakers' host family members, and L2 speakers' employers can offer a more holistic picture illustrating areas where L2 speakers fall short of their respective learning goals (Brown, 2009).

Within the field of L2 IC, Youn (2018) is a rare needs analysis study that informed the design of an IC test (Youn, 2015). In order to understand the interactional needs of L2-English speakers in tertiary settings, Youn (2018) triangulated the perspectives of program administrators, language instructors, and L2-English students while utilizing two data elicitation methods: interviews and questionnaires. Her data revealed a range of social actions where L2-English students struggled, which fed into the two interactional tasks she designed for her IC test. The two tasks required test-takers to role-play with a professor and a classmate, eliciting social actions such as making a request for a recommendation letter and agreeing on a meeting time. The decision to assess IC in these two specific social actions in their local sociocultural-pragmatic contexts is therefore based on the actual interactional needs of Youn's particular L2 speaker cohort.

3 *Needs analysis in L2 Chinese*

Though needs analysis is an indispensable process in methodical attempts at designing task-based language teaching and assessment materials, a survey on recent needs analysis literature shows that most studies were conducted on L2 English for academic or business purposes (Lambert, 2010; Oliver et al., 2013; Park & Slater, 2014; Sawaki, 2017; Serafini et al., 2015; Youn, 2018). Other second languages are regrettably under-explored in needs analysis, the consequence of which is that it is difficult to assess whether the teaching and assessing of languages other than English are motivated by learners' genuine learning needs.

One of such languages is L2 Chinese. Notwithstanding the exponential growth in the L2-Chinese speaker population in recent years (CCIS, 2019), Wang (2011) is one of the very few needs analysis studies conducted on L2 Chinese. Wang (2011) was a commissioned project that combined needs analysis with textbook analysis to identify the needs of L2-Chinese business majors. Using interviews and questionnaires as research methods to elicit information from both L2-Chinese speakers and Chinese business managers, Wang generated a list of top-priority abilities that speakers of business Chinese were expected to acquire. Subsequent textbook analysis revealed a mismatch between L2 speakers' needs and textbook materials. Topics such as answering job interview questions, though highly valued by Wang's informants, were poorly represented in the 44 business Chinese textbooks surveyed. This finding corroborates the lamentation in Long (2016) where Long lambasted the disconnect between L2 teaching materials and L2 speakers' genuine learning needs.

The paucity of needs analysis on L2 Chinese, coupled with the growing demand from L2-Chinese speakers who use Chinese for various interactional purposes in the real world, suggest that a needs analysis on L2-Chinese IC is long overdue. Considering the time, effort, and resources L2 speakers invest in mastering Chinese, it is unfortunate that no studies have examined what this group of speakers actually struggle with when they interact in Chinese in real-world contexts. A needs analysis of L2-Chinese speakers' interactional needs can not only inform L2 speakers, teachers, and other stakeholder groups of the most challenging interactional pitfalls in L2 Chinese, but it can also serve as a starting point for the development of L2-Chinese IC teaching and assessment tasks that address L2 speakers' immediate interactional needs.

4 This study

This study is part of a larger project that developed task-based language teaching and assessment materials for L2 IC (Dai, 2021, 2022). The target L2-speaker group for this needs analysis is L2-Chinese speakers who need to improve IC in order to live, study, and work in mainland China, a group that saw a steady increase prior to the global Covid-19 pandemic (CCIS, 2019). Although international travel has been severely disrupted since the outset of the pandemic in 2020, the improved health outcomes in many countries have permitted the opening of more international borders and it is expected that in the not-too-distant future, this group of L2-Chinese speakers will be permitted to resume relocating to mainland China for work, study and general residence. This study recognizes the existence of diverging social, cultural, and interactional norms in different Chinese-speaking communities. It therefore only focuses on the interactional norms and needs of Mandarin Chinese in metropolitan cities in mainland China, as most L2 speakers are likely to migrate to these areas and use Mandarin Chinese for interaction. The language use domain for this needs analysis is defined to be general communicative events (e.g. study, employment, and everyday interaction) in China. A language use domain as such ensures that results from this study can provide a holistic picture for language teachers in terms of L2-Chinese speakers' preparedness to handle commonly encountered communicative events after moving to China. The research question this study addressed is:

- What aspects of interaction are most challenging to L2-Chinese speakers when they live in mainland China?

III Methodology

1 Participants

The researcher recruited 18 participants for this study, illustrated in Figure 1. Participants fell into three categories: L2-Chinese speakers of three different proficiency levels, first language (L1) Chinese language teachers from three different course levels, and L1-Chinese interactants who had frequent opportunities to interact with L2-Chinese speakers in three sub-language use domains: study, work, and everyday interaction. The

Table 2. L1-Chinese teacher profiles.

Advanced	Wang Ni and Deng Yang*	Teaching and coordinating advanced-level Chinese language degree programs in tertiary settings. Frequent interaction with high proficiency L2-Chinese students in class and outside class. Deng Yang has a PhD in Applied Linguistics while Wang Ni has a PhD in Chinese Literature.
Intermediate	Chu Song* and Zhou Wu	Teaching and coordinating Chinese language non-degree courses. Experience in teaching and tutoring intermediate-level L2-Chinese students. Experience in interaction with students outside classroom settings (e.g. socials and course-related travels). Chu Song has master's degrees in Applied Linguistics and Teaching Chinese as a Foreign Language.
Beginning	Hu Yin and Ma Dong	Teaching and language program coordination experience with L2-Chinese students of beginner-level proficiency. In-depth knowledge of beginner-level students' interactional needs from one-on-one tutoring.

Table 3. L1-Chinese interactant profiles.

<i>Work:</i>	
Dai Ling*	Professional Chinese-English interpreter working in a multilingual translation service. Experience in interacting in Chinese with L2-Chinese colleagues and business partners from a range of L1 and professional backgrounds.
Zhu Huang	Employed in an internship unit that connects L2-Chinese professionals to internship opportunities in China. On-the-ground experience liaising with L2-Chinese working professionals on a range of work-related issues in China.
<i>Study:</i>	
Xuan Zhong	Science major undergraduate student in a university in China. Frequent experience interacting with L2-Chinese students who come to their university through exchange programs. Provision of assistance to L2-Chinese students with study in China.
Li Hu*	Extensive experience interacting with L2-Chinese speakers in tertiary educational settings. PhD candidate focusing on interaction in Chinese.
<i>Life:</i>	
Ke Han	Language enthusiast interested in making friends with L2-Chinese speakers and learning about their languages and cultures. Frequent social interaction with L2-Chinese speakers in a range of everyday informal settings.
Song Mu	Life partner of Mike, who was a participant in the L2-Chinese speaker group. Daily experience in interacting with Mike using Chinese. Frequent observation of how Mike interacts in Chinese with her extended L1-Chinese-speaking family and L1-Chinese friends.

A note is in order about how the researcher established the three levels of proficiency for L2-Chinese speakers. Due to the complex nature of defining language proficiency, the researcher made a holistic assessment of L2 speakers' language ability, taking into account their HSK scores, length of Chinese study, nature of Chinese study (e.g. Chinese

as a foreign language subject outside China or Chinese as medium of instruction for content subjects in China), length of residence in China, length of work experience in China, and other factors. Details of L2 speaker profiles are presented in Table 1. HSK is Hanyu Shuiping Kaoshi (Chinese Proficiency Test), a standardized proficiency test for Mandarin Chinese widely used in mainland China.

In terms of needs analysis methodology, participant selection in this study incorporated a number of triangulation strategies (Brown, 2009). First, there was a range of observing angles being represented. Through consulting the perspectives of L2 speakers, L1 teachers, and L1 interactants, the researcher collected information on (1) where L2 speakers saw themselves struggle the most, (2) where teachers saw their students struggle the most, and finally (3) where L1 interactants saw L2 speakers struggle the most. The perspective of L1 interactants is particularly helpful albeit underrepresented in previous needs analysis studies. L1 interactants do not have a pedagogical intent as language teachers do. Instead, L1 interactants observe L2 speakers' use of language in situ, thereby forming intuitive insight based on L2 speakers' language performance in real-world communication, which can complement the insight from L2 speakers and L1 teachers.

Second, there were different levels of proficiency within the L2 speaker group, different course levels within the L1 teacher group, and different sub-language use domains within the L1 interactant group. This design ensured results from this study maximally represented L2 IC learning needs at different stages of language acquisition in different areas of language use within the confines of the participant number. The researcher made a purposeful decision to generate a holistic picture of L2 IC learning needs, instead of focusing on a specific proficiency level for a particular language use domain (e.g. the IC needs of intermediate L2 speakers in academic discourse). The rationale for this decision was due to the sparsity of empirical needs analysis studies on L2 IC, as noted in the literature review. An overall picture was therefore considered a good starting point to develop this line of research and empirically ground the teaching and testing of L2 IC. Although participants in the L2 speaker group were mainly from English-speaking backgrounds due to the researcher's access to participants at the time of this study, this bias was mitigated by insight provided by participants from the other two groups, who had frequent interaction with L2-Chinese speakers from a wide range of L1 backgrounds.

Third, there was a balanced representation of gender in every participant group, as Figure 1 illustrates with the F (female) and M (male) labels. Sociolinguistics research on Mandarin and Cantonese speakers has noted gender-based language use in Chinese communities such as the employment of sentence-final particles (Chan, 1996, 1998; Diao, 2014; Farris, 1988, 1994). The similar numbers of male and female participants recruited in this study assuaged potential gender bias in participants' reporting.

Finally, there was a mix of differing degrees of domain knowledge. Compared to participants whose names are not marked by an asterisk in Figure 1, those with asterisks received formal tertiary-level training in language-related areas such as applied linguistics, cultural studies, and translation and interpreting. Following Serafini et al. (2015), this study made a conscious effort in eliciting information from both general informants and domain experts, whose theoretical training in interpersonal communication offered elucidation on interactional issues that might have escaped the former group.

2 Instruments

Two data elicitation methods were used in this study: Hermeneutic–Socratic interviews and longitudinal reflective diaries. These two research methods were adopted to triangulate data elicitation approaches, in addition to the various triangulation strategies employed in the selection of participants as detailed in the previous section.

a Hermeneutic–Socratic interviews. The main data collection method in this study is semi-structured interviews, which is a commonly utilized method in needs analysis literature to identify learner needs (Chaudron et al., 2005; Cowling, 2007; Huh, 2006; Lambert, 2010; Malicka et al., 2019; Serafini, et al., 2015). A methodological innovation in this study is the incorporation of Hermeneutic–Socratic (H-S) interviewing techniques, which are helpful in unearthing information on complex topics such as what makes interaction challenging. Rather than viewing interviews as a process where the interviewer asks correct questions that prompt willing interviewees to proffer enlightening answers (Roulston, 2022), H-S interviewing problematizes the assumption of mutual understanding and positions both the interviewer and the interviewee as active co-participants in the quest for meaning (Dinkins, 2005). Drawing on the Heideggerian conceptualization of phenomena and the Socratic approach to dialogue, H-S interviewing focuses on defining commonplace but highly abstract concepts (e.g. what is successful interaction to you?), contextualizing questions with analogies (e.g. there was this time when I did . . .) and orienting to conflicts in the dialogue (e.g. before you mentioned A, but now you changed to B). The H-S interview protocol used in this study is presented in Appendix 1. The questions in the protocol illustrate how H-S interviewing suspended pre-conceived notions on the side of the interviewer and avoided asking leading questions to interviewees, such as ‘do you find apologizing in Chinese difficult?’, which are not uncommon in existing needs analysis studies. Another advantage of using H-S interviews is that the rich contextualized information elicited from participants’ reporting of critical incidents can assist with the development of IC tasks for teaching and assessment (on how critical incidents reported by participants in this study were translated to authentic language tasks, see Dai, 2021, 2022).

b Longitudinal reflective diaries. Though the critical incidents generated from H-S interviews have rich contextualized details, they are one-off accounts of participants’ interactional challenges at the time of the interviews. This snapshot approach to data elicitation can fail to represent the range of interactional challenges experienced over a period of time. Longitudinal reflective diary, as a secondary and complementary data elicitation method, was employed to address this deficit in the quality of data from H-S interviews. H-S interviews marked the start of an iterative process where both the researcher and participants began to ponder over what L2 speakers found most demanding during interaction. After the initial H-S interviews, the researcher encouraged participants to keep reflecting on the interactional challenges discussed in the interviews and maintain a diary to note down their ruminations and any additional critical incidents they noticed. This period lasted three months, which generated additional data that are longitudinal in nature. In a sense the initial H-S interviews heightened participants’ awareness of the

interactional plights faced by L2 speakers, while the longitudinal reflective diary prompted them to continue to notice and contemplate this topic. Additional critical incidents mentioned in this period in participants' reflective diaries were reported to the researcher and included in the analysis.

3 Procedure

The researcher first recruited 18 representative participants, as detailed in Figure 1 and Tables 1 to 3, based on pre-determined triangulation strategies for the selection of participants. After the first H-S interviews, the researcher maintained written communication with participants and collected their reflective diaries over the following three months. Follow-up H-S interviews using the same interview protocol were set up on an ad hoc basis to clarify confusing critical incidents reported in participants' reflective diaries. Interviews were audio-recorded and transcribed while written data were extracted from participants' reflective diaries.

4 Data analysis

Data analysis followed the summative content analysis method in Hsieh and Shannon (2005), a process that derives codes and categories directly from data without relying on a priori labels. The researcher first coded both interview and written diary data, then organized coded extracts by codes, analysed codes into subcategories, and finally collapsed subcategories into categories.

Due to the highly reductive nature of content analysis, the researcher conducted an audit trail (Roulston, 2022) with two L1-Chinese speakers and an applied linguist specializing in qualitative data analysis, none of whom were among the 18 participants in this study. All three auditors reviewed the content analysis process and resolved differences they had with the researcher's practice (e.g. the coding of raw data, the categorizing of codes, and the labelling of categories). At this early stage of coding a second coder coded one interview transcript; the percentage of exact agreement for categories with the researcher was 86.51%, which suggested satisfactory initial intercoder reliability. After discussions with the three auditors and the second coder, the researcher developed a coding manual to facilitate reliable coding for the remainder of the dataset. The coding of the entire dataset was an iterative process where data for some of the categories was recoded as the coding manual was refined. Earlier versions of the coding results were reported in Dai and Roever (2019) and Dai (2021). Based on feedback on previous iterations, the researcher conducted a final round of coding for this study using the finalized coding manual in Appendix 2. An additional coder was recruited to code 30% of the data using the same coding manual in Appendix 2, and satisfactory inter-coder agreement was achieved at 93.2% for exact agreement.

IV Results

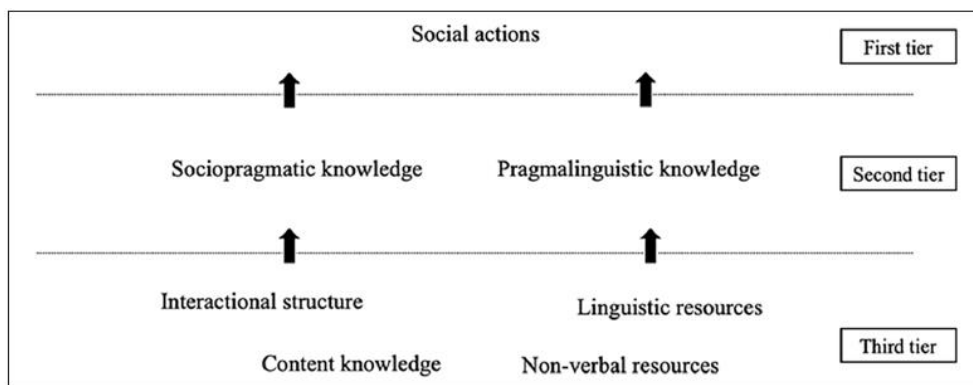
As the coding manual in Appendix 2 illustrates, seven categories emerged from content analysis that characterize L2 speakers' interactional needs: (1) social actions, (2)

sociopragmatic knowledge, (3) pragmalinguistic knowledge, (4) interactional structure, (5) content knowledge, (6) linguistic resources, and (7) nonverbal resources. Table 4 presents each of the categories in the order of frequency of coded extracts. Frequency serves as an indicator of the saliency of each category to the participants (Sato & McNamara, 2019). A schematic representation of the seven categories is illustrated in Figure 2, which explicates the interrelationships among the categories. This representation serves as a model for conceptualizing L2 speakers' interactional needs: (1) the ability to manage social actions is fundamental to a speaker's IC and is therefore situated in the first tier, (2) a speaker's sociopragmatic and pragmatic knowledge undergirds social action in the second tier, and (3) in the third tier, interactional structure, content knowledge, linguistic resources and nonverbal resources support the two broader pragmatic knowledge domains. The following explicates what the categories contain and how the categories relate to one another.

Table 4. Frequency of the categories.

Category	Frequency	Percentage
Social action	105	41.1
Sociopragmatic knowledge	61	23.9
Pragmalinguistic knowledge	44	17.3
Interactional structure	17	6.7
Content knowledge	12	4.7
Linguistic resources	10	3.9
Nonverbal resources	6	2.4
Total	255	100.0

Figure 2. An interactional competence (IC) learning needs model.



1 *Social actions*

The 'social actions' category has the highest number of coded extracts, accounting for nearly half of the total amount of extracts from the dataset. This suggests that social

actions are the most salient aspect of L2 speakers' interactional challenges and can therefore serve as the basis for the development of IC tasks. To highlight the primary role of action in interaction, the researcher positioned social actions in the first tier in the IC needs model in Figure 2. Following the coding manual in Appendix 2 we can see that there are two subcategories within this category: affiliative and disaffiliative actions. Affiliative actions are actions that promote the maintenance of social solidarity while disaffiliative actions are the opposite, causing disruption to rapport between interactants (Pomerantz, 1984). Table 5 highlights the number of coded extracts for disaffiliative actions is nearly three times the one for affiliative actions. This implies that mastery of disaffiliation management warrants more attention as its uncooperative and discordant nature can jeopardize social harmony (Clayman, 2002). These disaffiliative social actions as a result should be prioritized in the teaching and assessing of IC for L2 speakers living in China. Specific learning needs for both disaffiliative and affiliative actions are listed in Tables 6 and 7.

Table 5. Sub-categories within the social actions category.

Social action	Frequency	Percentage
Disaffiliative actions	77	73.3
Affiliative actions	28	26.7
Total	105	100.0

a Disaffiliative actions. If we look at the identified learning needs for disaffiliative actions in Table 6, it is observable that some of the top-mentioned actions, such as refusing and requesting, have received longstanding attention in interlanguage pragmatics research (Taguchi & Roever, 2017) and have been taken up in L2 IC research (Youn, 2018). The contribution of this needs analysis, however, is that it identified the specific sociocultural-pragmatic contexts (Hall & Pekarek Doehler, 2011) where certain social actions pose interactional challenges to a particular group of L2 speakers. For example, even though performing a refusing action can be difficult in general for L2 speakers of any target language, participants in this study reported that refusing to give out personal information entails particular difficulties in L2 Chinese. Alexa, an L1-Italian, L2-Chinese speaker, recounted the challenges she experienced when trying to refuse to share personal information in mainland China.

“Refusing to disclose personal information can be particularly hard in China because it is considered part of small talk. When I go to a food market, the owners at their stands will ask me ‘how old am I’, ‘am I married’, ‘am I here alone’. If I don't respond, they will think I don't want to be their friends.” (Alexa, advanced L2-Chinese speaker, original quote in English)

Alexa's experience is corroborated by a beginner-course L1-Chinese teacher who had L2-Chinese students raising the same issue to him.

“Some Chinese people can be very thorough when they ask personal questions as if they were collecting your demographic information for a census.” (Hu Yin, beginner-course L1-Chinese teacher, translated, original quote in Chinese)

The challenges for L2-Chinese speakers in handling the refusing action in this particular context therefore involve not just learning the lexicogrammar of refusing, but also understanding how social actions are deployed in a recognizable manner in the target community. Social solidarity can be threatened if L2 speakers launch disaffiliative actions using an approach that does not take into consideration the sociopragmatics of the actions (Dai, 2019). This is true for some of the well-researched social actions such as refusal, but also true for actions less studied such as interrupting. Deng Yang, a domain expert L1-Chinese teacher specializing in CA, noted how the delivery of social actions tends to have concomitant sociopragmatic considerations when discussing his L2-Chinese students’ struggle with the action of interrupting.

“I need to lay down ground rules on day one in class. A student can only talk when a teacher asks them to talk. They need to put their hands up and wait to be given an opportunity to talk. Students need to learn the rules when they try to interrupt their teachers.” (Deng Yang, advanced-course L1-Chinese teacher, translated, original quote in Chinese)

Although interrupting is in general considered a violation of the interlocutor’s speaker rights (Bilmes, 1997), and hence potentially disaffiliative, Deng Yang’s account explicated his member’s knowledge of the sociopragmatics underlying the action of interrupting between teacher and student in the Chinese tertiary educational context, which may not hold true in comparative contexts for other languages.

Table 6. IC learning needs for disaffiliative actions within social actions.

Actions	Learning needs
Negative commenting	<ul style="list-style-type: none"> How to offer negative comments on your friend’s behaviour How to offer negative comments on a colleague’s work How to offer negative comments on your partner’s behaviour How to offer negative comments on your Chinese family members’ behaviour How to negatively comment on government officials or political figures
Requesting	<ul style="list-style-type: none"> How to ask for help from snappy government officials How to ask to borrow things How to ask for help from waiters in a restaurant How to ask fellow passengers to move in a crammed train How to ask for help when others seem busy How to ask for directions
Refusing	<ul style="list-style-type: none"> How to refuse invitations How to refuse giving out personal information How to refuse offers of food/gifts

(Continued)

Table 6. (Continued)

Actions	Learning needs
Criticizing	How to criticize government practices/policies How to criticize a friend How to criticize your partner How to criticize a team member at work How to criticize strangers when they offend you in public
Disagreeing	How to disagree with teachers at university How to express disagreement with classmates How to disagree with managers at work How to disagree with others' comments on your personal life choices How to resolve disagreement with Chinese partners in public How to disagree with senior Chinese family members
Complaining	How to complain to your manager at work How to make complaints in general (e.g. telling a taxi driver their car smells)
Cancelling	How to cancel or change plans you already made with Chinese friends How to cancel food orders in a restaurant How to cancel a work commitment you already made
Interrupting	How to interrupt your colleagues or boss in a meeting How to interrupt teachers when trying to get their attention
Bargaining	How to bargain with salespeople
Deflecting	How to deflect comments on one's physical attributes
Suggesting	How to offer suggestions to your manager at work
Self-praising	How to promote oneself without sounding boastful
Teasing	How to tease someone without being offensive

b *Affiliative actions.* In terms of the learning needs for affiliative actions in Table 7, many of them have been well researched in CA such as agreeing (Pomerantz, 1984), apologizing (Robinson, 2004), and complimenting (Golato, 2003), while there are also actions that have not received enough attention such as gifting. Although the mastering of affiliative actions was not emphasized as much as the one of disaffiliative actions, participants noted the value of acquiring the ability to promote social solidarity through affiliating moves. Chu Song, an L1-Chinese speaker teaching intermediate Chinese, explained the crucial functions affiliative actions play for L2-Chinese speakers when they first relocate to China.

“The first thing you need to learn is how to thank someone because you’re bound to inconvenience others when you are in a foreign country. The second is how to apologize. Since you don’t know how things are done locally, you will unavoidably cause trouble to others.” (Chu Song, intermediate-course L1-Chinese teacher, translated, original quote in Chinese)

Participants also highlighted how, similar to disaffiliative actions, affiliative actions at the interactional level are embedded in the sociocultural system (Levinson, 2005) of the target language, which implies there are accompanying sociopragmatic considerations to

the design of affiliative actions. Dave, an advanced L2-Chinese speaker with extended length of residence in China, detailed the sociopragmatic motivations behind the gifting action.

“Gift-giving is a core tenet in Chinese social interaction. In western culture, gift-giving is occasion based, such as Christmas. It does perform a function but is more of a social obligation, not a specific function for interaction. Whereas in China when parents meet their daughter-in-law, they give a *jianmianli*/见面礼 [‘a gift for meeting someone for the first time’].” (Dave, advanced L2-Chinese speaker, original quote in English)

Table 7. IC learning needs for affiliative actions within social actions.

Actions	Learning needs
Agreeing	How to casually agree with a friend’s ideas How to show agreement even when one doesn’t really mean it How to express agreement to your manager at work How to agree with your teacher’s opinions in a classroom context
Apologizing	How to apologize when you have inconvenienced others in public How to apologize when you have hurt others’ feelings
Thanking	How to thank a friend when they offer to shout you a meal How to thank someone sincerely How to thank someone close to you without sounding distant
Accepting	How to accept a gift with appreciation How to accept an invitation
Gifting	How to give a gift to build relations
Inviting	How to invite someone for a meal
Complimenting	How to compliment someone
Joking	How to tell a joke to lighten up the mood
Greeting	How to greet someone appropriately

2 Sociopragmatic knowledge

The category sociopragmatic knowledge is concerned with knowing the social, contextual, and cultural factors that influence the realization of social actions (Leech, 1983). CA-informed research on L2 interaction has shown that the implementation of social actions is cultural-specific and requires appropriate mapping between sociopragmatics and pragmalinguistics (Dai & Davey, 2022a; Golato, 2002; Huth, 2006; Huth & Taleghani-Nikazm, 2006; Waring, 2013). In the present study, the close connection between sociocultural knowledge and social actions is endorsed by the preceding discussion on the social actions category where participants frequently accompanied their accounts of social actions with discussions on the underlying sociopragmatic concerns that are specific to the target language and community. Knowledge of sociopragmatics is therefore integral to L2 speakers’ ability to launch social actions successfully. This is

the rationale for the researcher’s theorizing sociopragmatic knowledge as a second-tier learning category that underpins social actions in the model in Figure 2. Based on the coding manual in Appendix 2, sociocultural knowledge comprises four subcategories, (1) culture-specific practices, (2) social distance, (3) social hierarchy, and (4) face. Table 8 presents the frequency and percentage of the number of coded extracts for each of the sub-categories, highlighting their respective saliency. Below is an exposition of the specific learning needs in each subcategory.

Table 8. Subcategories within the sociopragmatic knowledge category.

Sociopragmatic knowledge	Frequency	Percentage
Culture-specific practices	20	32.8
Social distance	16	26.2
Social hierarchy	15	24.6
Face	10	16.4
Total	61	100.0

a *Culture-specific practices.* Culture-specific practices describe L2 speakers’ knowledge of how interaction is achieved in a routinized fashion that is specific to the host culture (Kecskes et al., 2018). Table 9 presents the specific IC learning needs identified for this subcategory. One such practice in the target language Chinese is a sense of modesty when talking about one’s achievement or personal affairs, which both L2-Chinese speakers and L1-Chinese interactants flagged as a salient culture-specific practice that L2 speakers struggle with.

“Chinese people can be very self-deprecating, which is interesting. When my friend [an L1-Chinese speaker] talked about her husband, she said he’s not very good-looking. I was confused and thought why did you say that? Don’t you like him? I wasn’t sure how to respond and this happens a lot.” (Crissy, intermediate L2-Chinese speaker, original quote in English)

“For example, Angelina [pseudonym for an L2-Chinese speaker] says ‘my colleagues all recognize my competence’. Most Chinese people wouldn’t really be so boastful when talking about their achievements in the workplace. They tend to be a bit more reserved.” (Dai Ling, L1-Chinese work-domain interactant, translated, original quote in Chinese)

Crissy’s and Dai Ling’s accounts verify findings in Wu (2011) where the author used CA to uncover the complex interactional practices L1-Chinese speakers employ to achieve self-praise in an ‘indirect, allusive and gingerly manner’ (p. 3175). Explicit instructions in language classes on how such culture-specific practices are interaction-ally achieved can be helpful for L2 speakers that are new to the sociopragmatic norms of the target language.

Table 9. IC learning needs for cultural-specific practices within sociopragmatic knowledge.

Subcategory	Learning needs
Cultural-specific practices	How to understand the concept of 集体主义/jitizhuyi ('collectivism') How to understand the line between 公/私 gong/si ('public/private') How to interpret jokes with rich cultural references How to understand the concept of 谦虚/qianxu ('modesty/self-deprecation') How to understand 撒娇/sajiao ('acting spoiled') behaviour How to understand the concept of 孝/xiao ('filial piety') How to understand the concept of 大局为重/dajuweizhong ('prioritizing the big picture') How to maintain 关系/guanxi ('interpersonal relationships') after a business deal has closed How to understand the gender expectations in the Chinese context How to understand the concept of 私人/siren ('personal') in the Chinese context

b Social distance. Social distance refers to how an L2 speaker considers the closeness between themselves and their interlocutor in a specific interactional context. Conceptualized as one of the three contextual variables that mediate the politeness level of one's speech in politeness theory (Brown & Levinson, 1987, the other two variables being power and rank of imposition), knowledge of social distance was considered by participants in this study to be a factor that impacts L2 speakers' ability to interact successfully. Mike, an L2-Chinese speaker who is married to an L1-Chinese speaker, commented on how social distance can influence the way he conducted the thanking action with his L1-Chinese mother-in-law.

"My mother-in-law definitely thinks I thank her too much. Perhaps I thank her for things that I shouldn't thank her for, considering that she's my mother-in-law. Thanking too much can be alienating." (Mike, intermediate L2-Chinese speaker, original quote in English)

Mike's example demonstrates his awareness of how the deployment of social actions or the omission of them (in this case refraining from thanking one's mother-in-law for small favours) is mediated by sociopragmatic considerations such as the social distance between speaker and interactant in the target language. Table 10 presents a detailed list of the IC learning needs in relation to social distance.

Table 10. IC learning needs for social distance within sociopragmatic knowledge.

Subcategory	Learning needs
Social distance	How to know who is supposed to be close to you and who is not How to know to whom you can share personal issues How to know when something is within the family and when it is not How to know when a stranger is intruding on your personal space How to know the different degrees of closeness within a Chinese family How to narrow social distance in a new environment How to interact in the workplace with people of different degrees of social distance

c *Social hierarchy.* Corresponding to the contextual variable power in politeness theory (Brown & Levinson, 1987), social hierarchy in this study is defined as the perceived difference in the rights and authority between speaker and interlocutor in a certain interactional context. Participants found knowledge of social hierarchy, similar to social distance, influences the implementation of social actions. Table 11 details the specific IC learning needs for this subcategory and, looking through the list, we can see social hierarchy becomes a particular concern for L2 speakers in the workplace as institutional power is realized in a language- and culture-specific manner. Having worked in different Chinese companies, Crissy commented on the high-stakes nature of interaction with people of authority in the Chinese workplace, which required specific knowledge of social hierarchy.

“In formal settings where there are people of power things can become very stressful. The way you greet them, the speech style you use when talking to them, where you stand in relation to them, where you sit next to them, and how you position your glass against theirs when toasting. There’s a lot of factor in.” (Crissy, intermediate L2-Chinese speaker, original quote in English)

Table 11. IC learning needs for social hierarchy within sociopragmatic knowledge.

Subcategory	Learning needs
Social hierarchy	<ul style="list-style-type: none"> How to interact with people who have less power than you at school and in the workplace How to interact with people with power over you in formal settings How to understand Chinese teachers’ power in the classroom How to adapt your interactional style to interlocutors of different power levels How to understand the relationship between age and power How to understand the manifestation of power in a group setting (e.g. who acts first) How to understand a manager’s power over employees How to know when one can talk back and when one cannot while interacting with someone in a position of power

d *Face.* The last subcategory within sociopragmatic knowledge is the concept of face. In politeness theory face is analysed into positive and negative faces; positive face refers to a speakers’ need to be appreciated while negative face is their want to be unrestricted (Brown & Levinson, 1987). Although face is conceptualized in politeness theory to be a universal concern across languages and cultures, research in Chinese politeness has argued that there are specific sociopragmatic face concerns in the Chinese context (André, 2013). Table 12 presents the specific face-related IC learning needs for our target L2 cohort. A critical incident in relation to face was recounted by Mike, a domain-expert L2 speaker with specialized knowledge of pragmatics, and Song Mu, an L1-Chinese life-domain interactant who is Mike’s partner. They separately narrated the same incident involving a criticizing action from Mike to Song Mu that displeased the latter.

I was criticizing my wife for sitting back and expecting me to teach her English rather than her taking the initiative and responsibility for her own learning. I did it at dinner with friends. It [criticizing] is a threat to a person's positive face in every culture but maybe just in Chinese culture it's more accentuated. (Mike, intermediate L2-Chinese speaker, original quote in English)

"It was a very memorable incident. There was a group of us at a hotpot place. Mike didn't save any mianzi/面子 ['face'] for me. It's not about his language or personality that really upset me. It's his lack of understanding of saying that in front of Chinese people that is very hurtful. He thought he was just stating a fact. Foreigners [L2-Chinese speakers] don't really understand what mianzi is and why it is important to be mindful of it. You can't really see mianzi, but it is something that we [L1-Chinese speakers] care a lot about." (Song Mu, L1-Chinese life-domain interactant, translated, original quote in Chinese)

The incident shared by Mike and Song Mu shows that while face can be a universal sociopragmatic consideration for speakers of any language, how face is understood, managed, and negotiated interactionally is a local achievement that is embedded in the sociopragmatics of the target language, which requires explicit instructions in language teaching. Interested readers can refer to Dai and Davey (2022a, 2022b) where the authors used CA and Membership Categorization Analysis to uncover the specific interactional methods Chinese speakers employ to address highly face-threatening situations.

Table 12. IC learning needs for face within sociopragmatic knowledge.

Subcategory	Learning needs
Face	<p>How to understand the Chinese concept of 脸/lian ('face')</p> <p>How to understand why Chinese people attach so much importance to 面子/mianzi ('face')</p> <p>How to understand the considerations around 面子/mianzi ('face') in the workplace</p> <p>How to understand the need to preserve a teacher's 面子/mianzi ('face') as a student</p> <p>How to repair 面子/mianzi ('face') once it is damaged</p> <p>How to know what behaviour can make a person 丢脸/diulian ('lose face')</p>

3 Pragmalinguistic knowledge

While sociopragmatic knowledge influences L2 speakers' ability to design social actions in a recognizable manner in the host community, pragmalinguistic knowledge determines whether L2 speakers are able to mobilize linguistic devices to map their sociopragmatic knowledge onto specific actions. The reflexive, co-determining relationship between sociopragmatics and pragmalinguistics implies that both categories undergird the management of social actions, as reflected in the IC needs model in Figure 2. A note is in order here to explain how the 'pragmalinguistic knowledge' category was differentiated from the 'linguistic resources' category during the coding process. Extracts that focus more on

L2 speakers' linguistic control for pragmatic purposes were coded into the pragmalinguistic knowledge category, while the ones concerned with linguistic considerations without specific pragmatic implications were coded into the linguistic resources category. This also forms the reasoning for theorizing linguistic resources in the third tier in Figure 2, as pragmalinguistic knowledge is predicated on the use of linguistic resources. Four subcategories constitute pragmalinguistic knowledge: (1) formality devices, (2) directness devices, (3) culture-specific language choices, and (4) formulaic language. Table 13 provides detail on the frequency of coded extracts in each subcategory.

Table 13. Subcategories within the pragmalinguistic knowledge category.

Pragmalinguistic knowledge	Frequency	Percentage
Formality devices	18	40.9
Directness devices	12	27.3
Cultural-specific language choices	9	20.4
Formulaic language	5	11.4
Total	44	100.0

a *Formality devices.* The most frequently mentioned subcategory in pragmalinguistic knowledge is L2 speakers' ability to employ formality devices. Corresponding to social hierarchy in the sociopragmatic knowledge category, L2 speakers need to have at their disposal a range of discourse markers to recipient-design their language to their interlocutor, depending on the contingent formality level required of the interactional context. Table 14 presents a list of specific IC learning needs for this subcategory. L1-Chinese participants for this study, whether teachers or interactants, in general adopted a very understanding stance towards L2 speakers' restricted range of linguistic devices. Infelicities in pragmalinguistics, such as formality devices, however, can quickly negatively impact on their perception of the speaker. Wang Ni, an L1-Chinese educator teaching Chinese to advanced speakers, reported the following incident.

"There's this incident in WeChat Moments [similar to Facebook walls] about address terms. I left a comment on a photo that one of my students posted and said, 'is that Zhuli [pseudonym] in the photo?' The student [who posted the photo] replied 'how can you call him Zhuli, you need to say Zhuli 哥/ge ['brother'].'" (Wang Ni, L1-Chinese advanced-level teacher, translated, original quote in Chinese)

In the interview Wang Ni expressed deep concerns regarding the use of the address term *ge* when it was initiated by the student, who is often positioned at the lower end of social hierarchy in the teacher–student relationship in the Chinese context. Wang Ni further emphasized that such misuse of formality devices can be considered an ostensible display of impoliteness in the workplace, regardless of L2 speakers' Chinese proficiency. This endorses the argument in Thomas (1983) that pragmatic misunderstandings invite speakers to make value judgements about one another. It becomes more pronounced with advanced L2 speakers as they are assumed to have developed the sociocultural-pragmatic

knowledge that is proportional to their proficiency, which unfortunately is not always the case. Explicit instruction on pragmalinguistic devices in an IC curriculum can therefore be conducive to redress such misapplications.

Table 14. IC learning needs for formality devices within pragmalinguistic knowledge.

Subcategory	Learning needs
Formality devices	<p>How to mark language with formality when talking to government officials/communist party members/political figures</p> <p>What formality markers to use when talking to your teacher</p> <p>How to adjust formality markers depending on the interactional context</p> <p>How to make language less formal in everyday interaction</p> <p>How to address/greet people with the appropriate level of formality</p> <p>How to increase the level of formality in language to show respect</p> <p>How to adjust the level of formality in language when interacting with Chinese family members</p> <p>How to use informal language in computer-mediated communication</p>

b Directness devices. Similar to formality devices, the non-linear relationship between proficiency and pragmalinguistics is also observable when it comes to directness devices. Although L1 speakers reported an accommodating attitude towards linguistic infelicities in L2 speech, inapposite use of directness devices appeared to have quickly strained social solidarity.

“When Bridie [pseudonym, L1-German speaker] expresses her opinions, she always sounds very direct, like ‘I don’t like this idea’, ‘that picture is not good’. Her Chinese is actually quite good but she can still sound very offensive. Most Chinese speakers won’t be so direct when they disagree with others.” (Xuan Zhong, L1-Chinese study-domain interactant, translated, original quote in Chinese)

In Xuan Zhong’s incident he took notice of Bridie’s high proficiency in Chinese and found her lack of indirectness devices therefore all the more disconcerting. This again suggests a disconnect between proficiency development and pragmalinguistic development, highlighting the importance of teaching L2 speakers how pragmalinguistic devices are utilized for effective interaction. Specific IC learning needs regarding directness devices are summarized in Table 15.

Table 15. IC learning needs for directness devices within pragmalinguistic knowledge.

Subcategory	Learning needs
Directness devices	<p>How to understand the implicature of indirect language</p> <p>How to infer the interlocutor’s intention/opinion based on the indirect language they use</p>

(Continued)

Table 15. (Continued)

Subcategory	Learning needs
	How to be more cognizant of indirect language at a discourse level How to make language more indirect when talking to people older or have more power than you How to cope with direct language that you perceive to be offensive How to manage the level of directness in language when talking about one's emotions How to control the level of directness in language when you disagree/have a conflict with someone

c *Cultural-specific language choices.* The third subcategory, culture-specific language choices, concerns language that has specific cultural, historical, and social meanings. Specific learning needs for this subcategory are listed in Table 16. The use and acquisition of such pragmalinguistic devices can be challenging for L2-Chinese speakers since their meanings are usually opaque and predicated on knowledge of the host culture. Even advanced L2 speakers, as Dave illustrated in the following excerpt, can be stumped by such pragmalinguistic items.

“Sometimes when my Chinese friends use language from *xiyouji*/西游记 [‘Journey to the West’, a classic Chinese novel written in the 16th century], I find it hard to respond to it. I know the gist of the novel but there is background knowledge there. As a non-native speaker, it’s very hard to fill in the blanks in those words.” (Dave, advanced L2-Chinese speaker, original quote in English)

Despite Dave’s high proficiency in Chinese and extended length of residence in the Chinese community, he still struggled with the pragmatic and interactional functions of certain culture-laden expressions. It is worth noting that Dave’s L1-Chinese friends possibly assumed Dave’s understanding of culture-specific language considering his native-like linguistic control of Chinese. This again indicates that the acquisition of pragmalinguistic devices does not happen automatically as L2 speakers’ proficiency develops. L1-Chinese interactants Xuan Zhong and Ke Han, who interacted with L2 speakers in the study and everyday life domains frequently, mentioned that they would consciously avoid using language that has cultural references when conversing with L2 speakers, although this was not always easy or successful. Such practices can facilitate interaction but also deprive L2 speakers of opportunities to acquire culture-specific language through negotiation of meaning. Previous research has noted that mastery of culture-specific language can compensate for lack of proficiency, as the intermediate L2-Chinese speaker in Roever and Dai (2021) creatively used the culture-specific phrase 乖孩子/*guaihaizi* (‘good kid’) to further his interactional agenda. It is therefore conducive to L2 IC development if language educators can incorporate culture-specific phrases in their communicative language curriculum.

Table 16. IC learning needs for cultural-specific language choices within pragmalinguistic knowledge.

Subcategory	Learning needs
Cultural-specific language choices	How to understand language that has rich cultural and religious references What language sounds masculine/feminine What language is appropriate to use when talking to the opposite sex

d *Formulaic language.* The last subcategory, formulaic language, is routinized, set phrases of a language. Two IC learning needs were identified for this subcategory, as Table 17 displays. Research in interlanguage pragmatics has shown that routine formulae can be efficiently acquired in the target language community, although the effectiveness of learning is dependent on the interactional contexts to which L2 speakers have access (Roever, 2012). Participants' reporting in this study confirmed findings from previous research and highlighted the differing challenges faced by beginner and advanced L2 speakers. For beginner L2-Chinese speakers, the obstacle is usually related to the first learning need in Table 17, which is how to differentiate various formulaic expressions that can realize the same social action. Ella made this point when discussing the apologizing action.

"I think someone should explain to me clearly the different ways of apologizing, as in the differences between buhaoyisi/不好意思 vs. duibuqi/对不起." (Ella, beginner L2-Chinese speaker, original quote in English)

More proficient speakers can also struggle with formulaic language, although as their linguistic control develops, the challenge tends to be associated with what formulaic expressions to use for less common social actions, which is the second learning need in Table 17. Based on her extensive experience in language program management, Zhou Wu commented on the difficulty with routine formulae at higher proficiency levels.

"When L2 speakers need to share bad news like someone just passed away in Chinese, how to say it properly can be hard. There can be influences from their native language. Another example is conventional language at funerals or weddings. Even advanced L2 speakers can struggle with that." (Zhou Wu, intermediate-course L1-Chinese teacher, translated, original quote in Chinese)

Table 17. IC learning needs for formulaic language within pragmalinguistic knowledge.

Subcategory	Learning needs
Formulaic language	How to differentiate routine formulae for the same social action How to learn routine formulae associated with less frequent social actions

4 *Interactional structure*

The category interactional structure contains coded extracts where participants mentioned specific methods and practices behind the mechanistic structure of interaction

(May et al., 2020; Sacks et al., 1974), such as turn-taking, topic development, opening, and closing (for a complete list of learning needs for this category, see Table 18). Knowledge of the structural properties of interaction influences interaction at a basic level, which is why it is positioned in the third tier in the IC needs model in Figure 2. As a beginner-level L2-Chinese speaker, Ella discussed her frustration at her inability to co-construct interaction with her interlocutor due to a lack of instruction on turn-taking in language classes.

“The textbook teaches you keywords and sentences in the post office or the bank, but they don’t teach you how they are strung together when conversation actually happens. I need to know when is my turn to talk.” (Ella, beginner L2-Chinese speaker, original quote in English)

Ella’s point is corroborated by research in IC teaching that raises concerns that traditional language pedagogy does not provide L2 speakers with sufficient instruction on how interaction is organized sequentially (Barraja-Rohan, 2011). Language teachers such as Ma Dong discussed the importance of designing language tasks that improve students’ ability to sequentially develop a topic:

“We need to teach students how to expand on a topic, not just a one-sentence response to ‘what did you do over the weekend’. This simple question can lead to tasks of differing difficulties. You need to help students develop the ability to go deep with a topic.” (Ma Dong, beginner-level L1-Chinese educator, translated, original quote in Chinese)

Focusing on a similar ‘how was your weekend’ question, Waring (2013) used CA to examine how L2-English students’ interactional structures changed over time when they needed to respond to this question from their teacher in a language classroom. Waring concluded that change in interactional structure, such as topic management, is embedded in L2 speakers’ growing control over the sociopragmatics and pragmalinguistics of the target language. The IC needs model in Figure 2 therefore captures the hierarchical relationship between interactional structure and the two pragmatics knowledge domains by positioning the former in the third tier and the latter in the second tier. The comparatively fewer mentions of interactional structural issues are likely due to the fact that these finer-level interactional features are not readily perceivable by the conscious mind and difficult to report without refined CA analysis on transcripts of speaker discourse (Heritage, 1990).

Table 18. IC learning needs for interactional structure.

Learning needs
How to manage turn-taking in multiparty conversation
How to interact when the other person produces a long preliminary
How to develop a topic
How to open a topic
How to secure a turn when joining a conversation
How to implement repair (e.g. correcting oneself or the interlocutor) in conversation
How to know when to close a conversation

5 Content knowledge

Content knowledge refers to an L2 speaker's understanding of the non-linguistic information that constitutes the interactional context. Most learning needs in this category, as presented in Table 19, were contributed by Ella and Dan, the two beginner-level L2 speakers in Table 1. The content knowledge that impeded their interaction was related mostly to the initial stages of settling in China. Dan mentioned the potential benefits to L2 speakers if L2-Chinese textbooks could provide more contemporary content knowledge to situate their learning.

“What I would like to include in Chinese textbooks is how to use Chinese apps [mobile phone applications], like how to order food on 饿了么/elema [‘a food ordering Chinese app’], how to get locations, how to use WeChat Pay [a Chinese phone-based payment app similar to ApplePay]. China has such a focus on convenience and without background knowledge navigating is very difficult.” (Dan, beginner L2-Chinese speaker, original quote in English)

It is telling that the foreignness of the Chinese context, albeit understandably challenging for L2 speakers, quickly became a non-issue for intermediate and advanced L2 speakers, who were more concerned with pragmatic infelicities when the researcher foregrounded challenges in L2-Chinese interaction in the H-S interviews. Content knowledge, as L2 speakers socialize into the sociocultural-pragmatic system of the target language, is likely to have sedimented into their sociopragmatic competence. Zhou Wu, an L1-Chinese teacher, verified this point.

“When you put students in the environment [target language community] for half a year, they will quickly pick up everyday background knowledge, like how to buy breakfast, use 团购/ tuangou [‘groupon’], 淘宝/Taobao [‘an online shopping website similar to Ebay’].” (Zhou Wu, intermediate-level L1-Chinese teacher, translated, original quote in Chinese)

This hierarchical relationship between content knowledge and sociopragmatic knowledge is embodied in the IC needs model in Figure 2, with the former in the third tier and the latter in the second tier.

Table 19. IC learning needs for content knowledge.

Learning needs
How to know the policies about properties/renting
How to use mobile phone applications for transaction
How to manage everyday transactions (e.g. get a sim card, use your passport to buy a phone, book tickets)
How to set up utilities in your new place
How to post things in a post office
How food is ordered in Chinese restaurants
How to open a bank account
How to build up content knowledge in unfamiliar areas (e.g. Chinese sports)
How to navigate in Chinese cities

6 Linguistic resources

The ‘linguistic resources’ category covers extracts where participants discuss how control over linguistic devices poses challenges to interaction. Table 20 presents the IC learning needs identified for this category. As explained in the pragmalinguistic knowledge category, how extracts were coded into these two categories depended on if participants oriented to the pragmatic implications in their discussion of linguistic items. Within the linguistic resources category, tonality had the highest number of reporting. This is not unexpected given that research in phonetics has shown that L2 speakers in general struggle with tones in the new language, regardless of whether their L1 is a tonal language or not (Hao, 2012; So & Best, 2010). Zhang Huang, an L1-Chinese speaker who had frequent interactions with L2-Chinese speakers at work, recounted the following incident.

“This colleague of mine [L2-Chinese speaker] brought me some fruit from the city he visited the other day. He was telling me that the fruit can be yang1yan1 [1 to 4 used to mark the four tones in Mandarin Chinese]. It took me a long time to understand what he meant was 养颜/yang3yan2 [‘good for the skin’].” (Zhang Huang, L1-Chinese work-domain interactant, translated, original quote in Chinese)

It is revealing that linguistic concerns in terms of correct lexical and grammatical usage hardly received any attention from participants despite the fact that they are traditionally the areas of focus in L2 Chinese teaching (Linnell, 2001; Ma et al., 2017). How to employ lexicogrammar resources to achieve pragmatic functions, on the other hand, is discussed more frequently by the participants in the pragmalinguistic knowledge category, although pragmalinguistics is still underrepresented and under-researched in the current L2 Chinese education landscape (Gong et al., 2020; Ke, 2012; Li, 2013; Zhao, 2008). The intimately related, hierarchically structured relationship between linguistic resources and pragmalinguistic knowledge therefore positions the former in the third tier and the latter in the second tier in the IC needs model in Figure 2. The model highlights that as L2 speakers improve in linguistic correctness, the challenge morphs into how to assemble linguistic devices to fulfil pragmatic functions in interaction.

Table 20. IC learning needs for linguistic resources.

Learning needs
How to make the tones of words correct
How to use functional particles (e.g. 了, 过) correctly
How to abbreviate words
How to interpret the different semantic meanings of the same expression

7 Nonverbal resources

The last category, nonverbal resources, has received growing attention in L2 IC research as an integral component of L2 speakers’ interactional repertoire (Dai & Tai, 2023; Galaczi & Taylor, 2018; Plough, 2021; Tai & Dai, 2023). Similar to other categories in

the third tier in Figure 2, nonverbal resources are basic interactional resources that speakers draw on to perform the pragmatic meanings (second tier) of social actions (first tier) in interaction. Table 21 details the IC learning needs identified for this category. Previous studies have shown that nonverbal resources such as facial expressions can be cultural-specific, which engenders miscommunication when L2 speakers are unfamiliar with the nonverbal interactional norms in the target community (Camras et al., 2006; Jack et al., 2012). Li Hu, an L1-Chinese participant with considerable experience interacting with L2-Chinese speakers in the study domain, narrated an incident where eye contact and facial expression created tension between an L2-Chinese student and their L1-Chinese professor at university.

“There’s this one time our professor was talking to a group of us [university students] about something. The professor noticed a student’s [L2-Chinese speaker] facial expression was a bit unusual. That student’s gaze was also wandering off. The professor then got upset and said ‘is [student’s name] displeased or what?’” (Li Hu, L1-Chinese study-domain interactant, translated, original quote in Chinese)

Li Hu explained what happened then was that while the L2-Chinese student wanted to appear respectful to their professor, he was not fully cognizant of the fact that ‘doing being respectful’ is a multimodal undertaking: one needs to regulate not only their verbal but also nonverbal resources such as facial expression and eye contact. This points to the necessity of developing L2 speakers’ awareness of the import of nonverbal resources for interaction. Existing studies on teaching L2-Chinese nonverbal behaviour are scant though Orton (2014) noted different pedagogical practices in CSL (Chinese as a second language) and CFL (Chinese as a foreign language) contexts. L1-Chinese CSL teachers in China valued facial expression management when assessing Chinese learners’ speaking performances. Such an emphasis was not placed by either L1-Chinese or L2-Chinese CFL teachers in Australia. This can be construed as incipient evidence that nonverbal resources, though a crucial constituent of IC, tend to be neglected by Chinese teachers not practicing teaching in the target community where the multimodal nature of interaction is more pronounced and assumed. Further research is needed in this direction to better our understanding of the interactional significance of nonverbal resources for L2 Chinese interaction.

Table 21. IC learning needs for nonverbal resources.

Learning needs
How to manage facial expressions to show engagement
How to control facial expressions to avoid showing negative emotions
How to maintain eye contact in interaction
How to control eye contact to avoid showing negative emotions
How to use body language appropriately (especially with the opposite sex)

V Discussion and pedagogical implications

This study is one of the few needs analysis studies on L2 Chinese, a target language that warrants more attention in the needs analysis literature in view of the growing demand from the L2-Chinese speaker population. In terms of methodology, this study carefully considered and employed different triangulation strategies for participant selection and data elicitation (Brown, 2001), which has enhanced its methodological validity. The use of H-S interviewing techniques allowed the participants to provide detailed accounts of critical incidents, which can facilitate subsequent development of authentic communicative language tasks for teaching and assessment (Dai, 2021, 2022). These methodological innovations can inform future endeavours at L2 Chinese needs analysis and needs analysis research in general.

In terms of contributions and implications to the teaching and testing of L2 IC, this study identified seven main categories that characterize L2 speakers' IC learning needs. Based on the content in the seven categories, the researcher proposed a model to understand IC learning needs in Figure 1. The model offers a schematic representation of the hierarchical interrelationships among the categories. Language curriculum and program developers can draw on the model when designing task-based language teaching and assessment materials for IC. Starting from the first tier, they can first consider what social actions to focus on given their particular L2 cohorts. Moving to the second tier, they can determine what sociopragmatic and pragmalinguistic knowledge is required in the management of social actions. Finally, in the third tier, they can investigate what interactional structure, content knowledge, linguistic resources and nonverbal resources are marshalled for the implementation of specific social actions in the target L2. The IC needs model therefore provides a template for a rethink of communicative language teaching and assessment, which needs to foreground the functional, pragmatic and interactional nature of language use.

In tandem with the theoretical IC needs model in Figure 2, the specific IC learning needs this study identified for each of the categories and subcategories from Tables 6 to 21 can also be useful resources to language teachers and test developers. Since the interview questions focused on the most challenging aspects of interaction, the order of the seven categories and their accompanying learning needs provides an indication of the most difficult and frequently encountered aspects of L2 interaction. This information can assist language teachers to identify aspects of IC that need to be prioritized in curricula and assessment. The methodology this study adopted to generate the comprehensive lists of learning needs can also be taken up by needs analysts working with other languages.

Now let us look at how the development of language tasks can be guided by findings from this study. When asked about the most challenging aspects of L2 interaction, participants predominantly focused on discussing social actions (first tier in Figure 2). This endorses existing theoretical understanding of IC that defines IC as the ability to co-construct social actions in an interactional fashion (Hall & Pekarek Doehler, 2011). This study identified disaffiliative actions to be a dominant concern for L2 speakers. As disaffiliation management has rarely been discussed in L2 Chinese teaching (Gong et al.,

2020; Linnell, 2001; Ma et al., 2017), this novel finding can inform future curriculum and assessment design. Language teachers and test developers can design language tasks around frequently reported disaffiliative actions in Table 6, such as a task that requires L2 speakers to skillfully launch a complaint to their manager in the workplace (Dai & Davey, 2022a, 2022b). Dai (2021, 2022) illustrate how the critical incidents surrounding disaffiliation management reported in this needs analysis laid the groundwork for the development of nine IC assessment tasks that target test-takers' ability at handling dis-affiliative social actions.

After educators have identified the social actions of relevance for pedagogy and assessment, they need to consider the sociopragmatic and pragmalinguistic knowledge undergirding social actions, as illustrated by the second tier in the needs model. The frequent mentions of sociopragmatic and pragmalinguistic knowledge in this study are indicative of participants' awareness of the sociocultural-pragmatic context underpinning social actions (Galaczi & Taylor, 2018). It is incumbent on language educators to develop L2 speakers' control over the sociocultural-pragmatic dimension of language use, which stands in sharp contrast to the enduring emphasis on formal linguistic structures in L2 Chinese education to date (Ke, 2012; Li, 2013; Zhao, 2008). The learning needs identified in these two categories, presented from Tables 9 to 17, provide clues for teachers and assessors to situate their L2 IC curricula and tests in the broader social, cultural, and pragmatic contexts surrounding language use (Canale & Swain, 1980). Language teachers and assessors can incorporate learning needs in these two categories when designing language tasks that target specific social actions. In the workplace complaint example used previously, teachers can cultivate students' sociopragmatic and pragmalinguistic competence by directing their attention to the hierarchical relationship between employee and manager and how such a relationship is realized linguistically (for how these considerations were accounted for in task development, see Dai, 2021; for how institutional power is realized linguistically in Chinese interaction, see Dai & Davey, 2022a).

As to the four categories in the third tier in the needs model in Figure 2, they are less salient to participants in this study but nevertheless bolster the first and second tiers, hence constituting the bedrock of successful interaction. Interactional structure and non-verbal resources cover specific interactional practices L2 speakers find challenging when implementing social actions. Although L2 speaker behaviour in these two categories has been researched in IC studies (Dai & Tai, 2023; Plough, 2021; Tai & Dai, 2023), they are yet to make inroads into L2 Chinese teaching and assessment in a systematic fashion (Gong et al., 2020). Educators can draw on the learning needs for these two categories in Tables 18 and 21 to determine if they can be incorporated in their communicative language curricula and tests. In the workplace complaint example mentioned previously, teachers can cultivate students' awareness of how complaints in the workplace unfold sequentially, and how speakers draw on a range of nonverbal resources such as gaze and body language to accompany the action of complaining.

With regard to content knowledge and linguistic resources, both categories received less attention from participants. This is not to suggest that communicative language teaching does not need to include instruction in these areas. At an earlier stage of

language learning and mostly in the foreign language context, information about the target language community and feedback on linguistic forms can be facilitative to L2 speakers' IC development. The reason why these two categories were less mentioned is that participants in this study were oriented to the interactional challenges L2 speakers experience in the target community. As the target learner group for this needs analysis is L2 speakers who have a need to relocate to the L2 community, their challenges with content knowledge are likely to be addressed as their levels of socialization increase in the community. A large portion of content knowledge is also abstracted and sedimented into speakers' sociopragmatic knowledge in the second tier. Teachers can consider at which stage of L2 acquisition the content knowledge learning needs in Table 19 should be addressed. This can inform the level of detail they include in the IC tasks they develop (for examples on how task details were adjusted based on L2 speakers' proficiency levels, see Dai, 2021, 2022). The linguistic resources category demonstrates that linguistic challenges, in the strictest sense of lexicogrammatical correctness, are less emphasized when the focus is on interaction in the target community, although linguistic form is still the primary focus in current L2 Chinese teaching (Ma et al., 2017). It is more conducive to the development of L2 IC if teachers position the teaching of linguistic resources within the broader aim of developing pragmalinguistic knowledge, as reflected by the hierarchical relationship between the two categories in the IC needs model in Figure 2.

VI Conclusions

This study demonstrates that needs analysis can be an effective tool to identify the specific social actions and sociocultural-pragmatic contexts for the teaching and testing of L2 IC. As IC education is still at its nascent stage, this needs analysis brings forth clarity by showing how L2 speakers' learning needs can be systematically identified to develop IC tasks for language curricula and programs. The seven categories that emerged from this study can inform future endeavours in conceptualizing L2 learning needs in terms of IC. The IC needs model in Figure 2 and the detailed learning needs lists for each category provide a practical didactic toolkit for developing task-based language teaching and assessment materials for L2 IC, and L2 communicative competence in general. The rigorous and innovative methodology employed in this study, especially with regard to the use of triangulation, can inform future needs analysis studies that focus on other target languages and other language use domains.

A limitation of this study is that the learning needs identified are based on interviews and written diaries from 18 participants alone. This restriction is due to the qualitative nature of the study design, which allows for the elicitation of in-depth critical incidents but at the same time limits the number of participants. Considering the scarcity of needs analysis on L2 Chinese IC, this study represents one of the initial attempts at producing an overall picture of L2 Chinese interactional needs, in the hope that more needs analysis on L2 IC will be conducted to understand specific speaker groups' learning needs. Future research can also use other research methods such as questionnaires to ascertain if the IC needs identified in this study address the most urgent learning goals of L2 speakers based on quantitative data from larger groups of participants.

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Appendix 1

Interview protocol

The protocol presented here was for the L2-Chinese speaker group. Adapted versions were used for the L1-Chinese teacher and L1-Chinese interactant groups

Lead-in

As you know, I'm interested in the challenges you have experienced when using Chinese to communicate with other Chinese-speaking people in China. What were the situations or what was it about interaction in Chinese you find most tricky, uncomfortable, or difficult to handle? We should focus on the situations where you use Chinese instead of other languages. Are there one or two situations that stand out for you that you might want to talk about?

Sample prompting questions for L2-Chinese speakers based on Dinkins (2005) and Roulston (2022)

- What's your definition of interaction?
- In your opinion, what was the *most* challenging situation for interaction in Chinese, or what makes interaction in Chinese *most* challenging?
- Tell me about . . .
- You mentioned that you had _____; could you tell me more about _____
- You mentioned when you were doing _____, _____ happened. Could you give me a specific example of that?
- Thinking back to that time, what was that like for you?
- You mentioned earlier that you _____. Could you describe in detail what happened?
- You mentioned _____. I can give you an example that might be similar to what you were saying _____. Can you think of something similar?
- You mentioned _____ but I think it contradicts what you said earlier _____. What do you think?
- Let's revisit our definition of interaction in Chinese. Do you still think _____ ?

Appendix 2

Coding manual

Category	Description and examples
Social actions	The mention of actions that achieve specific social functions, such as telling a friend you cannot attend their birthday party.
Disaffiliative actions	The mention of social actions that can threaten interpersonal relationships and social harmony, such as criticizing a colleague at work
Affiliative actions	The mention of social actions that can promote interpersonal relationships and social harmony, such as thanking someone for a birthday party invitation
Sociopragmatic knowledge	The mention of issues related to sociocultural norms, expectations, and conducts and how these issues shape interpersonal interaction
Cultural-specific practices	The mention of concerns and concepts that are specific to the culture of the target language, such as the notion of <i>xiao</i> /孝 ('filial piety')
Social distance	The mention of concerns related to how close one feels about their interlocutor, such as their comfort level in sharing personal information with someone they do not know very well
Social hierarchy	The mention of issues about perceived hierarchical social structures and relations, such as appropriate language use in front of one's manager at work, who is perceived to have more power
Face	The reference to <i>lian</i> /脸 ('face'), <i>mian zi</i> / 面子 ('face') and related concepts that are specific to the Chinese understanding of one's perceived honor, self-esteem and self-respect

Category	Description and examples
Pragmalinguistic knowledge*	The mention of linguistic devices in the sense of the devices being used to achieve interactional goals in social contexts
Formality devices	The mention of linguistic devices that moderate the degree of how in/formal one sounds, such as the difference between addressing a close friend vs. a teacher at school
Directness devices	The mention of concerns related to how in/direct one speaks, such as using implicature to get the message across
Cultural-specific language choices	The reference to linguistic devices that are rich in the social, cultural and historical aspects of the target language, such as gendered speech and 缘分/ <i>yuanfen</i> ('fate')
Formulaic language	The reference to routinized expressions commonly employed to achieve social actions such as different ways to say 对不起/ <i>duibuqi</i> ('I'm sorry') when one wants to apologize
Interactional structure	The mention of speech features that are related to the interactive, co-constructed nature of interaction, such as turn-taking, topic development and opening
Content knowledge	The mention of challenges with background knowledge that is specific to the target language community, such as how mobile phone SIM cards are purchased in mainland China
Linguistic resources	The reference to linguistic devices without a strong sociopragmatic orientation, such as the position of particles (e.g. 了/ <i>le</i>) in a sentence for grammatical accuracy
Nonverbal resources	The reference to nonverbal cues that can influence interaction such as facial expression and body language

Note. * If linguistic devices were mentioned in the context of comprehending the linguistic meaning of the message without consideration of the sociopragmatic import of the message, it should be coded to the category linguistic resources.