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# Developing 21st century skills for the first language classroom: Investigating the relationship between Chinese primary students' oral interaction strategy use and their group discussion performance

**Abstract:** Given the increasing awareness of oral communication in this era of globalized collaborative learning trends, there is an imminent need to inform language educators of ways in which the under-researched oral interactional strategies are related to first language (L1) teaching. However, no consensus has yet been reached on the relationship between interactional strategy use and oral language proficiency. This study investigates the effect of oral interactional strategy use on group discussion performance in L1 Chinese for Primary 5 students (N = 140) in Hong Kong. Based on ANOVA and regression analyses of the data on group discussion performance, five strategies have been identified: *expressing actively*, *asking for opinion*, *expressing attitude*, *giving clarification* and *non-verbal language*. They all significantly predicted students' group discussion performance, with overall strategies explaining 55.5% of total variation of the performance, where higher-proficiency students tended to use more strategies that enable comprehension and elaboration in the group discussions. The patterns of strategy

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use among students with different levels of discussion performance have also been identified. Implications of the findings are discussed with reference to the roles individuals play in the overall performance of group discussion.

**Keywords:** group discussion, oral interactional strategies, L1, speaking assessment, 21st century skills

# 1 Introduction

Effective oral communication facilitates collaboration with others (Smith and MacGregor 1992), builds new knowledge and helps to solve complex problems in today's fast paced workplaces. Hence, the acquisition of oral communication skills is highly valued. It is fundamental to the development of literacy and cognitive skills, which is essential for building positive relationships with both teachers and peers and promoting the overall well-being of students (Dilley et al. 2015). The fact that 'Communication and Collaboration' is highlighted as one of the 4Cs in the '21st century skills' across different parts of the world (NEA 2015) demonstrates the significance of oral communication skills to the success in life and learning (Hong Kong Curriculum Development Council 2017). In language classrooms, group discussion further enhances language learning with novel ideas and enables development of critical thinking and creativity. Discussion tasks that engage students in small groups where ideas are exchanged verbally, therefore, have been included in recent assessments for evaluating the effectiveness of language programmes. Nevertheless, researchers have yet to reach consensus on the strategies that lead to student success in speaking assessments.

For decades, research in both first language (L1) and second language (L2) has been paying much attention to strategy use with the aim of improving students' performance. For L1, the research strand of collaborative argumentation found significant influence of strategy use in literacy and cognitive development. In L2, given that the learners have limited linguistic resources, researchers are interested in strategies that cater to the participants' communication needs during group discussions. The advances in both the research strands have been developing and exploring spoken language taxonomies, as well as investigating the relationships between strategy use and oral language proficiency. These communication strategies not only form a core element of naturally occurring conversations, but also stand as a parameter for assessing students' spoken language proficiency. While we expect strategies will help students to perform well, some of the studies found negative relationships in L2.

Contextualized in Hong Kong, this study aims to identify the oral interactional strategies with positive effects on group discussion performance used by primary school students in Cantonese, i. e. their first language and a local variant of Chinese. With reference to the existing literature on both L1 and L2 research, this study further examines and evaluates the effect of oral interactional strategy use on group discussion performance by young learners.

# 2 Literature review

In this section, we will revisit relevant literature on strategic competence as a subject matter in language education settings, as well as the existing research gaps the current study looks to fill.

## 2.1 Strategic competence in L1 and L2 oral communication research

### 2.1.1 Strategies in L1 argumentative oral communication

Collaborative argumentation (Andriessen 2007) is one of the central goals of L1 literacy education and develops other cognitive skills required for academic disciplinary learning. During argumentation, students move between presenting an understanding, evaluating others' understandings, and refining their own understandings in light of the discussion (Hatano and Inagaki 1991). Knowledge and opinions are thus collaboratively constructed, expanded or deepened (Veerman 2003). Earlier findings revealed that as children grow older, they tend to employ more strategies in terms of both quantity and variety in an attempt to persuade others. Clark and Delia (1976) found that young learners from Second through Ninth Grades gradually used higher-order "form of request" (degree of persuasive strategies used in statement of request) and "support for request" (including demonstrating need for request, dealing with counterarguments, and supplying advantages to others). Inspired by Clark and Delia's (1976) work, later studies adapted and analyzed "support for request" as distinctive strategies.

Though the relationship between the strategic behaviours and the academic performance is inconclusive, more studies identified a positive correlation. By comparing three groups of Tenth Grade students reading literary work, Fall and Webb (2000) found that students were able to learn effectively from

high-quality group discussions. They built on each other's ideas to construct new knowledge and understanding, explained and justified their own positions, questioned their own beliefs and sought new information to resolve disagreement. These students performed better than their peers who did not engage in discussion of the literary text. Argumentation skills are closely related with other academic disciplines in schools, with the goal of developing the competence to engage in professional practice (Berland and McNeill 2010; Leonard 2001). Berland and McNeill (2010) suggested that the characteristics of argumentative oral and written products included: (1) defending claims, (2) rebutting counterclaims, (3) claim addresses questions asked by teacher, and (4) evidence, reasoning and rebuttal is appropriated. Examining the argumentative outcomes in a Fifth Grade classroom, students were observed making claims while addressing the questions raised by the teachers, giving supportive reasons and evidences while no rebuttals of counterclaims was observed. On the other hand, Seventh Grade students exhibited all these four characteristics. This progressive trend was also found in Kuhn and Udell's study (2003). They discovered that the dialogues of Eighth Graders gradually shifted from individuals' articulation and clarification of their own positions and perspectives, to addressing their partner's claims and identifying their weaknesses over a year of learning. On the contrary, 642 Cantonese native speakers in Hong Kong primary schools reported that they had employed strategies to correct both their own and their peers' errors as well as seeking clarifications from their peers (Zhu, Cai, Fan, Chan and Cheong 2017). However, given that only self-reported data was used in this study, more work needs to be done to investigate their strategic behaviours (Brutus et al. 2013).

Socio-emotional strategies in group discussion were identified by researchers across all age groups. Fahy (2006) studied an online conference for graduate students over six weeks and found they used a number of socio-emotional strategies, such as positive socio-emotional strategies (i. e. solidarity, tension-release, and agreement) and almost null negative socio-emotional strategies (i. e. disagreement, displaying tension, displaying antagonism). Prislin et al. (1996) identified advice, social comparison and motivation are the generated beneficial effects of discussion during learning among teenagers and adult learners. Among these three strategies, only social comparison and motivation interacted were able to predict the learning performance. Leonard (2001) found Sixth Graders used a number of strategies including giving help, indicating understanding, concurring or complying, showing solidarity, releasing tension by joking or laughing, displaying sarcasm, and showing agreement or disagreement. However, there is no indication of any correlation between the use of these strategies and the students' group discussion performance. Hayek et al.

(2017) further examined the effect of grades on the quality of group discussions. They found that Fifth Graders dominated the discussion in order to stand out among other interlocutors. The results indicated that although the students were meant to cooperate, they used coercive strategies (i. e. dominating to control resources) instead of pro-social strategies which obstructed the coordination among group members and adversely affected the performance of the whole group.

These studies, taken together, shed light on the strategies that advance and deepen each other's understanding of discussion, as well as identify positive socio-emotional strategies that help to release tension and cultivate pleasurable atmosphere during discussion. Notably, these argumentative skills progressed over age, i. e. from being more concerned with expressing one's opinion solely at a younger age, to considering and incorporating others' views by the adolescents. These skills also require instructional support from the teachers (Berland and McNeill 2010; Webb 2009). As the more sophisticated skills are premature and less observable among younger learners, we explore plausible strategies being used by the younger learners in other context. Considering the relatively rich research studies of strategies used by L2 learners who may encounter similar difficulties of limited linguistic resources, it is worthy to review the literature on L2 strategy use in coping with communication needs.

### 2.1.2  Strategies for catering to L2 oral communication needs

Defined as "the knowledge and usage of language in the way that is suitable for the communicative situation" (Hymes 1972: 71), L2 communicative competence covers "strategic competence" as one of the core abilities in most models (Canale and Swain 1980; Celce-Murcia et al. 1995). Strategic competence was first referring to the usage of communication strategies (Selinker 1972) to deal with communication breakdowns among learners and/or test-takers. Later, in Celce-Murcia's modified model (2007) the concept of strategic competence has been extended to include an inventory of communicative, cognitive, and metacognitive strategies that allow a skilled interlocutor to negotiate meanings, resolve ambiguities, and to compensate for deficiencies in any of the other competencies. Scholars also developed taxonomies or inventories with this expanded function of strategy use. The frequently cited language learning strategies (Oxford 1990) included memory, cognitive, compensation, metacognitive, affective, and social strategies. More specifically for speech production, Douglas (1997) proposed that there were three categories of strategic competence, namely metacognitive, language and cognitive.

Inspired by Oxford (1990), Huang (2016a, 2016b) identified three key strategies for speaking, i. e. cognitive, communication (elaborating, reduction, restructuring), and affective. As pointed out by Cohen and Wang (2018), language strategy is a complex process and no one specific strategy may function well in its own right.

Past studies revealed mixed results with regard to the effect of strategy use. Cohen and Wang (2018) claimed that a strategic language user is flexible and adaptable to particular circumstances, and able to select the appropriate strategy to overcome barrier s/he is likely to encounter. Cohen (2011) made a clear distinction between language learning strategies and language use strategies. As for the use of language learning strategies, Rao and Huang (2017) found that the frequent use of such strategies among urban students had led to the improvement of communicative competence and active involvement in classroom activities. While language learning research found positive effects of strategy use, very few yielded similar results in language assessment setting. Barkaoui et al. (2012) and Swain et al. (2009) found no significant relationship between the total number of strategies used and the overall test scores. Huang (2013) even observed significant negative relationships between strategic behaviors and International English Language Testing System (IELTS) Speaking scores. For speaking tasks that provided input materials for discussion, active engagement, non-verbal, synthesis, clarification and affective strategies are commonly used by the interlocutors (Zhu, Liao, and Cheong 2019). Although these strategies were able to significantly predict task performance with 19.9% variation, there is still no clear indication that similar results would be found among younger children. In sum, most of the previously-mentioned studies suggested that there were neutral or negative effects on speaking performance. Scholars also deemed that the differences found in the relationship between strategy use and speaking performance varied according to the complexity of the interactions, such as the task type and the language contexts (Barkaoui et al. 2012; Swain et al. 2009).

Based on L2 literature on the conceptualization and operationalization of interactional competence, and Galaczi and Taylor (2018) proposed a two-level definition of interactional competence, which is similar to the socio-emotional factors found in L1 interactions. At the macro level, learners illustrate the enthusiasm in co-constructing interactions in a purposeful and meaningful way; whereas at the micro level, they were observed actively engage in the discussion, take turns to speak up, listen attentively, repair the breakdowns of communication, and use non-verbal language to support their utterances. These studies have prompted us to examine L1 learners' use of communication strategy during group discussion with a focus on their attitude and behaviours.

## 2.2 Strategy use by different proficiency groups

Previous studies have looked into the strategies adopted by different proficiency groups from different perspectives. For L1 learners, most studies focused on the interactions between students with different performances in subject learning. Leonard (2001) suggested that high achieving students use more strategies that are information giving, e. g. giving an opinion, evaluation, analysis, or suggestion as compared to their peers who are less successful in their study of mathematics. Nattiv (1994) examined primary students' helping behaviors in solving mathematics problems in a team setting. She found that high achievers gave more explanations and other forms of help than middle or low achievers, whereas the low achievers asked for and received more explanations than students of other proficiency levels. Similarly, in a history task, Bennett and Cass (1989) found that high achievers were more likely to use instructional strategies (e. g. giving explanation, seeking suggestion or judgement, correcting, reinforcement by praise or criticism) than procedural talk (e. g. managing by directing and questioning, pacing), as compared with their counterparts. Fuchs et al. (1998) looked into the ways in which high achievers worked with other members under different grouping compositions. They found that high achievers yielded more cognitive conflicts (e. g. offered alternative solutions, negotiating) and collaborations (e. g. talking, writing, contributing to the problem's, and building on each other's knowledge) in homogeneous groups rather than heterogeneous groups. However, it should be noted that ability level was stratified based on students' performance prior to the study in these studies, hence we have little idea on the impact of students' strategy use on their discussion performance.

L2 learners of different proficiency levels had differential performances. Færch and Kasper (1984: 46) proposed two categories of strategies: the psycholinguistic strategies and the interactional strategies. Psycholinguistic strategies are centered around problem solving (i. e. communication breakdown) of self-expression with target lexical knowledge at the disposal of individuals, whereas interactional strategies are defined as "a mutual attempt of two interlocutors to agree on meaning in situations where the requisite meaning structures do not seem to be shared" (Tarone 1980: 419). The negotiation of meaning is therefore central to the whole process of interactional strategies (Færch and Kasper 1984; Ross and Rost 1991; Tarone 1980). In other words, psycholinguistic and interactional strategies were found with different impacts on oral performance that yielded contesting results in previous research.

The use of psycholinguistic strategies is related to language proficiency levels of the learners. Low proficiency learners tend to use repetition strategy, whereas medium proficiency learners tend to use transliteration, semantic

contiguity, and code-switch instead (Khanji 1996). High proficiency learners use less psycholinguistic strategies, and the few strategies they used are semantic contiguity, topic shift (Gan et al. 2009) and interlanguage-based strategies such as generalization and approximation (An and Nathalang 2010). As for the two types of psycholinguistic strategies, namely compensatory and reduction strategies, many studies also found that students with high interaction competence tend to use compensatory ones more than reduction strategies (An and Nathalang 2010; Khanji 1996; Nakatani 2006). Psycholinguistic strategies serve the function of resolving communication breakdowns due to lack of lexis resources by the individuals. As these strategies have less effect in deepening or broadening of ideas during conversations, they yield very little effect in improving learners' oral performance, and are rarely the focus of oral language teaching and assessment. The participants of the present study are L1 primary students, they faced fewer issues with regards to lexis resources. Hence we excluded this category of strategies in an attempt to focus on those that facilitate students' oral performance.

As for the use of interactional strategies, Oliver (2002) revealed that lower proficiency learners tend to employ more negotiation of meaning strategies in English-speaking contexts, while Zhang (2010) noted that both successful and less successful learners contribute to meaningful interaction in different ways. As for mixed-proficiency group discussions with native speakers (NS, L1 speakers, or high proficiency) and non-native speakers (NNS, L2 speakers, or low proficiency), Iwashita (2001) found that mixed high-low proficiency groups tend to use interactional moves (i. e. clarification request and confirmation check) more often than high-high and low-low groupings. Similarly, an earlier study by Oliver (1998) also found that NS-NS pairings used fewer strategies than NS-NNS or NNS-NNS pairings, yet sharing more or less the same negotiation pattern. She further argued that the use of interactional strategy helped to facilitate effective communication, providing the learners with the opportunities to receive comprehensible input, to produce comprehensible output, as well as to obtain feedback on their attempts. As Long (1981) pointed out in his pioneering work from early 1980s, NS-NNS pairings are inclined to adopt the following interactional strategies: confirmation checks, comprehension checks, clarification request, self-repetitions, other repetitions, and expansions. In summary, most occurrences of negotiation of meaning took place in the least native-like pairs, i. e. matched low proficiency non-native dyads. The high-proficiency students, or NS-NS pairings (Oliver 1998), tend to use fewer strategies whereas NS-NNS pairings tend to use even fewer (Long 1981). Overall, the low-proficiency students (Oliver 2002), NNS-NNS or low-proficiency pairings (Oliver 1998) and mixed-proficiency groups (Iwashita 2001) tend to use more interactional

strategies. Low-proficiency or NNS-NNS (even NS-NNS) pairings do not usually find it easy to express themselves or understand each other in the target language, and therefore they tend to employ more interactional strategies.

Based on these findings, we argue that: (1) L1 strategy use as observed in various academic learning settings indicated that high achieving students are engaged in higher-level cognitive exchanges; (2) the purpose for strategy use is to avoid the breakdown of oral communication, and it is less than sufficient for the interlocutors to reach a high level of speaking performance; (3) the interactional strategies examined in previous L2 studies share some similar features with those used by young L1 learners; and (4) no consensus about the effect of strategy use on both L1 and L2 performance has yet been reached. Therefore, there is a need to identify the interactional strategies being used by the L1 young learners during group discussions which have a positive impact on their speaking performance.

# 3 Framework of interactional strategy use among primary students adopted in this study

To devise an inventory to account for interactional strategies, the researchers recruited 1320 primary school students in Hong Kong, all of whom were native speakers of Cantonese and reported on their strategy use during group discussion. A total of seven categories were identified, namely *S1 Expressing actively, S2 Asking for opinions, S3 Expressing attitude, S4 Correcting errors, S5 Giving clarification, S6 Requesting clarification, S7 Non-verbal language* (Zhu et al. 2017).

In this framework, S1 to S4 are more related to specific features of L1. These include socio-emotional strategies that enable students to proactively express their personal opinions, request for interlocutors' views, responses to other people's stances with adequate reasons, and correction of language expression or ideas. These strategies are important for the cultivation of thinking skills, such as evaluation, argument and creativity, all of which fall under the umbrella of 4Cs of the 21st Century skills that helps one to achieve integrative and in-depth communication (Zhu 2016). As for S5 to S7, these strategies existed in L2 earlier inventories of interactional strategies for negotiation of meaning between interlocutors (Færch and Kasper 1984; Ross and Rost 1991; Tarone 1980). They are likely to focus on language features such as linguistic knowledge and cultural schema (Bachman and Palmer 2010). The following paragraphs summarise the critical features of each strategy.

*S1 Expressing actively*: Based on the findings of both L1 and L2 research, students adopt positive socio-emotional strategies by showing solidarity during group discussion (Fahy 2006; Leonard 2001), readily expressing their thoughts without fear of making mistakes (Zhu et al. 2019), offering help to each other (Leonard 2001), and getting involved in co-constructing interactions in a meaningful way (Galaczi and Taylor 2018).

*S2 Asking for opinions*: Students encourage other interlocutors to express viewpoints and thoughts (e. g. stating a position or adding on creative ideas) so as to ensure that the conversation flows smoothly and yields more opinions even creative ideas (Bennett and Cass 1989; Felton 2004). Most of the time, young children have been found using this strategy to avoid long lapses of silence during the discussions.

*S3 Expressing attitude*: Students articulate their positons and contribute towards the group discussions (Felton 2004; Hatano and Inagaki 1991; Kuhn and Udell 2003). During group discussion assessments, students are observed for explicit expressions of agreement or disagreement. Their responses may also be accompanied by their own opinions on the topic or the interlocutors' utterances, which may be a critique, an alternative argument, or non-verbal language.

*S4 Correcting errors*: Students correct biased views or language mistakes (Hatano and Inagaki 1991; Kuhn and Udell 2003).

*S5 Giving clarification*: Students clarify when other interlocutors do not understand his/her utterances (Iwashita 2001; Rao and Huang 2017), or do not accept his/her opinions (Bennett and Cass 1989; Fall and Webb 2000; Nattiv 1994). This strategy plays an important role in the negotiation of meaning during conversation.

*S6 Requesting for clarification*: Students request interlocutors to further explain what have been said or to elaborate on the necessary information of certain viewpoints (Fall and Webb 2000; Felton 2004; Iwashita 2001; Rao and Huang 2017). This strategy is also crucial for negotiating meaning in communication.

*S7 Non-verbal language*: Students use non-verbal language in parallel with verbal speech, which includes facial expressions, eye contact, gesture, and other postures (Galaczi and Taylor 2018). These non-verbal language strategies significantly complement the spoken output and demonstrate emphasis (Zhu et al. 2019; Krauss et al. 1996; Morrel-Samuels and Krauss 1992).

Like most relevant studies, the Zhu et al. (2017) use of self-report data in the study may face criticisms of its inability to reflect students' real use of strategy (Brutus et al. 2013). It is thus worth investigating the actual strategy use among

students in different group discussion scenarios. The findings should serve as a reference for language teachers in unveiling new ways to improve their students' oral language proficiency.

# 4 Research context and questions

In line with the global trend in education, Hong Kong launched the Curriculum Reform in 2001 for cultivating students' Chinese language communication competence to (Hong Kong Curriculum Development Council 2014; Zhu 2014; Cheong, Zhu and Liao 2018). Oral communication competence, including the use of interactional strategies, has thus become one of the key learning areas of Chinese as a L1 alongside other generic skills such as collaboration skills, critical thinking skills, problem-solving skills, and communication skills (Hong Kong Curriculum Development Council 2002). Such competence is essential for facilitating effective and highly-strategized independent learning in various forms (Gibbs 1992). It is also a core part of the Territory-wide System Assessment (TSA), an assessment administered by Hong Kong Examination and Assessment Authority (HKEAA) annually for all Primary 3, Primary 6 and Secondary 3 students that aligns with the focus of the government curriculum reform to evaluate basic competencies, including oral communication skills and strategies in group discussion and individual presentation. Nevertheless, the relationship between oral communication skills and strategy use among primary students has remained under-researched.

This study aims to fill the research gap by looking into the case of L1 Chinese language for a better understanding of primary school student's oral language performance with a focus on interactional strategies. A quantitative analysis of student performance in the group discussion task was conducted to examine their strategy use and its relationship to the performance. In order to shed light on the challenges faced by the participants in strategy use, a number of participants were interviewed and a qualitative analysis of their responses was carried out. This study aims to address the following two research questions (RQs):

RQ1. To what extent can oral interactional strategy use predict group discussion performance of primary school students in a first language (i.e., Chinese)?

RQ2. What are the differences between the three proficiency groups (namely High, Medium, and Low) in terms of oral interactional strategy use?

# 5 Research methods

## 5.1 Participants

One hundred and forty Primary 5 students (74 boys, 66 girls) aged 8.7 to 10.2 years (M = 9.3 years) from three co-educational, Chinese as a medium of instruction (CMI) schools with average academic ability in Hong Kong participated in the present study. One of these schools is located in Kowloon ($N$ = 46 students), while the other two is in the New Territories ($N$ = 43 and $N$ = 51 respectively), all of which were "subsidized schools" that form the majority of local primary schools. In each school, one class from Primary 5 (Grade 5) was randomly selected.

The participants participated in the task using their native language, Cantonese. They were familiar with the group discussion task, as they have related class experiences. All students were randomly assigned to groups of four students according to their class numbers. The decision to create groups of four was based on the current TSA setting as well as the many studies on spoken language assessments conducted in groups of four to six people (Bonk and Ockey 2003; Garside 1996), which indicated that the group size will allow for sufficient interactions with a moderate level of information exchange. The groupings were pre-arranged, and as some students were absent during the day of assessment, the actual tasks were conducted with 24 groups of three and 17 groups of four. At the data analysis stage, the participants were further grouped into three Cantonese proficiency levels, namely High (H), Medium (M), or Low (L), based on their performance in the group discussion test.

## 5.2 Instruments

Three instruments were used in this study, including (a) a group discussion test and its assessment rubric, (b) the Analytical Scheme of Interactional Strategy Use, and (c) a student interview guide.

### 5.2.1 The group discussion test and its assessment rubric

While three or more interlocutors communicate their ideas on a topic in a group discussion, their performance demonstrate jointly constructed knowledge, actions, and activities (Jacoby and Ochs 1995). In this study, the format and assessment criteria of the group discussion test were aligned with the group discussion task for the TSA school-based test of primary school Stage 2 (Grades

4–6), which could be found at the website of https://www.bca.hkeaa.edu.hk/web/TSA/en/PriQuiGuide.html. The group discussion test was carried out on-site at the participating schools. Participants sat on turning chairs and formed a half-circle. No desks or tables were provided. The prompt was as follows:

> Some people think that primary students study too many subjects in school. They suggest cutting one subject from the following list: Music, Visual Arts, Physical Education, Moral and Civic Education, and Information Technology (i. e. Computer Studies). Do you agree to this suggestion? If not, why? If yes, which subject would you suggest removing? Why?

In line with the TSA task format, the participants were given one minute for preparation and three minutes for group discussion. During the preparation time, they were only allowed to organize their own thoughts in silence and no exchange of opinions with their counterparts was allowed.

Before the test began, the researcher read aloud the prompt and also reminded the participants to actively participate in the discussion. The researcher would prompt further if no one speaks before the end of the test by saying "Any more opinions from the group? We still have (amount of time) left and please go ahead if you wish." All the discussions were video-recorded and transcribed.

The test performance of each interlocutor was scored with reference to the Assessment Rubric of Group Discussion Performance (see Appendix 1). The rubric consisted of two parts: Content and Language. Content refers to the ability to engage in group discussion on everyday topics, whereas Language refers to the ability to accurately express oneself and respond to other interlocutors. There are five levels in each of the criteria, ranging from 1 (the lowest) to 5 (the highest). The score for the two criteria were summed to obtain a total score for the test.

### 5.2.2 Analytical scheme of interactional strategy use

This analytical scheme (Table 1) was developed based on the framework of interactional strategy as discussed in the Literature Review section. The performance was coded once for each effective use of the strategies (see Appendix 2 for an example), and one mark was given for that particular use of strategy.

### 5.2.3 Interview outline

After the discussion test, four to five-minute interviews with participants in Cantonese were conducted in an attempt to explore the reasons behind students' use of specific interactional strategies and the difficulties they encountered during

**Table 1:** Analytical scheme of interactional strategy use.

| Strategy | Description |
| --- | --- |
| *S1 Expressing actively* | (1) Voluntarily expressing their thoughts on the discussion topic or new subtopics before other interlocutors start to speak;<br>(2) Voluntarily expressing ideas to avoid long lapses of silence during the discussion. |
| *S2 Asking for opinions* | (1) Raising questions for other interlocutors in response to discussion topic;<br>(2) Inviting other interlocutors to respond to the others' preceding utterances or asking a question as a response to others' utterances. |
| *S3 Expressing attitude* | (1) Expressing standpoints to the questions asked in the discussion prompt;<br>(2) Responding to interlocutors' preceding utterances or questioning. |
| *S4 Correcting errors* | (1) Correcting their own or others' biased views or mistakes, with elaborations if necessary;<br>(2) Inviting other interlocutors to examine if they accept others' attempt in correcting their own biased views or mistakes, with elaborations if necessary. |
| *S5 Giving clarification* | (1) Explaining and giving examples to elaborate on the meaning of viewpoints when others seem to be confused, do not understand, or misunderstand what has previously been said;<br>(2) Repeating certain viewpoints in a strong tone, taking a pause, or changing the speech rate, to ensure the interlocutors understand their preceding utterances. |
| *S6 Requesting for clarification* | (1) Requesting for evidence or further argument;<br>(2) Requesting the speaker to repeat themselves, slow down, provide further information or explanations when the interlocutors are uncertain if they have understood correctly, or when they cannot understand what the other parties have said. |
| *S7 Non-verbal language* | (1) Nodding heads in agreement;<br>(2) Giving a puzzled look or shaking heads when in doubt or disagreement;<br>(3) Moving their heads according to change of tone, turning around to establish eye contact with each other, and tapping on their peers' shoulders in order to attract attention or obtain a response from the others;<br>(4) Laughing upon hearing something interesting or funny. |

the discussion. Sample questions of the interview were: (a) "You asked Student A to express his opinions towards xxx (a certain topic). Why?" and (b) "What was the greatest difficulty you encountered during group discussion?" The interviewees were selected based on mutual agreement between the raters. They identified students who performed extremely well or poor from each discussion group for the post-assessment interviews. A total of 82 students were interviewed.

## 5.3 Evaluating discussion performance and strategy use in the test

Two raters were recruited to evaluate students test performance for this study. Both of them were MA degree holders with 2 and 8 years of research experience respectively. Prior to this study, they both participated in projects that analyzed primary students' group discussion performance, and marked secondary students' integrated writing. During trial scoring, the researchers explained the discussion test topic, the use of the *assessment rubric and analytical* scheme to the raters. One group discussion test sample was used to demonstrate the use of the research instruments. The two raters then watched the video-recordings of the discussion test, made notes on the transcripts, and graded two sets of performance independently. They raised queries before consensus was reached among the researcher and raters. The two raters then evaluated another ten sets of group discussion, and discussed with each other to reach consensus for any discrepancies. They first scored on the discussion performance, and then coded all students' strategy use. In most cases, the average score by the two raters will be used as the final score. The last author of this paper acted as a third rater when the following two scenarios happened: (1) any student score assigned by the two raters differed by more than 1 mark in either Content or Language in the discussion test; (2) any student score assigned by the two raters differed by more than 1 mark in any strategy use category. The score assigned by the third rater would be averaged with the closest score assigned by one of the original raters. The inter-rater reliability, as measured by Spearman's rho, was 0.67 (Content), 0.62 (Language) for discussion performance, and 0.66 to 0.93 for strategy use respectively, showing that there was moderate inter-rater reliability (DeVellis 2011).

## 5.4 Data analysis

The scores on group discussion were entered to SPSS 24 for statistical analysis. The descriptive statistics was first performed to examine the data distribution

characteristics. ANOVA was performed to investigate if the interactional strategies used by students with different proficiency levels (i. e. High, Medium, and Low) varied. Correlations analysis was followed to explore the association between the students' strategy use and the Language, Content and overall performance in group discussion. On this basis, stepwise regression was performed to examine the predictability of interactional strategy use on students' Language, Content and overall performance in the group discussions. The qualitative data provided further evidence of how students used the interactional strategies, which we elaborated in the Discussion section.

# 6 Results

## 6.1 Group discussion test performance

As shown in Table 2, the mean total score was 5.10 in the group discussion performance, whereas the mean Content score and mean Language scores were 2.69 and 2.41 respectively. The Low-proficiency Group (L Group) (N = 39, or 27.86% of the cohort) refers to those scoring 0–4 in the discussion test, whereas the Medium-proficiency Group (M Group) refers to those scoring 4.1–5.9 (N = 62, or 44.29% of the cohort) and the High-proficiency Group (H Group) scoring 6.0–10.0 (N = 39, or 27.86% of the cohort). The absolute values of Skewness and Kurtosis of the discussion performance were both low (< 1), indicating that the scores were of normal distribution (Kline 2005). Significant difference in mean total scores across the three groups (M = 3.79, 5.04, 6.50, respectively; $F_{(2,137)}$ = 268.48 , ***$p$ < 0.001) was found. The mean Content scores among all groups (M = 3.35, 2.76, 1.94 ; $F_{(2,137)}$ = 214.47, ***$p$ < 0.001) and mean Language

**Table 2:** Descriptive statistics and ANOVA of group discussion performance ($N$ = 140).

|  | Language | Content | Total |
|---|---|---|---|
| Mean (and SD) for all groups | 2.41(0.59) | 2.69(0.61) | 5.10(1.14) |
| Mean (and SD) for L Group | 1.86(0.28) | 1.94(0.26) | 3.79(0.50) |
| Mean (and SD) for M Group | 2.28(0.30) | 2.76(0.28) | 5.04(0.42) |
| Mean (and SD) for H Group | 3.15(0.37) | 3.35(0.37) | 6.50(0.66) |
| Skewness for all groups | 0.56 | −0.08 | 0.25 |
| Kurtosis for all groups | 0.25 | −0.19 | 0.25 |
| F (2,137) for all groups | 176.51*** | 214.47*** | 268.48*** |

Note: ***$p$ < 0.001, df = 2.

scores among all groups (M = 3.15, 2.28, 1.86 ; F (2,137) = 176.51, ***p* < 0.001) were both found with statistically significant differences.

## 6.2 Descriptive statistics of the interactional strategy use

Table 3 presented the frequency of interactional strategies used in the group discussions. The mean score of seven strategy use was 6.86 in the discussion test. The frequently-used strategies were *S7 Non-verbal language* (M = 2.24) and *S3 Expressing attitude* (M = 2.21) with mean scores higher than 1, followed by *S5 Giving clarification* (M = 0.98), *S2 Asking for opinions* (M = 0.74), and *S1 Expressing actively* (M = 0.49). The least used ones were *S6 Requesting clarification* (M = 0.19) and *S4 Correcting errors* (M = 0.01). According to Kline's (2005) criteria of Skewness and Kurtosis, the strategy use scores for *S1, S3, S5* and *S7* were of normal distribution. *S2 Asking for opinions* was also considered normality as its Kurtosis (10.87) was marginal to normal criteria level. However, the remaining strategies, i. e. *S4* and *S6* were not considered normally distributed, and they were therefore not included in the following ANOVA, correlation and regression analyses.

**Table 3:** Descriptive statistics of oral interactional strategy use (*N* = 140).

|  | Min. | Max. | Mean | SD | Skewness | Kurtosis |
|---|---|---|---|---|---|---|
| S1 *Expressing actively* | 0.00 | 2.50 | 0.49 | 0.66 | 1.14 | 0.24 |
| S2 *Asking for opinions* | 0.00 | 8.00 | 0.74 | 1.21 | 2.78 | 10.87 |
| S3 *Expressing attitude* | 0.50 | 5.00 | 2.21 | 0.98 | 0.76 | 0.19 |
| S4 *Correcting errors* | 0.00 | 1.00 | 0.01 | 0.09 | 9.47 | 93.70 |
| S5 *Giving clarification* | 0.00 | 6.00 | 0.98 | 0.98 | 1.44 | 3.96 |
| S6 *Requesting clarification* | 0.00 | 4.50 | *0.19* | 0.61 | 4.42 | 22.94 |
| S7 *Non-verbal language* | 0.00 | 8.50 | 2.24 | 2.00 | 1.32 | 1.42 |
| Total (S1–7) | 1.50 | 20.50 | 6.86 | 4.04 | 1.13 | 1.11 |

## 6.3 Differences in oral interactional strategy use among three proficiency groups

As shown in Table 4, the mean total score of strategy use was found to be the lowest in the L Group (M = 3.44), the second highest in M Group (M = 6.57) and the highest in H Group (M = 10.03). These scores showed a considerable degree

**Table 4:** ANOVA of interactional strategies among three proficiency groups.

| Proficiency groups | S1 Expressing actively | | S2 Asking for opinions | | S3 Expressing attitude | | S5 Giving clarification | | S7 Non-verbal language | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | Mean | SD | Mean | SD | Mean | SD | Mean | SD | Mean | SD |
| L Group | 0.15 | 0.35 | 0.05 | 0.22 | 1.91 | 0.87 | 0.41 | 1.01 | 0.91 | 1.33 | 3.44 | 2.31 |
| M Group | 0.44 | 0.53 | 0.77 | 1.24 | 2.08 | 0.84 | 1.06 | 0.79 | 2.23 | 1.68 | 6.57 | 2.74 |
| H Group | 0.92 | 0.85 | 1.38 | 1.38 | 2.73 | 1.09 | 1.42 | 0.98 | 3.56 | 2.17 | 10.03 | 3.46 |
| F values | 16.61*** | | 14.17*** | | 8.82*** | | 12.51*** | | 22.49*** | | 52.03*** | |
| Post Hoc | H > M, M > L | | H > M, M > L | | H > M, M = L | | H = M, M > L | | H > M, M > L | | H > M, M > L | |

Note: ***$p < 0.001$; *$p < 0.05$, df = 2.

of relevance to the group discussion performance of participants, particularly the L Group participants who only scored half of what was earned by the M Group on average. The results of ANOVA indicated that there existed a significant difference among the three groups in terms of the mean total score for strategy use, F (2,137) = 52.03, ***$p$ < 0.001. The post hoc LSD analysis showed that the three groups varied with each other significantly (***$p$ < 0.001). The result suggested that strategy use was significantly related to the proficiency levels.

For each of the five strategies (i. e. *Ss 1–3*, *5* and *7*), ANOVA was also conducted to compare the group differences. The result showed that there were significant differences for each of the five strategies between the three groups (see Table 3). The post hoc analysis with LSD method showed that the three groups varied from each other significantly in the use of strategies *S1*, S*2* and S*7* (*$p$ < 0.05). For *S3*, however, no significant difference was found between L and M Groups. And for *S5*, there was no significant difference between the M and H Groups. The results showed there existed a positive association of strategy use with group discussion performance in this study.

## 6.4 Relationship between strategy use and group discussion performance

To explore the relationship between strategy use and group discussion performance, a Pearson Product-Moment Correlation analysis was performed (see Table 5). All of the five strategies were significantly correlated with the performance at a moderate level, given that all the *r* values were above 0.30 (Cohen 1988).

**Table 5:** The correlation of strategy use with group discussion performance in the test.

|  | S1 Expressing actively | S2 Asking for opinions | S3 Expressing attitude | S5 Giving clarification | S7 Non-verbal language | Total |
|---|---|---|---|---|---|---|
| Language | 0.452** | 0.357** | 0.324** | 0.353** | 0.413** | 0.590** |
| Content | 0.422** | 0.454** | 0.344** | 0.292** | 0.483** | 0.643** |
| Total | 0.460** | 0.428** | 0.352** | 0.339** | 0.472** | 0.650** |
| Total strategy use | 0.451** | 0.708** | 0.360** | 0.413** | 0.924** | 1 |

Note: **$p$ < 0.01; *$p$ < 0.05

## 6.5 Predictability of oral strategies on group discussion performance

Using the five strategies as independent variables, the regression results showed that interactional strategy use accounted for 50.1%, 50.4% and 55.5% of variance in Language, Content and Total scores of the group discussion performance respectively (see Table 6). Individual strategies, S1, S2, S3 and S5 significantly predicted the Language, Content as well as Total scores respectively. One exception was that S7 only predicted the students' Content and Total scores but not their Language scores in the test.

Regarding the contribution of specific strategy use, it was found that S7 contributed most to the variance in group discussion performance (22.3%), followed by *S1* (11.4%). The contribution of the other three strategies (i. e. *Ss2, 3* and *5*) to the explanation of the variance ranged from 5.8% (*S2*) to 8.7% (*S3*), which could be considered approximately equal. It implies that *S7* and *S1* played an important role in group discussion test performance.

# 7 Discussion

## 7.1 Interactional strategies used by primary school students

This study identified five interactional strategies during group discussion of primary school students in L1 learning, among which S7 *Non-verbal language* and *S3 Expressing attitude* were most frequently used, followed by *S5 Giving clarification*, *S2 Asking for opinions*, and *S1 Expressing actively*. Every interlocutor uses the strategies 6.86 times on average in this discussion test. Even L group participants were able to consciously use oral interactional strategies in order to optimize the group and/or their own performance. *S7 Non-verbal language* was most popular, which is likely a display of their prior training and confidence (Pennycook 1985) and interestingly echoes with Gan and Davison's observations (2011) among L2 learners of English. The qualitative data, i. e. interviews with individual participants revealed that such conscious choices (which did not guarantee good performance as shown by the results) in Hong Kong can be understood as a result of regular input on the use of interactional strategies in local primary classrooms with varied effectiveness (see Excerpts 1 to 3):

**Table 6:** Predictability of the strategy use on group discussion scores.

| Independent Variables | Language | | | Content | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| | Beta | $\Delta R^2$(R Square Change) | p | Beta | $\Delta R^2$(R Square Change) | p | Beta | $\Delta R^2$(R Square Change) | p |
| S1 Expressing actively | 0.350 | 0.204 | 0.000 | 0.290 | 0.087 | 0.000 | 0.340 | 0.114 | 0.000 |
| S2 Asking for opinions | 0.219 | 0.042 | 0.001 | 0.344 | 0.062 | 0.000 | 332 | 0.058 | 0.000 |
| S3 Expressing attitude | 0.376 | 0.113 | 0.000 | 0.369 | 0.079 | 0.000 | 0.404 | 0.087 | 0.000 |
| S5 Giving clarification | 0.406 | 0.142 | 0.000 | 0.368 | 0.043 | 0.002 | 0.434 | 0.073 | 0.000 |
| S7 Non-verbal language | # | # | # | −0.018 | 0.233 | 0.000 | −0.069 | 0.223 | 0.000 |
| $R^2$ | | 0.501 | | | 0.504 | | | 0.555 | |
| df | | 4, 135 | | | 5, 134 | | | 5, 134 | |
| F (ANOVA) | | 33.92*** | | | 27.23*** | | | 33.39*** | |

Note: ***p < 0.001.

*Excerpt 1*
Participant #97, H Group
*(The strategy of asking opinions) [was taught] In Primary 3 and 4.*

*Excerpt 2*
Participant #100, M Group
*I didn't [feel anxious like another classmate], as we'd have to say something during a group discussion to achieve its purpose. Besides, everyone has to say something if we're here to make a discussion. Our teacher(s) has (have) taught us that we should say something if we're happy with the conversation. If you keep silent, nobody will understand you and there'll be misunderstanding. And it's not good to be misunderstood.*

*Excerpt 3*
Participant #112, L Group
*They (The teachers) did, in a way [teach us what to do in a group discussion].*

However, *S6 Requesting clarification* and *S4 Correcting errors* were used less frequently (M < 0.2) and their data were not of normality distribution. There are two possible reasons behind such tendency. Firstly, mastery of the two strategies requires the language user to identify the weaknesses, errors, ambiguity or lack of logic in the other interlocutors' speech, which might not be easy for primary school students (Berland and McNeill 2010). These two skills are more frequently found among adolescents, and we assumed the shift in ability growth from expressing an individual's opinion to rebutting others' claims to be a form of progression (Berland and McNeill 2010; Kuhn and Udell 2003) which has to be taught (Kuhn and Udell 2003). This result counters Zhu et al. (2017) findings, which is a self-reported study when young children claimed that they were capable of addressing the issues found in others' utterances. Secondly, these strategies are not widely considered desirable acts in the Chinese culture, as one believes that the party to be corrected (S4) will "lose face" during the process (Yang 1994). Moreover, requesting other interlocutors to make clarification (*S6*) would likely cause embarrassment to others, as the party being asked to clarify may feel inadequate or might not be equipped to do so.

## 7.2 Relationship of interactional strategy use and group discussion performance

Evidences of such relationship were obtained in a number of ways in this study. The strategy use scores correlated significantly to the group discussion

performance, and they were able to predict the Language, Content and Total scores of group discussion performance (50–55%). The mean scores of strategy use among the three groups (M = 3.44, 6.57, 10.03) were significantly different, implying that the more strategies were employed during the group discussion, the better the group performance. In short, the results of the present study showed that L1 oral interactional strategy use tends to be directly correlated to the group discussion performance with high predictability.

The positive relationship found among L1 users echoes with Nakatani's study on L2 learners (2006), i. e. students with high interaction competency tend to use compensatory strategies. However, the results of our study generally differ from previous findings, the number of L2 oral interactional strategies used is negatively correlated to one's communication performance (e. g. Oliver 2002). The differences may be that the strategies in previous studies are primarily psychological strategies, which are utilized by L2 learners of low proficiency level. Whereas participants in our study were too young to have developed mature language skills, they only needed negotiation of meaning that involved higher-order thinking. Such strategy use would likely help to enhance their class performance in terms of expression of ideas and verbal interaction in peer collaborative sessions (Dilley et al. 2015; Fried-Booth 1997).

## 7.3 Effects of different oral interactional strategies on group discussion performance

The highest predictability of discussion performance was found in *S7* (22.3%) on the Content and Total scores. The use of this strategy would benefit students in presenting or emphasizing their ideas by boosting their confidence in articulating their content during the discussion task (Krauss et al. 1996; Morrel-Samuels and Krauss 1992). The second highest predictability was found in *S1 Express actively* (11.4%) although it was not frequently used (M = 0.49). The students understand the strategy is aligned with learning objectives (see Excerpt 6). The predominantly Confucian culture of ethnic Chinese highly values silence, as expressed in the Chinese idioms *chen mo shi jin* ("silence is gold") and *yan duo bi shi* ("one is bound to have a slip of tongue if he talks too much") (Gao and Ting-Toomey 1998). Against this cultural backdrop, the students were also taught to contribute constructively during the learning process, or it may lead to poor learning performance (Beckett 2005). Therefore, most participants in this study heeded their teachers' advice by participating actively. The results indicate

that such motivation are possibly nurtured over among Confucian-influenced Asian learners at a relatively young age.

> *Excerpt 4*
> Participant #73, H Group
> *I actively asked around for other groupmates' opinions because I wanted to motivate them to give their own views. Everyone should say something.*

Other participants also narrated how anxiety might build up during a discussion. Interestingly, anxiety also played a role in the participants' use of strategies, when using eye contact in order to participate actively (see Excepts 5).

> *Excerpt 5*
> Participant #80, H Group
> [I had eye contact with two of my groupmates during the discussion] *because I was anxious to make sure I could hear them. Their voices were somewhat soft, and I had this fear that I wasn't going to hear them clearly.*

*S3 Expressing attitude* was found with low predictability (8.7%) though it was the second most frequently-used strategy (M = 2.21). *S5 Giving clarification* was one of the interactional strategies highlighted in previous L2 studies, featured by its core function of negotiation of meaning during oral communication. Negotiation of meaning is central to interactional strategies (Færch and Kasper 1984). *S2 Asking for opinion* was found with relatively low predictability compared with other strategies, as asking other interlocutors to provide opinions does not largely enrich the questioner's content, and hence in no way enhance language performance significantly.

In addition to strategies that enable negotiation of meaning (*S5 Giving clarification*), there are specific strategies for elaborating the content or expressing creative ideas (e. g. *S2 Asking for opinions*, *S3 Expressing attitude*). The latter category involves the contributions of unique ideas and higher-order thinking skills, which play an important role in improving the overall performance of students' oral interaction performance (Leung 2013). These strategies have been found to enable effective learning, as they motivate both collaborative learning (Smith and MacGregor 1992) and independent learning (Gibbs 1992) that emphasize the use of strategies for collaboration and problem-solving with a sophisticated command of oral communication. They are also in line with Hong Kong education authority's intent to advance problem-solving skills in primary education (Cheng 2009).

## 7.4  Differences in oral interactional strategy use across proficiency groups

Given the positive relationship between the strategy use and student performance, we further analyzed the frequently-used strategies by the participants, and compared the differences between different ability groups.

The L Group participants adopted fewer interactional strategies (M = 3.44). Only one prevalent strategy was found in this group, i. e. *S3 Expressing attitude*. *S3* is a rather general strategy as it that only provides the interlocutors' inclination on the question or the discussion topic, with weak predictability of speaking performance (8.7%). The M Group participants tended to use more strategies (M = 6.57) which helped them to articulate their thoughts. Two other strategies were identified as frequently used ones, i. e. *S5 Giving clarification* (7.3%) and *S7 Non-verbal language* (22.3%), both of which helped the interlocutors to express specific ideas clearly. We should note that *S7* had the highest predictability on the performance. The H Group participants adopted a wide variety of strategies (M = 10.03) including relatively sophisticated ones. These include *S2 Asking for opinions* (M = 1.38) and *S1 Express actively* (M = 0.92), both of which serve to build solidarity, release tension, motivate other interlocutors, and deepen the discussions.

In the interview, we observed that while there were high occurrences of interactional strategy use for optimization among the interviewed M and H Group participants (Excerpts 6 and 7), L group participants barely talked about boosting one's individual or group performance.

> *Excerpt 6*
> Participant #38, M Group
> [Explaining why she offered eye contact, and spoke loudly and clearly]
> *Eye contact is one of the essential elements in speaking activities. Without eye contact, we'd leave the audience or even the adjudicators with a very bad impression...If I spoke loud enough, my fellow groupmates would be able to hear me clearly, which would in turn benefit them* [during the discussion]. *(S7)*

> *Excerpt 7*
> Participant #33, H Group
> [I started the conversation] *because I enjoy showing my abilities and always act faster than other people...I don't think it's difficult to express my opinions, as I believe we should be brave enough to say whatever we want* [during the discussion]. *(S1)*

# 8 Implications, limitations, and future research

This study identified five strategies (i. e. *expressing actively*, *asking for opinion*, *expressing attitude*, *giving clarification* and *non-verbal language*) having positive relationship with students' group discussion performance. The strategies being used accounted for 55.5% of overall variation of group discussion performance, where high proficiency students tended to use more strategies enabling comprehension and elaboration of ideas and opinions in the group discussion. Patterns of strategy use among students with different levels of discussion performance were identified. The research findings will contribute to the understanding of L1 communication in which negotiation of meaning, elaboration of arguments, and expressing creativity serve as key processes. It fills a gap in the existing literature in oral communication strategies by presenting an exemplary case of L1 primary school students.

The findings will inform learning and teaching of L1 speaking, specifically the enhancement and development of classroom-based pedagogies and curricula. The use of effective oral communication strategies has been substantially heightened for problem-based discussions in L1 classrooms, such as offering precise responses while maintaining continuous discussions through adequate turn-taking that demonstrates content knowledge and social skills from critical perspectives. The teaching of oral communication strategies would therefore be an essential part for L1 students to equip them with the twenty-first century skills in the form of collaborative learning that result in creative works with cultivation of critical thinking. The findings of this study, hence, informs front-line educators of the oral interactional strategies they might consider enhancing in their classrooms while reinforcing students' linguistic capabilities at the same time.

Regarding teaching of specific strategy, it should be noted that *S1 Express actively* was not frequently used (M = 0.49) despite the fact that it had much effect on the discussion performance (R = 11.4%). It was frequently used by the H group participants for deepening of their input to the discussions, a pattern not found in both the M and L groups. It is thus recommended that teachers consider devising techniques that help their students to develop this skill, especially for the M group. Similarly, *S4 Correcting errors* and *S6 Requesting clarification* were least frequently used in this study. Zhu et al. (2017) argued that L1 speakers are more likely to use strategies relevant to higher-order thinking due to the relatively in-depth discussions, such as *S4* and *S6*, both of which are related to critical thinking skills and creativity skills essential to the mastery of the 21st Century skills. Future research may consider further investigation in the

primary students' acquisition of the aforementioned skills, or address the development of such skills through longitudinal studies.

The current findings are based on the group discussion results of 140 L1 Chinese learners from fifth-grade in Hong Kong primary schools. Therefore, the direct generalizability of this scale to L1 Chinese learners in other grades in Hong Kong or to L1 learners in other language and cultural contexts is cautioned. It is necessary to conduct further research into the relationship between students' group discussion performance and the interactional strategies used by learners of different difficulty levels using other oral interaction tasks. Further study is also required for a better understanding how the relationship is influenced by students' personality traits, such as learning motivation and their choice of interactional strategies in actual L1 teaching and assessment settings. Furthermore, with the growing overseas Chinese disporas, future research should consider Chinese oral strategies among varied Chinese communities, taking into considerations the influence of their self-identity and socialization competence (Li and Zhu 2014).

# Appendix 1

Assessment Rubric of Group Discussion Performance

| Score Level | Content | Language |
|---|---|---|
| 1 | Providing responses irrelevant to the topic, or practically making no attempt at all | Not being able to convey one's own ideas |
| 2 | Providing simple responses during the discussion, yet seldom expressing personal opinions or actively engaging in the discussion | Expressing oneself in simple words and phrases |
| 3 | Engaging briefly in the discussion while expressing personal opinions | Expressing oneself in slightly varied wordings; basically capable of expressing oneself |
| 4 | Proactively initiating discussions, and expressing personal opinions clearly with simple reasons for stating own stances | Expressing oneself in varied wordings; capable of expressing oneself clearly |
| 5 | Proactively initiating discussions, and expressing personal opinions clearly with concrete reasons for stating own stances | Expressing oneself in a rich vocabulary; capable of expressing oneself fully and accurately |

# Appendix 2

An example of strategy use analysis, from an excerpt of group discussion

| Student | Transcription | Strategies Used |
|---------|--------------|-----------------|
| Student A | 有人認為而家小學生嘅科目實在太多嘞，建議取消啲科目。我唔贊同，因為我哋係小學所學嘅知識係會終身受用嘅。咁你呢？(Some people think that primary school students are studying too many subjects. They suggest cutting down some of them. I don't agree because what we learn in primary school would be useful throughout our lifetime. What do you think?) | *S1 Expressing actively:* Student A was the first one to speak voluntarily, so this should be considered the use of *S1*.<br>*S2 Asking for opinions:* With the use of "咁你呢" ("what about you") towards the end.<br>*S3 Expressing attitude: with the use of* "我唔贊同，因為我哋係小學所學嘅知識係會終身受用嘅 ("I don't agree because what we learn in primary school would be useful throughout our lifetime") to respond to the discussion topic. |
| Student C | 我都好贊同你嘅意見，因為每個科目都有需要嘅。咁，B同學 (Student B)，你嘅睇法呢？<br>(I do agree with you because all the subjects are necessary. What's your opinion, Classmate B (i. e. Student B)? | *S2 Asking for opinions:* With the use of "咁，B同學 (Student B)，你嘅睇法呢" ("What do you think, Classmate B (i. e. Student B)").<br>*S3 Expressing attitude:* "我都好贊同你嘅意見，因為每個科目都有需要嘅" ("I do agree with you because all subjects are necessary"). |
| Student B | 我覺得應該取消一個公民教育，因爲我覺得佢會令我哋嘅思想改變，認爲中國絕對係好嘅，但係事實上有好多地溝油都係由中國出現嘅。<br>(I think we should remove Civic Education, because I think it changes our way of thinking and makes us think everything in China is good. Actually, a lot of gutter oil is from China.) | *S3 Expressing attitude:* The student was responding to the topic instead of the previous speaker.<br>*S7 Non-verbal language:* After finishing his turn, he turned towards Student A, nodded while establishing eye contact with her, as a hint to encourage her to express her views. |
| Student A | 但係喺其他科目嘅陣時，唔係都會講一下德育及公民教育咩？<br>(Well, isn't that Moral and Civic Education often mentioned in other subjects too?) | *S5 Giving clarification:* Using counterexamples when disagreeing with Student B.<br>*S7 Non-verbal language:* Showing a change of facial expression - from relaxed to a serious look, showing disagreement. |

(*continued*)

| Student | Transcription | Strategies Used |
|---|---|---|
| Student B | 但係淨係少少，應該唔會造成太大影響。(Leaving only a tiny bit of it is fine. It shouldn't have much effect.) | *S5. Giving clarification:* Responding to the interlocutor's request. |
| Student A | 我覺得呢個講法都幾好，不過我認為歷史如果喺中學嗰陣時，歷史都會教到公民教育，而家小學生就可以唔使學住呢啲教育先，可以到時等中學嗰陣時先繼續學囉。<br>(I think this sounds good. However, if History covers Civic Education in secondary school, we won't need to study it [Civic Education] now. We may wait until when we are in secondary school.) | *S5 Giving clarification:* Clarifying through reasoning.<br>*S7 Non-verbal language:* Moving one's head in accordance to change of tone/pauses/emphases. She wanted to emphasize her main viewpoint. |
| Student B | 但係公民教育唔係教歷史㗎嘛，中學生有一科叫中史。<br>(But Civic Education has got nothing to do with History. There's a subject called Chinese History in secondary school.) | *S7 Non-verbal language:* Showing a puzzled look while looking at Student C, showing disagreement. |
| Student A | 咁你又覺得點呢？<br>(Then what do you think?) | *S2 Asking for opinions*: Focusing on the subjects to be removed, while asking Student A for her opinion. |
| Student C | 咁其實如果我贊成嘅話，我就會取消視藝堂，因為唔一定要個個人都會向畫畫嗰啲方面發展。<br>(Well, if I agree to this, I'd remove Visual Arts because not everybody has to pursue a career in something like painting.) | *S3 Expressing attitude:* Continuing with what was said in the previous turn, she responded to the discussion topic (e. g. what subjects should be removed).<br>*S7 Non-verbal language:* Looking up while speaking, pausing after every word; showing hesitation. |
| Student A | 我就想取消資訊科技嘅，因為電腦科都唔係我想學。我認為電腦科喺平時生活入面都可以學到，小學生可以唔使學呢一科目。<br>(I'd love to remove Information Technology, as Computer Studies isn't something I'm interested in. In my view, Computer Studies [IT knowledge] is what we can pick up in daily life. Primary students do not have to study this subject.) | *S3 Expressing attitude:* Continuing with what was said in the previous turn, she responded to the discussion topic (e. g. which subjects should be removed). |

(*continued*)

| Student | Transcription | Strategies Used |
|---|---|---|
| Student C | 但係我覺得而家啲工作好多都會用到電腦，如果你唔識用嘅話咁樣咪做到工作囉？<br>(But I think computers are useful in many contexts in the workplace. If you don't know how to use it, then you won't be able to do your work [tasks], right?) | *S4 Correcting errors*: Pointing out the need to keep the subject Computer Studies with a rhetorical question, while suggesting the reasons behind (Rhetorical question; No answers required) |
| Student A | 又係喎 ... 不過我都會堅持呢一個諗法。<br>(Sounds legit ... but I hold fast to my position on this.) | *S5 Giving clarification:* She confirmed that she would like maintain her original stance. |
| Student C | 咁如果你唔贊成又點解㗎？<br>(Well, if you don't agree to that, then explain why) | *S6 Requesting for clarification*: Requesting the other party to make their viewpoints clearer, such as giving explanations or examples. |
| Student A | 因爲我覺得電腦科實在太複雜喇，考試又要考筆試，又要考我哋學過嘅嘢，實在好無聊㗎嘛。<br>(It's because I think Computer Studies is really too complicated. Not only are we asked to do written exams, we'd also have to be tested on what was learnt. It's really boring.) | *S5 Giving clarification*: Giving explanations. |

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