Students' perceptions of self-selected peer learning in a collaborative Chinese speaking assessment

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Abstract

It is widely recognized that matchmaking for group formation is one important factor that determines the effectiveness of peer learning. Finding peers with certain peer learning skills and content expertise is likely to induce interaction that contributes to learning performance. However, there has been relatively little attention to how students self-select their peers to work on a collaborative task while this is particularly important for university students who need to form groups by themselves. This study aims to explore (i) how students self-select peers to prepare a collaborative speaking assessment, (ii) how students perceive the peer learning process with self-selected peers, as well as (iii) the differences in students' perceptions of the assessment interaction and performance between working with self-selected and randomly assigned peers. Results show that students choose peers from classmates whom they have interacted with before. Students are more satisfied with the interaction process and their own language skills with self-selected partners than with randomly assigned peers. The results of this study provide implications for future research to match peers for peer learning.

Introduction

Language development is a social process, in which a learner makes use of the target language in interaction with artifacts and other people in authentic learning contexts (Foster, 1992). In foreign language learning settings, students should communicate in the target language as much as possible. Since it is impossible for one teacher to interact individually with many students at the same time, especially in higher educational settings, students often need to practice the target language with their peers. Peer learning concerns a group of learning approaches in which students who are each other's equals help each other to learn through active interactions (Topping & Ehly, 2001). Applying peer learning approaches in foreign language learning creates a natural need for using the target language for communication purposes.

The effectiveness of peer learning approaches depends on whether particular forms of interaction will occur, such as negotiating meanings to reach mutual understanding and deep learning (Dillenbourg, 1999; King, 1997; Topping, 1996). As suggested by peer learning studies, the possibility that particular forms of interaction will occur depends on how the initial conditions are set up and how interaction among learners is structured (Dillenbourg, 1999; King, 1997; Topping, 1996). While most studies of peer learning have focused on structuring the peer interaction to maximize the learning effects (King, 1998; King, Staffieri, & Adelgais, 1998; Topping, 1996), only a few studies are concerned about how to set up the initial conditions, such as how to match peers to form pairs or groups (Dillenbourg, 1999; Seethamraju & Borman, 2009). Pairs or groups are often formed randomly without applying any matchmaking criteria. Some studies considering pair or group forming only suggested that different cognitive benefits result from different tutor-tutee arrangements such as same-ability or cross-ability peers (Cohen, 1994; Falchikov, 2001; King, 1997). In addition, these arrangements referred to *teachers'* pedagogical judgments and they mostly focused on one matching criterion of *ability*, which can be general ability level or subject-matter expertise. However, it is to be researched if students' ability alone suffices to induce beneficial interactions when peer learning approaches are applied or if there are other factors to be considered.

Regarding higher educational settings, it is common that university students need to collaborate with others to finish lecture assignments, for example while working on team projects. Group forming is usually left to students: students have autonomy to choose whom they want to work together with. Though giving learners autonomy to work together is beneficial for the success of the interaction process (Roscoe & Chi, 2007), it might be difficult and time-consuming for them to find out suitable peers because the social structure of a university lecture is not as clear as in the obligatory education in primary and secondary schools: university students often do not know each other well. For reasons of convenience, they often choose peers randomly. But if students are given a chance to first get to know each other, and then have autonomy to find their peers, how do they select peers for a collaborative task? Do they make choices based on certain selection criteria?

Among diverse peer learning approaches, peer tutoring and peer monitoring are most frequently applied in language learning settings. Peer tutoring is defined as "people from similar

social groupings who are not professional teachers, helping each other to learn, and learning themselves by teaching" (Topping, 1996, p.322). Studies of tutoring have suggested that content knowledge (e.g., subject-matter) and tutoring skills (e.g., pedagogical and process-facilitation skills) are correlated and both are necessary conditions for effective tutoring (De Grave, Dolmans, & Van Der Vleuten, 1999; Moust & Schmidt, 1995; Schmidt, van der Arend, Moust, Kokx, & Boon, 1993). As for peer monitoring, when peers learn together, they observe and check each other's engagement in their learning process and give each other feedback (Topping & Ehly, 2001). As shown by diverse peer learning studies, students with skills in tutoring and monitoring are likely to trigger extra cognitive benefits during the interaction process (King, 1991; King et al., 1998; McLuckie & Topping, 2004). Though these skills are crucial to the effectiveness of peer learning, no attention is drawn to whether students consider these skills when selecting a peer to work together with. When students are given autonomy to select peers, will making students aware of others' peer learning skills increase the effectiveness of peer learning?

The purpose of this study is two-fold. We first explore how learners choose peers for a collaborative task. Based on the studies mentioned above and on our own observation of peer interaction, we look at the selection criteria of peers' tutoring and monitoring skills (i.e., tutoring skills), listening and speaking skills of Chinese (i.e., subject-matter), and contextual aspects (such as personality and convenience). We investigate if these selection criteria are relevant for learners, when they first have the opportunity to interact with different peers. Second, we investigate learners' perception of the interaction process with their self-selected peers as well as compare differences in the interaction process between self-selected peers and randomly assigned peers. Based on these two purposes, we intend to answer the following research questions:

1. How do students find their peers for a collaborative task?

2. How do students perceive the peer learning process with self-selected peers?

3. Are there differences in students' perceptions and performance between working with self-selected peers and with randomly assigned peers?

Method

Participants

Participants were two classes of students in the course Chinese for Beginners at a University in the Netherlands. This course is an elective course targeted at all university students, staff and a limited number of external participants (i.e. non-university students). 47 students had enrolled in this course, but due to a high drop-out rate only 24 students actually participated in this study. There are thirteen lectures in total. During the first lecture, all students were asked to fill

in an online questionnaire to gather their personal information (e.g., age, gender, subject, and education level), self-reported ratings of prior knowledge level of Chinese and teaching-related experience. The age range of the participants was 19-45 (M = 24), including 13 (54%) men and 11 (46%) women. The participants were divided over fifteen different subjects, with eighteen (75%) participants studying in bachelor programs, 7 (29%) in (pre-) master ones and one lawyer. Six (25%) students indicated that they had learned a little Chinese before. Four students indicated extensive teaching-related experience with scores eight to ten on a 10-point rating scale.

Setting

This study was part of the compulsory speaking assessment that counted for 15% of the final grade of this course. This assessment took place in the thirteenth (i.e., final) lecture. There were two rounds of this assessment and students had to work in pairs with two different peers. In the first round, learners were paired with *self-selected peers* and in the second round, they were paired with *randomly assigned peers*. For each round, students first had to create their own dialogues and then perform them in Chinese.

Materials

Students received assessment instructions consisting of the assessment procedure, a list of learned sentence patterns and qualitative aspects of spoken language use based on the Common European Framework of Reference for Languages (Council of Europe, 2001).

A questionnaire of choices was used to match students with self-selected peers. Students first recalled the classmates they worked with during the past six lectures, indicated three possible choices of partners and the criteria on which they made their choice: peer monitoring, tutoring, Chinese speaking and listening skills, personality, convenience, and others, which they needed to specify.

A post questionnaire consisting of twenty 10-point semantic differential items was designed to investigate how students perceived different processes in this study: eight items dealt with their perception of the peer learning process with their self-selected peers (Table 2), six items dealt with their perception of the first round of the assessment process, with self-selected peers (Table 3) and six items dealt with their perception of the second round of the assessment process, with randomly assigned peers.

Procedure

During the first lecture, the teacher informed students that the peer learning approach was applied in this course (students needed to work in pairs to practice Chinese) and she presented two important skills of peer learning, i.e. peer monitoring and peer tutoring. From the 2nd to 7th lecture, the teacher arranged the seats in such a way that students worked with *different* classmates in each lecture. During these lectures, the students rated their partner's peer monitoring, tutoring, Chinese speaking and listening skills.

During the 8th lecture, the teacher announced the speaking assessment and explained the assessment procedure. To match students with self-selected peers, students first filled in the questionnaire of choices which investigated their interaction experiences with different classmates in the past six weeks. The students were then matched with one peer they indicated in the questionnaire of choices based on two principles: either a) two students were in each other's three choices, or b) at least one student was in the other's three choices. The teacher informed the matchmaking results during the 9th lecture. Then students started to prepare for the first round with their self-selected peers. The randomly assigned peers for the second round were decided on the date of speaking assessment: students were randomly matched by picking up name cards from a bag that the teacher prepared in advance. After they knew who their partners were, each pair had fifty minutes to practice with each other for the immediate speaking assessment. After two rounds of the speaking assessment, students had 20 minutes to fill in the post questionnaire.

Results

How do learners find their peers for a collaborative task?

On average, students could recall 4.5 names of the partners they interacted with before. Three students left this recall blank. We examined whether the choices they made were also the partners they interacted with before by counting the number of names of each choice that were also in the recall list. Most of the students (88%) chose partners from peers they had interacted with before. The three choices were further transformed into scores for each student who was indicated in these choices: three points were assigned to those who were indicated as the first choice by others, two points for the second choice, and one point for the third choice. The peer ratings on four skills (i.e., peer tutoring, peer monitoring, Chinese speaking and listening skills) were averaged into mean scores. The Pearson's correlation coefficient showed a strong relationship between the scores of choices and the mean scores of four skills, $r(22) = .50$, $p < .05$. That is, students who scored high on the four skills were also chosen more often as peers.

Table 1 shows the frequencies of each criterion used for each choice. Students considered both peer learning and language skills when making choices. In addition, the criteria of peer learning skills seemed to be more important than language skills. Note that participants indicated that the personality of their peer partners was as important as (or even more important than) peer learning and Chinese language skills.

Table 1: Frequencies of selection criteria used

	1st choice	2nd choice	3rd choice	total
His/her peer tutoring skills	13	10	7	30
His/her peer monitoring skills	10	10	10	30
His/her Chinese speaking skills	13	8	9	30
His/her Chinese listening skills	9	7	10	26
Personality	12	11	7	30
Convenience	4	1	0	5
Others	5	2	2	9

How do learners perceive the peer learning process with self-selected peers?

Table 2 gives the mean rating scores of students' perception of the peer learning process. With self-selected peers, students' average ratings for peer learning and language skills were towards satisfactory (ranging from $M = 8.46$, $SD = 1.18$ to $M = 8.58$, $SD = 1.18$). Most students were satisfied with the preparation process ($M = 8.63$) and most of the self-selected peers met their expectation ($M = 8.79$. $SD = 1.22$). However, the mean ratings of importance of self-selecting peers ($M = 6.13$, $SD = 2.96$) and the perceived amount of learning from self-selected peers ($M = 7.50$, $SD = 1.72$) were a little bit lower than other questions.

Table 2: Descriptive statistics of students' perceptions of the peer learning process with self-selected peers

	M	SD
1. Is it important for you that you could make 3 choices of your partners for doing this assessment? (1: not important; 10: important)	6.13	2.96
2. Are you satisfied with his/her peer tutoring skills during the preparation process? (1: unsatisfied; 10: satisfied)	8.46	1.18
3. Are you satisfied with his/her peer monitoring skills during the preparation process? (1: unsatisfied; 10: satisfied)	8.46	1.18
4. Are you satisfied with his/her speaking skills during the preparation process? (1: unsatisfied; 10: satisfied)	8.46	1.28
5. Are you satisfied with his/her listening skills during the preparation process? (1: unsatisfied; 10: satisfied)	8.58	1.18
6. Are you satisfied with the preparation process? (1: unsatisfied; 10: satisfied)	8.63	1.10
7. Did your peer meet your expectation of being collaborative during the preparation process?	8.79	1.22

(1: disagree; 10: agree)			
8. In general, how much did you learn from your peer during the preparation process? (1: little; 10: much)		7.50	1.72

Are there differences in students' perceptions and performance between working with self-selected peers and with randomly assigned peers?

Table 3 shows that the mean ratings of students' perceptions of the self-selected peers were higher than those of the randomly assigned peers during the assessment interaction. Non-parametric Wilcoxon matched pair signed rank tests were used to compare means. With self-selected peers, participants are more satisfied with the interaction during assessment than when they were assigned with random-assigned peers, $z = -2.23$, $p = .03$. With self-selected peers, participants are more satisfied with their *own* speaking skills during assessment than when they were assigned to random peers, $z = -2.41$, $p = .02$. With self-selected peers, participants are more satisfied with their *own* listening skills during assessment than when they were assigned to random peers, $z = -2.44$, $p = .02$. No significant differences were found in satisfaction with their peers' speaking and listening skills and perceived tension during the assessment.

Students' performance on each round of assessment was scored by the teacher based on the qualitative aspects of spoken language use based on the Common European Framework (Council of Europe, 2001). The maximum score of each round was 15 points. Dependent t-test was used to compare performance scores on two rounds. No significant difference was found in students' speaking performance between self-selected peers ($M = 12.74$, $SE = .36$) and randomly assigned peers ($M = 12.74$, $SE = .39$), $t(23) = .06$, $p = .96$.

Table 3: Descriptive statistics of students' perceptions with two types of peer during the speaking assessment

	types of peers	M	SD
Satisfaction with interaction (1: unsatisfied; 10: satisfied)	self-selected peer	8,50	1,14
	randomly assigned peer	7,96	1,33
Satisfaction with your peer's speaking skills (1: unsatisfied; 10: satisfied)	self-selected peer	8,50	1,06
	randomly assigned peer	8,30	1,19
Satisfaction with your peer's listening skills (1: unsatisfied; 10: satisfied)	self-selected peer	8,75	0,99
	randomly assigned peer	8,52	1,20
Satisfaction with your own speaking skills (1: unsatisfied; 10: satisfied)	self-selected peer	8,13	1,62
	randomly assigned peer	7,30	1,49
Satisfaction with your own listening skills	self-selected peer	8,38	0,97
	randomly assigned peer	7,48	1,81

(1: unsatisfied; 10: satisfied)			
Perceived tension during the assessment (1: nervous; 10: relaxed)	self-selected peer	7,08	2,34
	randomly assigned peer	7,04	2,18

Conclusion and discussion

To explore how students chose their peers to work on a collaborative assessment, this study was set up in such a way that students first had the opportunity to interact with others and only then had to make a choice of peer. The peer learning process and assessment interaction was investigated. The results show that students chose partners from the classmates they interacted in the previous lectures. They considered language skills, peer learning skills and personality when making these choices and they were satisfied with self-selected peers. Compared to randomly assigned peers, students were more satisfied with self-selected peers during the assessment task. These findings partly support the claim made by Roscoe and Chi (2007) that giving learners autonomy leads to success in peer learning. Also, they align with the findings of peer learning studies that both language skills (subject-matter ability) and peer learning skills (process-facilitation) are important for an effective peer learning process (De Grave et al., 1999; Moust & Schmidt, 1995; Schmidt et al., 1993).

However, students did not regard the importance of making choices as highly as was claimed by Roscoe and Chi (2007). One possible explanation is that they made three choices but they knew that the teacher might not assign them according to their first choice. Unfortunately this was not possible, since some students were chosen more frequently than others. Moreover, a few students dropped out between the 9th and 13th week after the pairs were created. Some students were thus matched with others who were not in their three choices. These situations might have influenced their perception of the importance of self-selected peers. Nevertheless, they did like self-selected peers more than randomly assigned ones.

The amount of what students have learned with self-selected peers was moderate. This might have resulted from the assessment design, because the assessment instructions which students received included a list of Chinese sentences. It was likely that students simply consulted this list instead of asking help from their peers, thereby possibly diminishing the opportunity for learning from each other. As for their perceptions of the assessment interaction, students with self-selected peers were almost as nervous and/or relaxed as with random-assigned peers. This might be due to the fact that students always experience a certain level of tension during performance-based assessments no matter who their peer is.

Regarding students' perceptions of their peers' language skills and their performance, no significant differences were found between two types of peers. One possible explanation for these results might be a mixing effect between these two types of peers. Some of the randomly assigned peers (i.e., for the second round) were *coincidently* in the three choices which students made, since we did not remove the three choices made by each student when matching them randomly. Thus, some randomly assigned peers were in fact the same as self-selected peers. Another explanation might be a practice effect, caused by using the design of

repeated measures. The same students participated in two rounds of the assessment and the performance of the second round might be influenced by the experience of the first round. Thus, these results need to be interpreted with caution.

Finally, three limitations need to be considered. First, the findings of this study might not be transferable to other contexts since the number of students was relatively small. Second, the selection criteria for the students' choices were restricted based on the findings of peer learning, tutoring and collaborative learning studies. However, it should be interesting to investigate other factors that might influence students' choices such as gender or interests (Prinsen, Volman, & Terwel, 2007). Thirdly, the amount of time which students with self-selected peers spent was not recorded. This might weaken the comparisons in performance between working with self-selected and randomly assigned peers. To further investigate the effects of different types of matchmaking, future studies should implement such comparisons in a more controlled experimental setting.

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