No Pain, no Gain: Willingness to Communicate vis-à-vis Communication Behaviour and their Effects on Language Performance

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Abstract

Active communication is an important element of second language (L2) learning, as it contributes to the acquisition of language competence. The prerequisite of L2 use is having the willingness to communicate (WTC). However, previous research tended to conflate WTC and communication behaviour and provided little evidence that WTC and/or communication behaviour actually improve language attainment. This study aims to distinguish between WTC and actual communication behaviour and to analyse how they may influence language performance at both the trait and state levels. The participants included a sample of 31 undergraduate English majors at a Chinese university. Their WTC, communicative behaviour and language performance were measured at both the trait and state levels via self-reports and teacher reports. In addition, group interviews were conducted to gain further insight into the differences between WTC and communication behaviour. The study revealed inconsistencies between state WTC and actual communication behaviour. Compared with WTC, communication behaviour was a better predictor of language performance. This study highlights the importance of distinguishing WTC from actual communication behaviour and constitutes an appeal to language teachers to strive for translating learners' subjective communication intentions into actual communication behaviour to facilitate their language learning.

Keywords: *Willingness to Communicate, Language Learning Performance, Communication Behaviour, Trait and State Levels*

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[1]Introduction

Communication plays an important role in second language (L2) development, as language acquisition often occurs through effective communication (Loewen & Sato, 2018). Since the emergence of communicative language teaching (CLT), an increasing number of language researchers and educators have become aware of the crucial role of communication in second language teaching, as actively engaging in communication can facilitate language learning (e.g., Ducker, 2024; Ellis, 2005). As a result, the active use of the target language to communicate is expected to be an essential part of language learning. In modern language teaching, the acquisition of communicative competence, which includes the mastery of the knowledge and skills needed to communicate, is facilitated by the use of communicative tasks as part of the pedagogy in language teaching (MacIntyre et al., 2003; MacIntyre et al., 1998; Kang, 2005). L2 learners are expected to not only go beyond merely developing L2 linguistic competence but also to demonstrate intent and *act to use* the target language in communication tasks (MacIntyre, 2007; Zhou, 2023a). Compared with learners who readily and willingly communicate, those who keep silent and remain reticent are often seen as passive learners who are less likely to learn languages well (MacKinnon & Manathunga, 2003). Hence, promoting L2 learners' willingness to communicate (WTC), which may consequently bring about actual communication behaviour and facilitate L2 attainment, is regarded not only as the means but also as the central objective of communicative language learning. However, little evidence has shown that increased levels of WTC and/or communication behaviour truly lead to better L2 acquisition. Furthermore, research to elucidate the relationship between WTC and L2 talk is limited (Ducker, 2022). The current study intends to address some of these open questions by examining the relationships between WTC, actual communication behaviour, and language learning success[2].

Definition and Heuristic Model of WTC

To predict individuals' communication frequency, the concept of WTC was introduced to the L1 and L2 learning literature. WTC in the L2 learning context is defined as "readiness to enter into discourse at a particular time with a specific person or persons, using a L2" (MacIntyre et al., 1998, p. 547). This definition reflects the dynamic nature of L2 WTC and emphasises its potential variability across time and situations.

MacIntyre et al. (1998) summarised the influencing factors of L2 WTC and communication behaviour into a heuristic model, widely recognised as the dominant model of L2 WTC. The heuristic model is made up of six layers, each representing one or more variables relevant to WTC and L2 use (see Figure 1). Depicted as a pyramid-shaped structure with L2 use at the top, the model not only presents multiple variables influencing L2 learners' communication but also indicates "the immediacy of some factors and the relatively distal influence of others" (MacIntyre et al., 1998, p. 546).
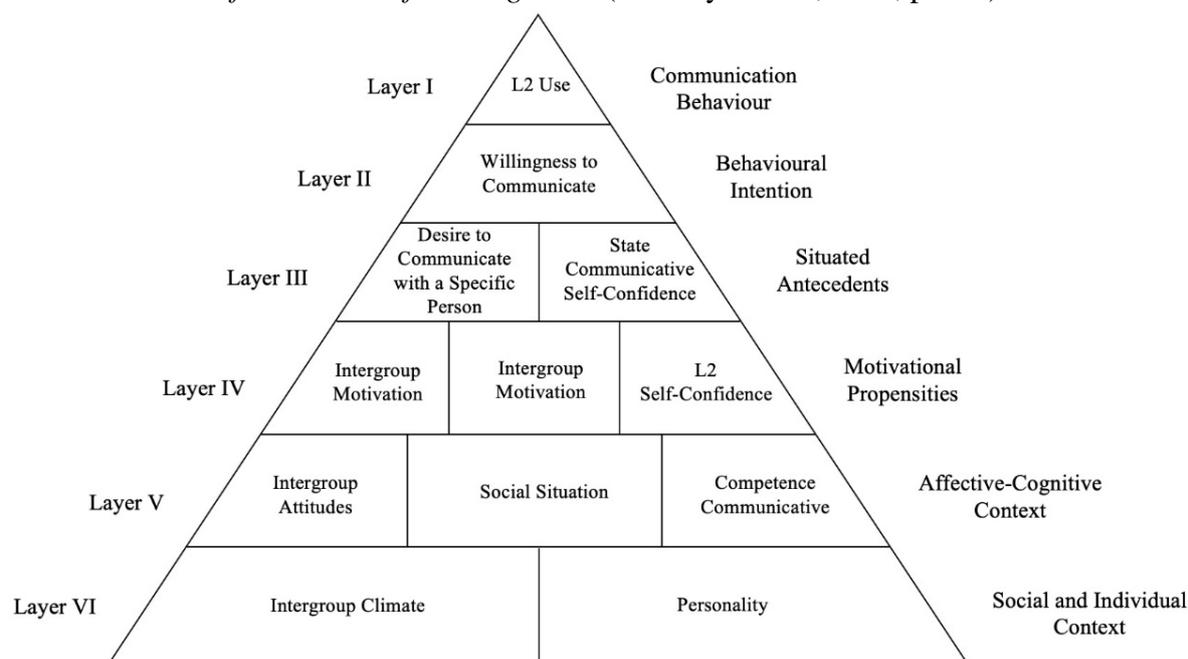
Figure 1

Heuristic Model of Variables Influencing WTC (MacIntyre et al., 1998, p. 547)

In accordance with MacIntyre et al.'s (1998) definition of WTC in L2 learning contexts, the top three layers indicate the dynamic nature of WTC. The apex of the pyramid is L2 use, the actual (objectively observable) communication behaviour in the target language in a specific situation. WTC (i.e., the subjective L2 communication intention), located in the second layer, is regarded as the only variable that directly predicts L2 use or communication behaviour. This finding indicates that MacIntyre et al. (1998) propose WTC and communication behaviour as two concepts that should not be conflated and that they regard WTC as a prerequisite for actual communication behaviour.

The lower three layers are composed of relatively stable and long-term properties within a person that apply to different temporal situations. These enduring variables indirectly influence L2 learners' WTC and L2 use through the moderation of the situational antecedents in the upper layers. The lower three layers indicate that WTC does not randomly vary across different situations but systematically deviates from a person's typical L2 communication tendency, as explained, for example, by personal variables, such as L2 self-confidence and personality.

Recently, Henry and MacIntyre (2024) extended this multilayered model and proposed a revised three-dimensional pyramid model to further illustrate the dynamic nature of WTC in multilingual community contexts. The dynamic nature of WTC is further elaborated in the following section.

WTC at the Trait and State Levels

MacIntyre et al.'s (1998) definition and heuristic model—both of which indicate that L2 WTC is not completely fixed in trait personality but changes across different communication situations—have been widely referenced by previous research (e.g., Baker & MacIntyre, 2000; Clément et al., 2003; Ghonsooly et al., 2012; Kirkpatrick et al., 2024; Mystkowska-Wiertelak & Pawlak, 2017; Öz et al., 2015; Peng, 2014; Peng & Woodrow, 2010; Yashima, 2002).

According to Peng and Woodrow (2010), WTC reveals "dual characteristics at both trait and state levels" (p. 835). At the trait level, a general communication tendency is assumed that is rooted in an individual's personality, whereas at the state level, an individual's intention to communicate fluctuates over time and across different situations.

Early research on L2 WTC tended to focus primarily on its trait characteristics. These studies typically measure participants' trait WTC and other relevant predispositions (e.g., personality traits) through cross-sectional questionnaires with relatively large samples (e.g., MacIntyre & Doucette, 2010; Öz, 2014; Peng, 2014). For example, with a sample of 168 English learners in a Turkish context, Öz (2014) reported that L2 WTC significantly correlated with the Big Five personality traits such as extraversion, agreeableness, and openness to experience. These studies aim mainly at estimating the linear relationships between trait WTC and personal variables selected from MacIntyre et al.'s (1998) heuristic model and thus provide empirical evidence for the enduring predictors of trait WTC. There are also several small-scale observational studies that provide more comprehensive and in-depth illustrations of individual differences in trait WTC. For example, in Liu's (2002) multiple case study of three Chinese postgraduate students at a university in the midwestern United States, a different label was used to capture each individual: a *conditional participator* (a student whose participation in classroom activities fluctuates remarkably with changes in situations, personality states and affect), a *marginal interactor* (a student who always listens attentively but rarely speaks up), and a *silent observer* (a student who completely withdraws from oral communication in the classroom). The label 'conditional participator' indicates the possibility of within-person variability in state WTC, at least for some.

Recently, a small number of researchers have focused on state WTC and within-person variability across different situations (e.g., MacIntyre & Legatto, 2011; Mystkowska-Wiertelak, 2016; Mystkowska-Wiertelak & Pawlak, 2014; Pawlak & Mystkowska-Wiertelak, 2015; Pawlak et al., 2016; Zhang et al., 2022, 2023). In this type of research, the same group of participants are measured repeatedly over a relatively short period of time via high-density repeated measurement approaches (refer to Zhang et al., 2022, for more detail). For example, Pawlak et al. (2016) measured state WTC of a relatively larger sample of 60 undergraduates divided into four groups at five-minute intervals during a 60-minute lesson and reported fluctuations in state WTC over time after focusing on a group of twelve participants. Studies such as this not only provide evidence for the state characteristics of WTC but also propose an innovative method to research those characteristics.

WTC as a Predictor of Language Performance

Language performance in the current study is operationalised by language exam scores, which include not only objective paper-based exam performance but also oral exam performance or course teachers' subjective judgements of students' language performance during class time. Although it is widely believed that one's language learning can be facilitated by actively engaging in communication, only a small number of studies have estimated the correlation between WTC and language performance (communicative performance in particular), and these studies presented inconsistent results. Some studies (e.g., Mahmoodi & Moazam, 2014; Naderifar & Esfandiari, 2016; Öz, 2014; Piechurska-Kuciel, 2018; Savignon, 2005; Zhang et al., 2022, 2023) reported that WTC significantly correlated with L2 learning performance (e.g.,

$r = .31$ in Mahmoodi & Moazam, 2014); however, others (e.g., Joe et al., 2017; Yashima, 2002) did not find significant correlations (e.g., $r = .00$ in Joe et al., 2017 after controlling for prior L2 achievement).

These studies, except Zhang et al. (2022, 2023), paid little attention to the state characteristics of WTC. Zhang et al. (2022) employed a high-density repeated measurement approach to study whether fluctuations in state WTC are contingent on various situational antecedents and how these contingencies influence language performance. Whereas the contingency effect of WTC on task-interest significantly correlated with language performance, other WTC-related situation contingencies were ineffective predictors of language performance. Using a similar approach, Zhang et al. (2023) reported moderate correlations between WTC (both trait and state) and language scores but zero correlations between self-reported communication behaviour and L2 scores. However, Zhang et al. (2023) measured both state WTC and communication behaviour via self-reports, which may be regarded as limitations (Ducker, 2022). It may be questioned whether the participants, when reporting their levels of WTC and communication behaviour, could clearly differentiate between the two concepts (Peng, 2020). Owing to the scarcity of research and inconsistent results on the relationship between WTC (and/or communication behaviour) and language performance, the current study investigated these associations at both the trait and state levels.

WTC vis-à-vis Communication Behaviour

MacIntyre et al.'s (1998) pyramid model, including its three-dimensional extension (Henry & MacIntyre, 2024), distinguishes between WTC and communication behaviour, as WTC is located below L2 use and is deemed the final psychological step before generating actual L2 communication. Like L2 WTC, actual communication behaviour also shows dual characteristics, as it is dynamic at the state level and fluctuates around relatively stable propensities at the trait level (King, 2016; MacIntyre & Legatto, 2011; Peng, 2020; Yashima et al., 2018). Some authors have conflated WTC, particularly its state characteristics, with actual communication behaviour. For example, Cao's (2013) longitudinal case study on the dynamic nature of WTC measured state WTC through classroom observation, such as counting participant turn-taking; however, what was observed should have been more appropriately labelled as the frequency of actual communication *behaviour*, which was conceptualised as L2 use in MacIntyre et al.'s (1998) heuristic model. In contrast to silence, communication behaviour (i.e., L2 use) is overt and readily observable, whereas WTC refers to people's subjective *intention* to communicate in certain situations, which is relatively latent and cannot be easily observed (Peng, 2020). It is necessary to distinguish WTC from communication behaviour, and such conceptual differentiation needs to be reflected in the measurement approach taken; that is, WTC would be better measured through self-reporting, whereas communication behaviour would be better assessed through observation (Ducker, 2022; Zhang et al., 2022).

Apart from a handful of recent studies (e.g., Ducker, 2022, 2024; Nematizadeh & Cao, 2023; Peng, 2020; Zhou, 2023a, 2023b), the interface between WTC and communication behaviour has not received sufficient attention. MacIntyre et al. (1998) conceptualised L2 WTC as the most immediate predictor of L2 use, and this finding has been supported by some empirical studies, in which significant correlations between L2 WTC and self-reported

communication behaviour were found (e.g., Mystkowska-Wiertelak & Pawlak, 2014; Zhang et al., 2023). However, others have not found an association between communication intention and actual communication behaviour (e.g., Cao & Philp, 2006; MacIntyre & Legatto, 2011; Nematizadeh & Cao, 2023; Ducker, 2022). For example, Nematizadeh and Cao (2023) reported very weak relationships between student self-reported WTC (both trait and state) and researcher-observed communication behaviour. Owing to the scarcity of research and inconsistent results, the conceptual differences between WTC and communication behaviour and their relationships at both the trait and state levels deserve further investigation (Ducker, 2022, 2024).

Furthermore, the authors of the current study wondered whether WTC per se, even if not successfully translated into actual communication behaviour, would also contribute to effective learning. According to Skehan (1989), actual communication behaviour is crucial, as L2 learners are supposed to "talk in order to learn" (p. 48). That is, mere *intention* may be insufficient to facilitate language learning, and thus, translating WTC into actual communication behaviour may be needed. However, few studies have explicitly distinguished between WTC and communication behaviour and tested their respective predictive power in relation to language performance. Thus, the research questions addressed in this study are as follows:

RQ1: To what extent are communication intention (i.e., WTC) and communication behaviour aligned at both the trait and state levels?

RQ2: What are the respective effects of WTC and communication behaviour on language performance at both the trait and state levels?

Method

Overview

This study adopted a high-density repeated measurement design to measure state WTC, communication behaviour, and language performance across different communication activities during a lesson. In each lesson, there were usually three or four communication activities for which data were collected. State data on each communication activity were collected at the end of a lesson to prevent interfering with pupils' normal learning during the lesson. Group interviews were carried out to learn more about potential differences between self-reported intentions (i.e., WTC) and actual engagement in communication behaviour. To explore the diversity of thoughts, feelings, and behaviours reflected by learners, all interviews were conducted with a selected group of students after each lesson. Altogether, eight group interviews were carried out.

Context and Participants

This study used a sample of 31 first-year undergraduate students (28 females and 3 males), with an average age of 18 years ($SD = 0.67$). All participants were Mandarin speakers majoring in English at a high-ranking university in Beijing. The participants were intermediate learners of English from two parallel classes taught by two different teachers. The two course teachers were both Chinese female lecturers in their early 30s and proficient in English, with master's degrees in English language and literature from high-ranking universities in China.

The course of interest was a compulsory course in China for first-year English major students studying for a BA degree. The course assessment consisted of formative and summative assessment components. The formative assessment was the teacher's judgement of student class participation and performance in communication and other learning activities over the semester, whereas the summative assessment was a paper-based English proficiency test.

Measures
To facilitate communication between the participants and the researcher, the questionnaires distributed and interviews implemented during the study were all in Mandarin and then translated into English during the data analysis process by the researcher and an invited professional translator.

Self-reports
Trait level. A baseline questionnaire was used for the students to report their trait L2 WTC and perceived English proficiency. Trait WTC was measured via Zhang et al.'s (2022) 36-item (15 items on WTC to speak, 13 on WTC to write, and eight on WTC to read; e.g., 'I am willing to participate in a dialogue in English at my desk with my neighbour') scale, originally adapted from MacIntyre et al.'s (2001) WTC in the Classroom scale, to measure trait WTC on a seven-point Likert-type scale (1 as 'very inaccurate' and 7 as 'very accurate'). The internal consistency of the trait WTC scale was high (Cronbach's alpha = .96). As a baseline score, the students were also asked to provide self-ratings of their English proficiency on a hundred-point scale (i.e., higher scores reflecting better grades). As the study was part of a larger research project, data collection also included other self-reported trait scales that are not relevant to the current analyses and thus are not specified further here.

State level. The momentary self-report measure was a brief seven-point scale (1 as 'not at all' and 7 as 'extremely'), measuring state WTC, self-reported communication behaviour, and self-assessed language performance (i.e., 'I was willing to communicate in English in this activity'; 'I did communicate in English in this activity'; 'I performed well during this activity'). Students rated these with respect to each activity in a specific lesson to enable an estimation of their within-person variability in state WTC, self-reported communication behaviour, and self-assessed language performance across different activities.

Teacher reports
As this study aims to identify differences between WTC (both trait and state) and actual communication behaviour, as well as their relationships with language performance, teacher reports were also used as a source of data on observed communication behaviour and language performance. This enabled us to mitigate the potential limitations of sole reliance on self-reported data.

Trait level. The baseline report for teachers was a class list, on which the teachers rated each student's communication behaviour on a seven-point scale (1 as 'not at all' and 7 as 'extremely') on the basis of their general impression (i.e., trait communication behaviour) and

indicated baseline English scores by assessing their English proficiency on a hundred-point scale.

State level. The momentary scale given to teachers was similar to that given to students. The major difference was that the items on state WTC were not included, as WTC is conceptualised as the *subjective* communication intention, which is not observable. Instead, the teachers rated each student's observable communication behaviour and language performance in each activity in the lesson (i.e., 'He or she did communicate in English in this activity.' and 'He or she performed well during this activity.') on a seven-point scale (1 as 'not at all' and 7 as 'extremely'). The teachers were also asked to specify their assessment criteria.

Group interview scheme
The group interviews were semistructured, with three questions related to this study. Two were to explore distinctions between state WTC and communication behaviour (i.e., 'Was there any point in time when you wanted to communicate but you did not talk? Why?' and 'Was there any point in time when you did communicate even without the intention to do so? Why?'). The third question asked the students to self-assess their language performance and to indicate the criteria used for such assessment. (i.e., 'How do you assess your language performance in today's class? Why?'). In practice, the interview schedule was flexible and could be adapted to the flow of the conversation. The interviews were conducted in Mandarin (the shared L1 of participants and the researcher) and took place in the classroom. The interviews preserved the character of a normal conversation without strict rules for turn-taking. The interviews normally lasted for approximately ninety minutes and were recorded with participant consent.

Language performance assessment
Baseline English scores. As the data collection started at the beginning of the first semester of the participants' learning at university, no previous English scores could be obtained. The self- and teacher-assessed English proficiency scores reported on the baseline measure were regarded as two indicators of baseline English proficiency. These assessments were performed on a hundred-point scale.

End-of-term English scores. Scores of the formative and summative assessments were used to indicate exam performance. The formative assessment aimed at evaluating student participation and language performance in communication and other learning activities during the semester; however, it mainly relied on course teachers' judgement. The summative assessment was a paper-based exam collaboratively designed and graded by the two course teachers to assess student English proficiency in terms of reading, writing and translation. Each participant's formative and summative assessment scores were reported by the teachers on a hundred-point scale. Scores below 60 were considered a fail, scores between 60 and 70 were considered a pass, scores between 70 and 80 were considered a merit, and scores above 80 were categorised as a distinction. While the summative assessment mainly tested students' written communication competence (e.g., argumentative writing), the formative assessment measured oral communication performance during the semester.

Language performance in a specific lesson. In addition to the assessments at the trait level outlined above, student language performance was also assessed at the state level. The self- and teacher-assessed momentary performance reports (i.e., 'I performed well during this activity.' and 'He or she performed well during this activity') were regarded as two assessments of student language performance in a specific activity during a specific lesson (i.e., up to four activities per student). These were scored on a seven-point scale (1 as 'not at all' and 7 as 'extremely').

Procedure

At the start of the study, the students who agreed to participate signed a consent form and completed the baseline questionnaire. The two teachers provided information relevant to the course and rated their general impression of each student's overall English proficiency (i.e., teacher-assessed baseline English score) and communication behaviour (i.e., baseline trait communication behaviour) shown during previous lessons.

From the next lesson onwards, students in both classes were divided into fixed groups (approximately four students per group) for communication activities in class and interviews after class. At the end of each lesson, the researcher liaised with the teacher to identify the main communication activities that had been prompted in that lesson. The teacher then assessed the communication behaviour and language behaviour of each student (in the group of interest in that lesson) regarding the identified communication activities and shared her criteria for assessing language performance, either orally or in writing. To maximise the use of information, conversations with the teachers were recorded with their permission.

After each lesson, all the students were asked to rate their state WTC, communication behaviour, and language performance in relation to each communication activity in that specific lesson. They were then interviewed to determine their thoughts and feelings in various learning situations during the lesson and their criteria for self-assessment. Rather than generating a "group opinion", all individuals were given the chance to comment on and further explain their personal perceptions and evaluations.

One week after the last group interview, the students took the paper-based language proficiency test (i.e., the summative assessment), and formative and summative assessment course scores were collected from the teachers.

Data Analysis

The analyses of the quantitative information included inspecting and contrasting the distributions, the means and standard deviations of the trait and state WTC scores and the scores related to communication behaviour. To analyse the relationships between WTC, communication behaviour, and language performance at both the trait and state levels, correlation coefficients were calculated. Student self-assessed performance was also compared with teacher assessments to identify alignment between student and teacher perspectives.

Qualitative information collected from group interviews and teacher conversations was thematically analysed (refer to Boyatzis, 1998 for more detail). The recordings were transcribed and coded systematically in Mandarin throughout. The initial coding was rough and descriptive, and participants' language was used to maintain the original meaning. Through a process of rereading and comparison, the same codes were given to the pieces of text that

conveyed similar meanings for consistency. After a few rounds of recoding, a manageable number of codes were established to capture participant responses and relationships between them. The coding was then checked by a second coder and adjusted after the two coders discussed and reached a consensus. After the thematic analysis, the codes and selected quotations were translated into English and then back-translated by a professional translator. The translation was finalised on the basis of the translator's comments.

Results

Results of the Statistical Analysis

Alignment between WTC and communication behaviour

With respect to research question 1, in terms of the comparison between WTC and communication behaviour, relationships and differences between subjective communication intention (WTC) and actual communication behaviour were analysed at both the trait and state levels.

Table 1 shows that students' self-reported trait WTC is positively correlated with teacher-observed communication behaviour ($r = .49$)—suggesting moderate levels of alignment—and confirms the necessity of not treating both concepts as identical in substance and meaning.

State-level WTC, however, does not seem to be associated with either self-reported or teacher-observed communication behaviour (see Table 1). Moreover, self-reported and teacher-observed state-level communication behaviour are associated with each other ($r = .43$), indicating that self-reports and teacher observations of communication behaviour at the state level reflect, if not necessarily something identical, something that is at least similar. If WTC is viewed as an expression of intention and communication behaviour is viewed as a reflection of (observable) action, then it is unsurprising that we find relatively higher scores for WTC than for communication behaviour (both measured on a scale ranging from 1–7).

The scores for students' average level of teacher-observed communication behaviour were lower and slightly more varied (mean = 4.55, SD = 1.29) than the average level of self-reported trait WTC (mean = 5.15. SD = 0.79). In terms of Cohen's d, this amounts to an effect size of $d = 0.56$. With a minimum score of 3.66, only two students (6.5%) scored slightly below 4 on the L2 WTC trait scale, indicating that the majority of the students were relatively willing to communicate in English in general; however, teacher reports on communication behaviour revealed that only approximately half of the students scored higher than 4, with a minimum score of 2, indicating that only a minority of the students communicated actively and that few students hardly ever communicated (see Figure 2).

Table 1

*Descriptive Statistics and Intercorrelations* (N = 30-31)

	Mean	SD	1.	2.	3.	4.	5	6	7	8	9	10
1. Trait WTC	5.15	0.79										
2. Teacher-observed communication behaviour (trait)	4.55	1.29	.49**									
3. Self-reported baseline English score	62.73	17.30	.38*	.41*								
4. Teacher-assessed baseline English score	83.58	7.54	.24	.51**	.31							
5. State WTC	5.43	1.19	.12	.17	-.12	.20						
6. Self-reported communication behaviour (state)	4.10	1.18	.25	.31	.28	-.01	-.01					
7. Teacher-observed communication behaviour (state)	5.00	1.25	.33	.36*	.26	.29	.16	.43*				
8. Self-reported performance in a lesson	4.33	1.08	.25	.05	.03	.08	.44*	.25	.16			
9. Teacher-assessed performance in a lesson	5.40	0.98	.41*	.47**	.41*	.20	.09	.41*	.79**	.23		
10. Formative assessment performance	89.39	5.99	.47**	.59**	.43*	.30	.00	.37*	.30	.18	.61**	
11. Summative assessment performance	68.92	12.68	.15	.43*	.47**	.61**	.28	.43*	.49**	.15	.40*	.50**

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Figure 2

Distributions of Trait WTC and Teacher-Observed Communication Behaviour
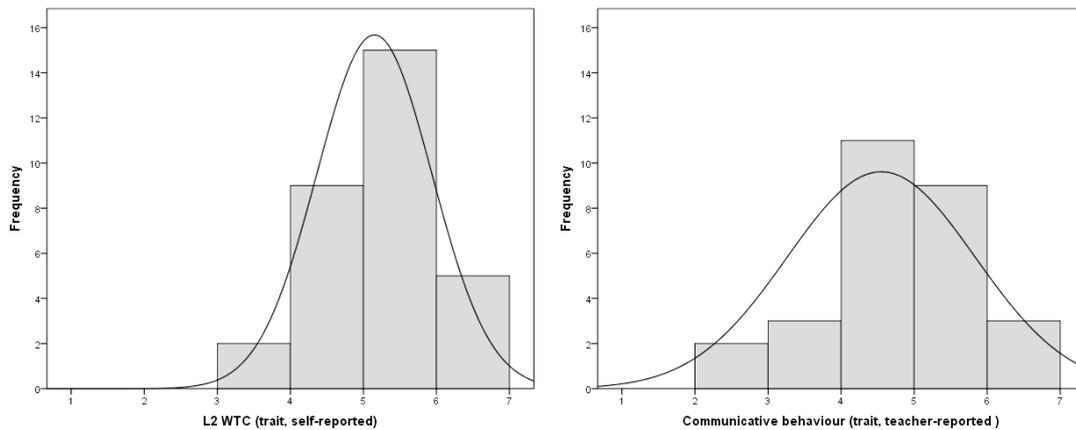
In addition to self-reported state-level WTC, students' state-level communication behaviour was assessed both by self-ratings and through their English teachers' judgement via momentary scales. Scores for self-reported and teacher-observed communication behaviour were averaged across activities. The distributions of the individual mean scores are presented in Figure 3.

Figure 3

Distributions of State WTC (left panel) and Teacher- (middle panel) and Self-Reported Communication Behaviour (Aggregated, right panel)
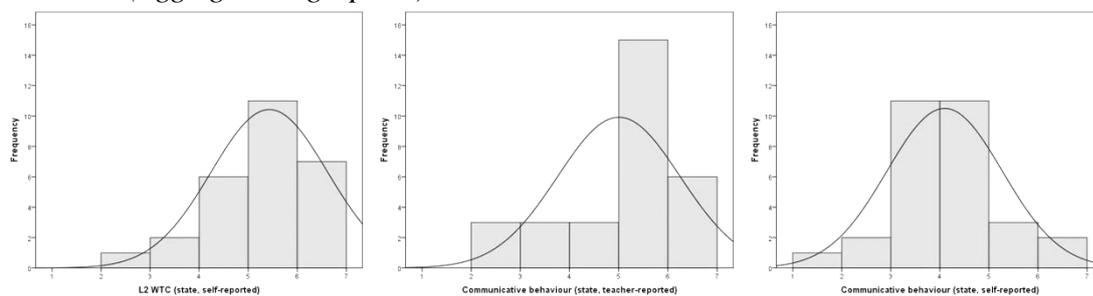
As was observed at the trait level, state WTC (mean = 5.43) was greater than both self-reported ($d = 1.12$) and teacher-observed ($d = 0.35$) communication behaviour. In addition, self-reported state communication behaviour was lower than teacher-observed state communication behaviour ($d = 0.74$). This finding indicates that the lower scores for observed communication behaviour are not due to teachers' lack of sensitivity in detecting communication behaviour in their students. Overall, the result pattern corroborates the need to distinguish between WTC and communication behaviour at the trait level or state level.

Prediction of Language Performance

To answer research question 2, the correlations between WTC, communication behaviour, and language performance were analysed.

Trait-level language performance was operationalised via scores of the formative assessment (i.e., end-of-term teacher judgement) and summative assessment (i.e., end-of-term

paper-based exam score) of the course. Scores on the paper-based exam and teacher judgement scores were moderately correlated ($r = .50$). However, the mean score on the paper-based exam (mean = 68.92, scale: 1–100, SD = 12.68) was 20 points lower than the mean score of the teacher judgement (mean = 89.39, SD = 5.99), and individual scores on the paper-based exam deviated much more widely than did the scores of the teacher judgement (see Figure 4). All but one student (97%) received a distinction for their in-class performance for the term (min score = 75), whereas only five students (17%) received a distinction on the paper-based exam, and seven (23%) failed the exam (min score = 41). That is, although nearly all the students in this study performed well in the communication and other learning activities implemented in class during the term, several students did not perform well in the paper-based exam.

Figure 4
Distributions of End-of-Term English Scores
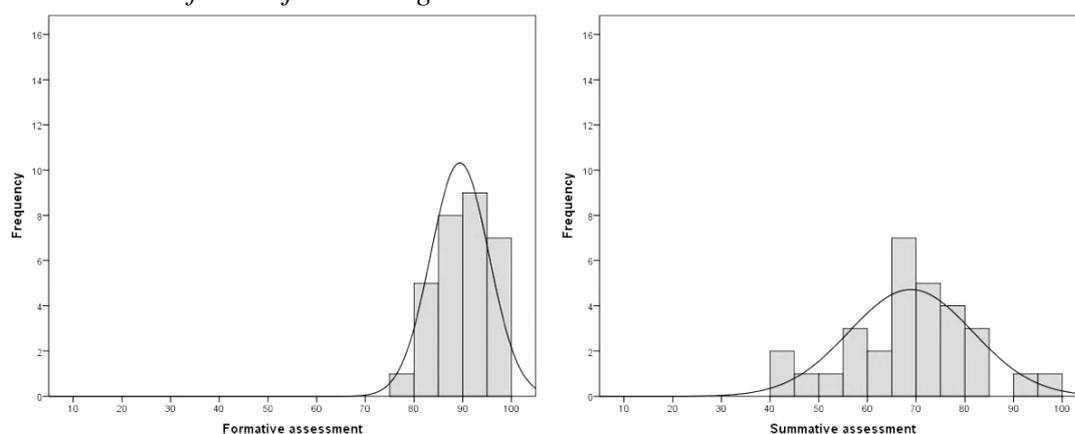
As shown in Table 1, trait WTC was significantly correlated with self-reported baseline English scores ($r = .38$) and end-of-term teacher judgement scores ($r = .47$); however, its relationships with teacher-assessed baseline English scores ($r = .24$) and end-of-term paper-based exam scores ($r = .15$) were somewhat weaker. In contrast, observed communication behaviour was more strongly associated with not only the baseline English scores assessed by both the students ($r = .41$) and the teachers ($r = .51$) but also the end-of-term teacher subjective judgement scores ($r = .59$) and paper-based exam scores ($r = .43$).

State-level language performance in specific lessons and activities was assessed by both students and course teachers. After state scores across different activities for each individual student were averaged, correlation coefficients between state WTC, self-reported and teacher-observed communication behaviour, and different assessments of language performance were estimated (see Table 1). The results show that state WTC correlated only with self-reported performance in a lesson ($r = .44$) but not with any sort of teacher assessment, whereas teacher-assessed performance in a lesson significantly correlated with actual communication behaviour, either self-reported by students ($r = .41$) or observed by teachers ($r = .79$) in that lesson. End-of-term English scores (both formative and summative) were also moderately correlated with student-reported and teacher-observed communication behaviour (r ranges from 0.30–0.49). WTC, regardless of whether it is assessed at the state or trait level, does not predict end-of-term summative performance. Findings at both the trait and state levels suggest

that actual communication behaviour has greater predictive utility in terms of language learning performance than measures of the intention to communicate (i.e., WTC).

Results of the Thematic Analysis: The Relationship between WTC and Communication Behaviour

The analysis of quantitative information thus far has revealed that the link between the intention to communicate and actual communication behaviour is rather weak. To obtain a better understanding of the potential relationship between the intention to communicate and actual communication behaviour, the students were interviewed in groups. Some responses during group interviews corresponded with the results of the statistical analyses. Students suggested that their state WTC did not always trigger actual communication behaviour; however, in some rare situations, they might communicate even without (the conscious) intention to enter into discourse. The themes identified from the participants' responses are presented in the following sections.

Opportunity to talk

It was often the case that students desired to communicate but were not provided with adequate opportunities to speak immediately at that moment. To engage in any communication behaviour, one needs not only a desire to communicate (i.e., state WTC) but also an opportunity to communicate. The communication opportunities in classrooms tend to be managed by teachers. The following excerpts illustrate that although the majority of the students believed that the teachers generally expected them to communicate in class and offered sufficient opportunities, some reported that it was a shame that they had no chance to express their thoughts and feelings in some of the activities.

> *After I raised my hand, the teacher called another student... When that student finished her talk, I thought it was my turn to talk. But the teacher gave some concluding remarks. Then... I didn't get the chance to talk. What a pity!* (Student 6, merit)
>
> *Not sure why the teacher suddenly, I mean, began to interrupt me today. Because I... spoke English as a second language, sometimes I paused for a while before responding, searching for the words in my mind. Then, when I was almost ready, she said the answer for me! I felt quite upset. Just as if you are about to find out who is the murderer, but suddenly, someone tells you that this person is the murderer.* (Student 20, missed the exam)

Necessity to speak

Despite the perception that they were expected to communicate in class, many students expressed confusion as to why they were supposed to talk in some activities, such as responding to teacher questions or reporting to the class after a group discussion. They claimed that the process of thinking and discussing with peers was more important than presenting the results of this process. Some students explained that they had rehearsed their answers or speeches in their minds several times if they were nominated by the teachers. As WTC is defined as readiness to enter into discourse (MacIntyre et al.,1998), these students exhibited state WTC in those activities because they thought actively, rehearsed in their minds, and were ready to

speak; however, they did not voluntarily engage in any communication behaviour unless nominated. Some students argued that they did communicate during the communication activities, even though they did not talk with anyone. As the following excerpts show, these students believed that thinking and drafting speeches in their minds was one effective way of communication, even though it could not be observed by others.

It didn't matter whether I stood up to answer it or not. I had thought about the teacher's questions in my mind. So... in fact, I had communicated in my mind. At that time, I was extremely... interested, so the report of our group was drafted by myself. Then... I felt my willingness to communicate reached the peak at that time. (Student 12, fail)

In fact, I thought the report at the end was nothing. What was important was not the final report, but the process of discussing. I thought we had discussed very well (outside the classroom). That's enough. The process of discussing, rather than the final presentation, was the important part. It didn't matter who presented in the classroom. (Student 20, missed the exam)

In addition to the perception that speaking out is not necessary for language learning, several students expressed concerns that their contributions would not be beneficial to other students. One claim was that one's questions or opinions were one's personal affairs that would not be useful for others and thus should be resolved privately after class. Another claim was that some thoughts were similar to those presented by others and were not good enough to be repeated. Hence, these students believed that speaking in class would be a waste of others' time. Therefore, they did not actually communicate whether they had state WTC or not, as explained in the excerpt below.

I was managing my language in my mind. But... I didn't talk. My ideas had been said by others, and my language was common, nothing new. So I thought it was unnecessary to repeat. (Student 7, fail)

Nominated talking

In contrast to voluntary contributions, which are dependent on students' communication intentions, mandatory contributions are not the result of student desires but rather of teacher requirements. Thus, it might be the case that a student did not intend to speak due to certain perceptions or beliefs, as illustrated above, but was nominated by the teacher and thus responded reluctantly. In other words, some students may have been forced to communicate, even without the desire to talk in that specific situation (i.e., were low in state WTC). As seen in the following example, some students noted that when they were not ready to talk but were asked to do so, their originally negative perceptions of the learning situation might be aggravated.

I was highly unwilling to talk! I didn't even know what I was saying... If I had been asked to do something that I was good at, I would have been willing to do so. But I had to do a task that I was not able to complete and had to do it in public. Gosh, I felt so ashamed! (Student 15, pass)

However, some students argued that if not willing to talk, one could remain silent even when nominated. In other words, the teachers had never forced any student to talk in the classroom. As can be gleaned from the following excerpt, any communication, whether voluntary or mandated, seems to build on some willingness to communicate.

> *No, I didn't say anything (when nominated by the teacher). I just waited for the teacher to nominate someone else. I felt unable to say anything, that's why I didn't raise my hand (to volunteer an answer).* (Student 14, fail)

Discussion

From Intention to Action: The Link between WTC and Communication Behaviour

At the trait level, a substantial correlation was found between WTC and communication behaviour ($r = .49$). That is, students who were more willing to communicate in English also tended to communicate more in English classrooms. This finding is in line with the results of Mystkowska-Wiertelak and Pawlak's (2014) study. However, unlike Mystkowska-Wiertelak and Pawlak (2014), who asked students to self-report their frequency of communication at the same time when reporting trait WTC, the current study measured communication behaviour through teacher observation to offer a more objective perspective. However, the relationships between state WTC and actual communication behaviour in a lesson (i.e., at the state level, both self-reported and observed by teachers) ranged from relatively weak to nonexistent. Recent research results have been inconsistent in terms of the extent to which WTC correlates with observed communication behaviour. For example, Zhang et al. (2023) reported that self-reported communication behaviour significantly and moderately correlated with both trait and state WTC; however, Nematizadeh and Cao (2023) reported very weak correlations between observed communication behaviour and WTC at both the trait and state levels.

The average level of communication behaviour (reported either by students themselves or by teachers) was always lower than the average level of WTC (both trait and state), indicating that not all communication intentions (i.e., WTC) are successfully translated into actual behaviour (i.e., L2 talk; Zhang et al., 2023). However, this finding does not preclude the possibility that students may communicate even without explicit communication intention in some situations. In the following discussion, we reflect upon (a) why sometimes state WTC may not translate into actual communication behaviour and (b) why, in rare cases, students may communicate without state WTC.

A major factor that prevents state WTC from translating into actual communication behaviour is the lack of communication opportunities. To initiate any voluntary communication behaviour, one must have state WTC and, at the same time, be given an opportunity to manifest this intention. However, state WTC and opportunities do not always appear simultaneously. When a teacher asks a question, several students may raise their hands. Raising a hand in the classroom can be seen as an explicit sign of state WTC (MacIntyre et al., 1998). However, only one or two students may be called upon by the teacher to give their answer. Hence, only the student who has the chance to communicate ultimately performs actual communication behaviour. Although the students in the current study indicated in the interviews that their teachers generally expected them to communicate and provided them with appropriate

opportunities, not every communication intention was met by immediate opportunity. In some situations, students felt that they were not given enough opportunities to express their thoughts and feelings or demonstrate their knowledge and skills, whereas in other situations, too many opportunities were offered when students were not willing to communicate.

In addition, not all students saw the need to verbalise their thoughts and feelings and communicate with others. Some students—particularly those who failed or were not present during the paper-based exam—claimed that the process of thinking could be more important than presenting or talking with others. They believed that they could participate in communication activities without verbalising their thoughts because constructing and rehearsing discourse in their minds was also an effective form of communication. This raises the questions of whether speaking is the only form of active participation in communication activities and whether those who talk less must be passive learners who are reluctant to use and learn the target language (Marlina, 2009). Speaking may not be the only approach to participating in communication activities, and silence may not indicate mental disengagement. In addition to external speech, which is a social function, there is also inner speech, an egocentric function influenced by outside factors, which influences thoughts (Vygotsky, 1986). That is, students who do not verbally participate in an activity are not necessarily absent-minded or disengaged but may be actively thinking and constructing discourse in their minds (Shi, 2006). This might also be seen as state WTC, as it shows eagerness and readiness to enter into discourse, although only when discourse is verbalised is communication behaviour observable. However, according to the results of the statistical analysis, being merely mentally ready for communication (i.e., having state WTC) is insufficient for better performance. As actual communication behaviour is essential for L2 success, language teachers are encouraged to make more efforts to motivate students to step out of their 'comfort zone' and to seize more opportunities to use the target language to progress in their students' learning.

On the other hand, students seldom showed unintended communication behaviour unless they mandated by teachers. The communication required by teachers can differ from the voluntary communication discussed above. In L2 classrooms, communication opportunities are provided to help students engage in L2 use and learn through positive communication experiences (Finocchiaro & Brumfit, 1983). During communication activities, a teacher takes less of a position of the "class authority" but may serve more as a cocommunicator (Hu, 2002). If teachers trigger communication by forcing students to talk, negative thoughts and feelings that tend to hinder state WTC are likely to be aggravated, ultimately thwarting the original pedagogical intent of encouraging students to seize more communication opportunities using the target language. However, some students claimed that even when nominated, they would keep silent if they were not ready to talk. This finding indicates that students cannot be forced to communicate without state WTC. Whether they communicate reluctantly, they must have the intent, to some extent, to talk in that moment because state WTC represents a final psychological threshold to actively use L2 (MacIntyre, 2007). Hence, teacher requests or even demands could facilitate communication generation and constitute an effective strategy to prevent long episodes of silence in class, as some reticent students may be ready to talk and waiting to be nominated by the teacher (Peng, 2020). From this perspective, teacher-mandated communication may not differ from voluntary communication, as they are both effective information exchange experiences that have the potential to develop communicative

competence. Hence, teachers are encouraged to be more observant and to develop the ability to detect any nonverbal signs of readiness to talk (i.e., state WTC) and promote mandated speech accordingly.

Communication Behaviour and Language Performance

In this study, language performance was measured through two types of assessments: student self-reports and teacher observations (including teachers' subjective judgement of student communication performance and more objective paper-based exam scores). The findings indicate that WTC (i.e., the intention to communicate), although closely related to student self-reported performance, did not always predict teacher-assessed performance; however, *actual* communication behaviour proved to have higher levels of predictive utility for language performance.

Trait WTC correlated moderately with end-of-term formative scores ($r = .47$), which was the teacher's evaluation of students' language performance during the term; however, there was no correlation between trait WTC and scores on the end-of-term paper-based exam. A possible reason might be that the formative assessments largely relied on teachers' impressions of student active participation and communication, which tended to focus on oral language performance in communication activities. In contrast, the end-of-term exam was a paper-based language proficiency test. The results indicate that students who are more willing to communicate may perform better in oral communication in terms of quantity, fluency, and comprehensibility of oral language production (Savignon, 2005); however, they do not necessarily perform better in paper-based exams that tend to emphasise vocabulary and grammatical accuracy. Similar results have been reported in previous studies: Naderifar and Esfandiari (2016) reported a significant correlation between trait WTC and oral English proficiency; however, Yashima (2002) did not find a significant relationship between trait WTC and L2 proficiency and attributed this to the absence of an oral exam to measure speaking skills.

At the state level, WTC was correlated with self-assessed language performance (a medium effect) but not with any sort of teacher-assessed performance. This finding supports MacIntyre et al.'s (1998) claim that perceived competence could be more effective than actual competence in predicting L2 WTC. Similarly, several studies have reported significant correlations between L2 WTC and self-assessed communicative competence, although these studies have focused mostly on the trait level (e.g., Fallah, 2014; MacIntyre et al., 2003; MacIntyre & Doucette, 2010; Mystkowska-Wiertelak & Pawlak, 2014; Peng & Woodrow, 2010; Yashima, 2002). At both the trait and state levels, communication behaviour correlated more strongly than WTC did with teacher-assessed performance, including subjective judgement and paper-based exam scores, indicating that actual communication behaviour might be a better predictor of language performance. This finding supports Skehan's (1989) "talk in order to learn" hypothesis, which underlines the necessity of actual L2 use for L2 learning. In contrast to the current findings, Zhang et al. (2023) reported no correlation between communication behaviour and language performance, which might be attributed to the measurement used. In their study, communication behaviour was self-reported by learners. However, as communication behaviour refers to the actual behaviour of using the target language to communicate, it is

observable by teachers and peers and, as such, is more objectively measurable without relying on self-reports.

Limitations

The current study also has several limitations. For example, one may argue that the very small sample size limits the credibility and precision of the estimates. A larger and more representative sample of students would have allowed for stronger generalisability of the findings. Additionally, a written test may be insufficient to assess L2 proficiency, which includes communicative performance. However, the end of the term paper-based exam reflects current practice in Chinese EFL classrooms and, as such, reflects a real-life criterion of L2 proficiency in HE contexts. Furthermore, although the formative assessment valued oral communication during class time, the interpretation of the teacher perspective was based on responses from only two teachers, which is too small to allow generalisations beyond this study and its context. As the current study aimed to compare WTC and communication behaviour across different learning activities over a semester, it was more feasible to build rapport with such a smaller group of teachers and students and thus probe their thoughts, feelings, and behaviours more in depth. Future research may recruit larger samples to further explore and possibly replicate the results reported in this study. Finally, this study identified associations only between WTC, communication behaviour, and language performance, with some potential explanations offered for these relationships on the basis of qualitative data gathered from students and teachers. The causality, i.e., whether WTC or communication behaviour (rather than other related variables) causes changes in language performance, is yet to be clarified. Therefore, as a next step, future studies should use experimental designs to test whether changes in language performance can be caused by changes in WTC and/or communication behaviour.

Conclusion

This study investigated differences between WTC and communication behaviour as well as their associations with language performance. A group of English major undergraduate students, as well as English teachers, were recruited to report on student WTC, actual communication behaviour, and language performance at both the trait and state levels. The findings suggested that this sample of students was generally willing to communicate in English; however, their level of actual communication behaviour tended to be somewhat lower than their level of intention to communicate. One may have sufficient intention to communicate; however, this intention may not be successfully translated into actual communication behaviour, mainly due to situational factors (e.g., lacking communication opportunities, overlooking the necessity of actual L2 use). The results also indicate that trait WTC may predict language performance, particularly when focusing on communicative competence; however, compared with state WTC, *actual* communication behaviour seems to be a better predictor of language performance. These findings corroborate the conceptual differentiation between subjective communication intention (i.e., WTC) and actual communication behaviour. Given the findings of this study, it is conceivable that communicating in the target language, rather than merely thinking and rehearsing in one's mind, is essential in promoting language learning. Future research on WTC may wish to further

investigate the causal linkages between WTC, communication behaviour, and language performance and to pay particular attention to communicative performance (e.g., using an oral exam). It will also be meaningful to explore practical strategies for teachers and learners to help facilitate an effective transition from latent communication intentions to actual behaviour and consequently improve learners' language proficiency.

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