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# A scoping review of willingness to communicate in language education: premises to doubt, lessons to learn, and future research questions to examine

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## Abstract

The assessment encompasses essential concepts and their related measures about the information gathered. The conceptualization within a study becomes imperative to ascertain the corresponding variables and establish appropriate methodologies for their measurement. The willingness to communicate (WTC) concept, an individual's engagement in communication when given the opportunity, has become a crucial point in second language (L2) learning due to language use and communication. While studies have rendered valuable insights into the differing presentations of L1 WTC and L2 WTC, the subject remains largely unexplored concerning the conceptualization and assessment of L2 WTC in the digital settings and English as a foreign language (EFL) context. The scoping review can aid in advancing our knowledge in this area of investigation by exploring the scope of available research literature on a topic by identifying key concepts and sources of evidence as well as identifying strengths, weaknesses, and gaps in the research that inform practice in the field, deepen assessors' knowledge in the field, and highlight areas that require further inquiry. This study conducted a five-stage scoping review, including (1) establishing the scoping review questions, (2) identifying the related research, (3) determining the inclusion criteria of studies, (4) outlining the data, and (5) analyzing and reporting the results. Six databases, ERIC (ProQuest), APA PsycINFO, JSTORE, Elsevier (Scopus), Web of Science Core Collection, and Semantic Scholar, were used for scoping data. Forty-seven studies were included in the final analysis. The results discuss the WTC conceptualizations and their directions in L1, L2, and EFL contexts. Furthermore, the results discuss the conceptualization of classroom-centered and context-bounded WTC, operationalization of WTC in digital and EFL contexts, methodological approaches applied for evaluating WTC, the evaluation of teachers' status in WTC conceptualization, and future directions. The discussions would prove useful in expanding our understanding of how to act toward L2 WTC and the assessment knowledge. Moreover, they would have significant implications for teachers, researchers, assessors, and practitioners in this field. Further, we hope this paper sparks renewed interest in L2 WTC by generating new ideas for researchers to conduct further research.

**Keywords:** Willingness to communicate (WTC), Second language learning, Speaking skill, Communication, Language use, Scoping review

## Introduction

### Premises to doubt

Measurement is commonly associated with assessment, which involves gathering information about a particular subject. However, the assessment also encompasses essential concepts and their related measures about which the information is gathered. When assessing the outcomes of a program, the overarching goals and objectives are transformed into measurable entities. The insights gained from the assessment help make informed decisions on the program's design or continuation. Consequently, the choices made regarding the methods used to measure a particular subject or a program's outcomes hold significant importance. Similarly, when conducting a research study, the definition and measurement of key concepts play a crucial role in evaluating the research's validity. In other words, once the concepts have been defined within a study, it becomes imperative to ascertain the corresponding variables and establish appropriate methodologies for their measurement.

The concept of willingness to communicate (WTC) has become a subject of great interest in the field of second language (L2) teaching and learning over the past few decades. This interest is driven by the recognition of the crucial role that communication and language use play in L2 acquisition (Cao, 2011; MacIntyre, Burns, & Jessome, 2011, Zarrinabadi & Pawlak, 2021). WTC was initially described as the possibility for a person to initiate communication freely at a specific moment with a particular individual or group using L2 (MacIntyre et al., 1998; McCroskey & Baer, 1985). The two conceptualizations of WTC, namely, the trait-like and dynamic situational conceptualizations, were identified in the literature. The trait-like conceptualization is associated with the constant and durable patterns of behavior maintained in different contexts, such as students' personalities or the relationships shaped within a group (Cetinkaya, 2005; Kang, 2005; MacIntyre & Legatto, 2011). WTC was initially treated as a trait-like conceptualization. For example, some related studies examined areas such as a comparison of extroverted students to introverted ones (Cetinkaya, 2005; MacIntyre & Charos, 1996), learners' motivation (Yashima, 2002), and communication anxiety (Clément et al., 2003).

MacIntyre (2007) proposed a fresh outlook on L2 WTC, building upon the previous WTC model (MacIntyre et al., 1998). This new perspective, referred to as dynamic situational conceptualization, highlights the dynamic nature of students' WTC, suggesting that it rapidly changes in response to various situations. In light of this ever-changing situational perspective, it is argued that the fluctuating and non-linear processes of WTC behavior evolve and transform dynamically over time, arising from the interconnectedness of internal and external elements (Baker & MacIntyre, 2000; Kang, 2005; MacIntyre et al., 2001; Peng, 2007) including mood, physiological variables (e.g., status that facilitate or hinder performance), and environmental circumstances (e.g., the existence of recording devices).

WTC was initially developed from first language (L1) communication focusing on trait-like variables (McCroskey & Baer, 1985), cross-cultural perspective comparing similar language groups (Barraclough et al., 1988), and distinct language groups

(McCroskey et al. 1990) concerning their L1 WTC. However, the establishment of the link between first language (L1) WTC and L2 learning occurred after the 1990s, as noted by MacIntyre and Charos (1996). Following this, MacIntyre et al. (1998) argued that the manifestation of WTC in the L2 is not simply a reflection of WTC in the L1. They proposed a multi-faceted construct of L2 WTC, leading to numerous subsequent studies that have explored L2 WTC in both in-class and out-of-class settings. These studies have approached L2 WTC from various perspectives, including individual trait-like perspectives (Baker & MacIntyre, 2000; Yashima, 2002) as well as situated and dynamic perspectives (McCroskey et al. 1990; Cao, 2014). Studies have rendered useful insights into the differing presentations of L1 WTC and L2 WTC; however, there is still a need for further research to explore different aspects and underlying variables of WTC in English as a foreign language (EFL) and digital settings.

Zhang (2022), in his study exploring WTC status, stated that a single situation cannot be universally applied. In contrast to English as a second language (ESL), English as a foreign language (EFL) refers to the process of learning English in a country where English is not the official or predominantly spoken language. Oxford and Shearin (1994) explained the main distinguishing characteristic of EFL from the ESL context is the lack of opportunity for L2 use outside the class, and in most EFL classes, the curriculum is the textbook. Therefore, the language classroom in EFL contexts is believed to be the best place for L2 to communicate and practice. Furthermore, after the initial screening of the literature and related data, charted data based on the themes explained in the following section, WTC has been treated somewhat differently in various settings. Therefore, this scoping review explores the areas explained below so that it helps to facilitate a comprehensive understanding of the breadth of existing research literature on a particular subject. However, two notable gaps in our current knowledge base are particularly apparent. First, our understanding of how variables relate to WTC in the EFL context is still sparse. Further exploring L1 and L2 WTC conceptualization can help us understand the EFL WTC areas of inquiry. Second, little is known about L2 WTC in digital settings; therefore, there is a need to further explore the L2 WTC in in-class and out-of-class settings so that this can give more insights into the areas of inquiry in L2 WTC in digital settings. While studies have provided valuable insights into the differing presentations of L1 WTC and L2 WTC, little is known about L2 WTC in digital settings and EFL contexts. By conducting a scoping review, this study aims to enhance our comprehension of this specific field of investigation by examining the extent of existing research literature on a particular topic. Scoping reviews involve comprehensive searches of literary sources, which serve to offer an initial evaluation of the potential volume and breadth of available research literature on a given subject. Through the identification of key concepts and sources of evidence, as well as the identification of strengths, weaknesses, and gaps in the research, scoping reviews inform practice in the field, deepen assessors' knowledge in the field, and highlight areas that require further inquiry (Arksey & O'Malley, 2005; Levac et al., 2010; Munn et al., 2018).

Adhering to the instructions outlined by Levac et al. (2010) for performing a scoping review, we examined WTC to come up with the research stream, findings, gaps, and recommendations for future research. This paper discusses L1 WTC conceptualization and its directions, L2 WTC conceptualization and its directions, classroom-centered

and context-bounded WTC conceptualization, operationalization of WTC in a digital context, WTC conceptualization in an EFL context, methodological approaches toward evaluating WTC, evaluation of teachers' status in WTC, and future directions.

## Method

This scoping review builds upon Levac et al.'s (2010) five-stage process. The process included the following five key stages: (1) establishing the scoping review questions, (2) identifying the related research, (3) determining the inclusion criteria of studies, (4) outlining the data, and (5) analyzing and reporting the results.

### Establishing the scoping review questions

This work was guided based on the following questions: How is the L1 WTC conceptualized? How is the L2 WTC conceptualized? How is the classroom-centered and context-bounded WTC conceptualized? How is the WTC operationalized in digital contexts? How is the WTC conceptualized in EFL contexts? How are teachers evaluated in WTC conceptualization? What methodological approaches have been employed in the related literature for evaluating WTC?

### Identifying the related research

To locate articles for this study, the search was conducted across databases and literary searches, including ERIC (ProQuest), APA PsycINFO, JSTORE, Elsevier (Scopus), Web of science core collection, and Semantic Scholar. To find the targeted articles, keywords related to WTC were entered into each database and searched in December 2022. First, each keyword followed by a star was placed between quotation marks, and then each keyword was separated by "OR." The keywords included: "Willingness to communicate \*" OR "L1 [+] willingness to communicate \*" OR "L2 [+] willingness to communicate \*" OR "EFL [+] willingness to communicate \*" OR "online [+] willingness to communicate \*" OR "digital [+] willingness to communicate \*" OR "teachers [+] willingness to communicate \*." Some searching results showed that a couple of articles containing willingness to communicate keyword in their title were related to areas other than the language area. Therefore, the search was refined by searching the databases for "willingness to communicate" 'AND' "Second Language/L2 learners" keyword. The search strings were also replaced and searched again to find other relevant papers, such as willing-related terms, communicate-related terms, English language-related terms, first language-related terms, and second language-related terms. Additionally, to find better results, we used [+], for instance, the keywords "teachers willingness to communicate" in the first round and "teachers + willingness to communicate" in the second round. During the searching stage, certain searching techniques that belonged to a specific database were also used to help us refine the search results; for example, in the JSTORE database, we used [ti:("Willingness to communicate\*")] to only search for titles including "willingness to communicate."

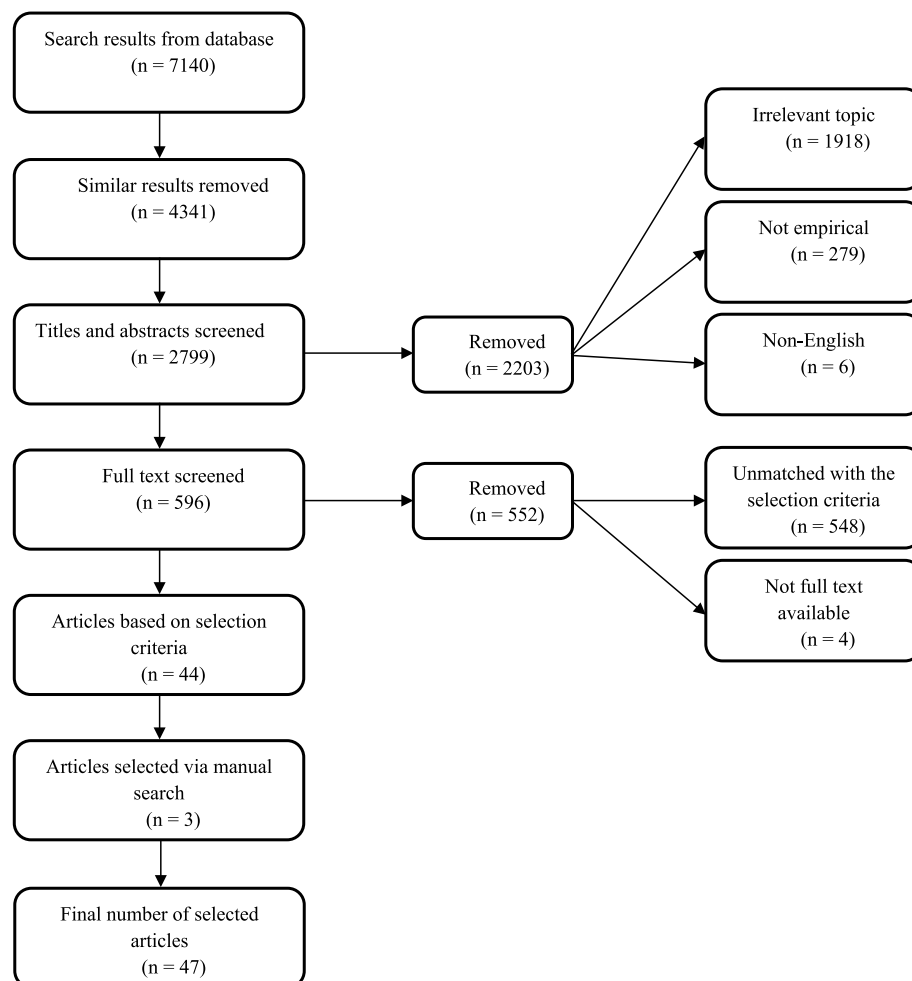
### Determining the inclusion criteria of studies

The inclusion criteria consisted of empirical studies related to either (a) L1 WTC, or (b) L2 WTC, or (c) EFL WTC, or (d) WTC in a digital or online context, or (e) the teacher's

immediacy role in WTC, or (f) classroom-centered and context-bounded WTC conceptualization, or (g) antecedents of WTC. All articles must have been written in English, and their full-text version must have been published in peer-reviewed journals and peer-reviewed conference proceedings. We did not consider publications on websites, handouts, or other passive publications from unclear publishers. We only selected one conceptual work by MacIntyre et al. (1998) because it was critical in L2 WTC development. The selection process was based on not only the inclusion and exclusion criteria but also content investigation. For example, as presented in Fig. 1 with the title of “Unmatched with the selection criteria,” for identifying L1 WTC or antecedents of WTC, not only the above criteria were considered, but also the content of articles was examined to determine whether they are related to the development of L1 WTC or the factors contributed and led to WTC, and then the data were charted.

### Outlining the data

The first search returned a total of 7140 from the six databases selected for this study. The primary search output showed 44 articles that could fall within the inclusion



**Fig. 1** Illustration of charting data

criteria. Three more articles were included via manual search. A total of 47 articles were selected for this scoping review. The final number of the articles was grouped based on the following themes: L1 WTC conceptualization and its directions, L2 WTC conceptualization and its directions, classroom-centered and context-bounded WTC conceptualization, operationalization of WTC in digital context, WTC conceptualization in EFL context, methodological approaches toward evaluating WTC, and the evaluation of teachers' status in WTC. Figure 1 displays the number of articles included and excluded at each stage as well as the reasons for their exclusion. The inclusion/exclusion process was checked, and disagreements were settled through consultants among the authors.

## Results

### Lessons to learn

The characteristics of the selected studies are presented and summarized in tables in each section. The interpretation and results are organized based on research questions in distinct sections as follows: How is the L1 WTC conceptualized? How is the L2 WTC conceptualized? How is the classroom-centered and context-bounded WTC conceptualized? How is the WTC operationalized in digital contexts? How is the WTC conceptualized in EFL contexts? How are teachers evaluated in WTC conceptualization? What methodological approaches have been employed in the related literature for evaluating WTC?

#### *RQ1: How is the L1 WTC conceptualized?*

As presented in Table 1, seven out of the 47 studies were used to discuss the L1 WTC conceptualizations. These studies show that the concept of WTC with respect to L1 was initially treated as a personality or trait-like orientation toward communication in all the early studies (Burgoon, 1976; Chan & McCroskey, 1987; MacIntyre et al., 1999; McCroskey & Richmond, 1982; Mortensen et al., 1977). The tendency to communicate differs depending on the circumstances some variables such as introversion, self-esteem, communication competence, communication apprehension, and cultural differences contribute to WTC differences. McCroskey and Richmond (1990) discussed verbal communication as a voluntary action that underscores the essential cognitive aspects of communication behavior, which are impacted by the individual's personality. Three important studies that helped McCroskey and colleagues construct their primary WTC concept were the work of Burgoon (1976) on the unwillingness to communicate (UnWTC), Mortensen et al. (1977) on predisposition toward verbal behavior, and McCroskey and Richmond (1990) on shyness.

In his self-reported measure study, Burgoon (1976) examined the areas of anomie and alienation, introversion, self-esteem, and communication apprehension. The measure used the factors of approach-avoidance and reward. The results of his study did not confirm the supposed predisposition of UnWTC, but the results revealed that individuals with communication apprehension are not involved in communication. Mortensen et al. (1977) observed a fixed amount of speaking for a participant over different communication contexts. They called this consistency "predisposition toward verbal behavior" and used it as a self-report scale labeling PVB. The results showed that only one factor measured a general WTC. However, the validity of the measure on considering the

**Table 1** Characteristics of studies that met inclusion criteria for L1 WTC conceptualization and its directions

Authors	Objectives	Participants	Instruments	Findings
Burgoon (1976)	Developing unwillingness to communicate scale	–	Questionnaire	It is suggested to utilize a 20-item tool consisting of two factors, namely, reward and approach-avoidance, for research purposes
Chan and McCroskey (1987)	Examining the validity of the WTC scale	Three undergraduate classes	Questionnaire and observation	The results reported the validity of the scale and suggested for further research to consider trait and situational factors
MacIntyre (1994)	The constructs initially identified by Burgoon (communication apprehension, anomie, alienation, introversion, and self-esteem) were examined as personality-based sources of WTC in this study	Data of studies: McCroskey and McCroskey (1986a) and McCroskey et al. (1987)	Questionnaire	The findings indicate that the occurrence of WTC can be attributed to a blend of communication apprehension and perceived competence, both of which stem from introversion and self-esteem
MacIntyre et al. (1999)	Investigating WTC in terms of trait and state aspects	226 male and female university students	Questionnaire	Volunteering for the lab portion of the study was found to be related to trait WTC, whereas initiating a difficult communication task was associated with state WTC. Furthermore, the participants' perceived competence in a particular state was found to predict both the time taken and the number of ideas generated during an easy speaking task. Similarly, state anxiety was found to predict the time taken and the number of ideas generated during a difficult speaking task
McCroskey and Richmond (1982)	Examining measures of communication apprehension and shyness constructs for both relationship and independence	Initial study: 606 college students Major study: 590 subjects and observers	Questionnaire	The research outcomes substantiate the validity of the conceptual differentiation between these constructs
McCroskey and Richmond (1990)	Examining the relationships between WTC in L1 with communication apprehension, communication competence, and introversion in USA, Sweden, Australia, Micronesia, and Puerto Rico	–	Data from other projects	They found various degrees of relations among them as American students with high willing, Micronesian students with low willing to communicate, Swedish students with the highest, and Micronesian students with the lowest perceived language competence
Mortensen et al. (1977)	Examining a self-report tool (PVB) in measuring verbal behavior tendency	–	Self-report instrument	PVB demonstrated satisfactory internal reliability and validity. The participants exhibited a general cognitive inclination toward their speech patterns, which positively correlated with the quantity of words and duration of speech



WTC or UnWTC was questioned. McCroskey (1997) claimed that the study's results did not indicate regularity in the amount of communication. McCroskey and Richmond's (1982) study on shyness also influenced the WTC conceptualization. They defined shyness as "the tendency to be timid, reserved, and most specifically, talk less" (p. 460). They designed a self-report measurement called McCroskey Shyness Scale (MSS) to measure the amount of participants' talk engagement. The participants' behavior was also observed in order to identify the validity of MSS. The results confirmed the validity of MSS in terms of actual communication behavior based on the amount of speaking. However, it did not support the predisposition of WTC or UnWTC.

Later, McCroskey and Richmond (1990) examined cultural aspects of WTC and found various degrees of relations among participants, such as American students with high WTC, Micronesian students with low WTC, Swedish students with the highest, and Micronesian students with the lowest perceived language competence. Therefore, they concluded that culture should be taken into consideration.

Then, data collected from McCroskey and his colleagues led MacIntyre (1998) to suggest a causal model for explaining six factors as predictors of WTC: anomie, alienation, self-esteem, introversion, communication apprehension, and self-perceived communication competence (SPCC). At the outset, his model incorporated more overarching personality characteristics (i.e., self-esteem and anomie), then continued with more specific factors such as communication apprehension and SPCC, which are considered only two immediate causal factors of one's WTC (MacIntyre et al., 1999). It ended with WTC, stating that it was the last stage before a person started communication. His model indicates that less anxious individuals and people with high SPCC are more willing to communicate and turn out to initiate communication. MacIntyre (1994) believed that the model fitted best to the data as it explained approximately 60% of the variance in WTC. Thus, MacIntyre suggested that personality-based factors were dealt with much in previous research; therefore, examining situational variables would be a potential area for further research. This view also paved the way for considering differing L1 and L2 WTC presentations and, as a result, for developing a six-layered pyramid model in L2 WTC.

#### ***RQ2: How is the L2 WTC conceptualized?***

As shown in Table 2, four out of the 47 studies were used to discuss the L2 WTC conceptualization. WTC was initially studied in terms of trait-like features in L1 communication, and then the focus was shifted to situational, linguistic, and social variables in L2. MacIntyre et al. (1998) asserted that the presentation of L2 WTC is different from that of L1 WTC. In the first model of L2 WTC presented by MacIntyre and Charos (1996), L2 WTC was still explored as a trait-like predisposition in which perceived L2 competence and motivation were determined as directly affecting L2 WTC with L2 anxiety and integration as an indirect factor. According to MacIntyre et al. (1998), although the consent is inferred by some studies about the pertinent independence between L1 and L2 WTC, the variables that are believed to be influential in L1 WTC are more complex in L2 use, which led MacIntyre et al. (1998) to develop a broad L2 WTC model taken account of linguistic, social-psychological, and communicative factors.

MacIntyre et al.'s (1998) six-layered pyramid model shows the antecedents of WTC in an L2 communication context, bearing trait-like and situational variables with enduring



**Table 2** Characteristics of studies that met inclusion criteria for L2 WTC conceptualization and its directions

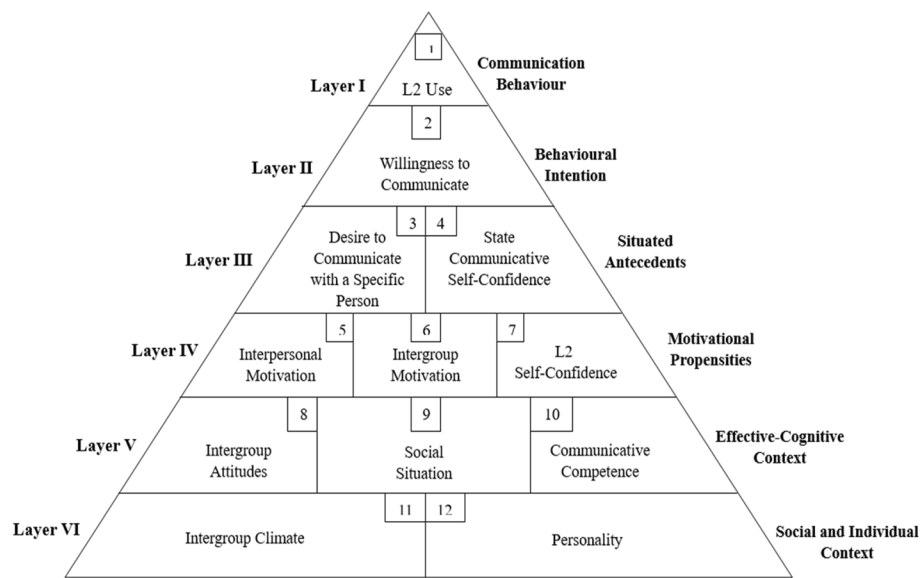
Authors	Objectives	Participants	Instruments	Findings
Baker and MacIntyre (2000)	Examining gender and immersion in communication and L2 orientations	31 male and 39 female immersion students	Questionnaire	The relationship between the perceived competence of non-immersion students and their WTC was found to be highly significant. Conversely, for immersion students, communication anxiety was found to have the strongest correlation with WTC. Furthermore, it was observed that male non-immersion students had a less favorable perception toward learning French, whereas female non-immersion students demonstrated a greater inclination toward three out of the four language learning orientations
MacIntyre and Charos (1996)	Investigating the associations among affective variables, such as attitudes, motivation, perceived competence, and anxiety, in anticipating achievement in L2 learning and communication	92 Anglophone students	Self-report measures	Various factors were discovered to have a notable impact on the frequency of communication, including the WTC in L2, motivation for language learning, perceived competence in L2 communication, and the availability of opportunities to interact with L2 speakers. Additionally, findings indicate that overarching personality traits and emotional variables related to language play a crucial role in establishing the psychological environment for L2 communication
MacIntyre et al. (1998)	Conceptualizing L2 WTC	–	–	L2 WTC was conceptualized based on a heuristic model

**Table 2** (continued)

Authors	Objectives	Participants	Instruments	Findings
MacIntyre et al. (2002)	The impact of gender and age on WTC, anxiety, perceived competence, and L2 motivation	268 French immersion students from grades 7, 8, and 9	Questionnaire	Females had higher WTC than males, grades 8 and 9 had higher WTC than grade 7, and generally, learners revealed higher WTC in English (L1) than in French (L2). Grades 8 and 9 outperformed grade 7 in terms of communication frequency; however, learners' motivation decreased from grade 7 to grades 8 and 9. Moreover, a relationship was found between WTC, language anxiety, communication frequency, and SPCC, indicating that students with high motivation tended to have higher WTC, communication frequency, and SPCC with lower French anxiety

and situational or transient influences. The enduring influences refer to the contexts or individuals' state presented over a long time and considered stable, such as personality traits. Situational or transient influences are considered momentary and short-term influences associated with the particular context in which an individual acts at a specific time and tends to communicate with a specific person. As shown in Fig. 2, the upper three layers of the model, namely, layer I (communication behavior), layer II (behavior intention), and layer III (situated antecedents), are supposed to have situational or transient effects on L2 communication, whereas, the lower three layers of the model, namely, layer IV (motivation propensities), layer V (affective-cognitive context), and layer VI (social and individual context) have enduring effects on WTC.

The layer I involves the variable “L2 use.” According to MacIntyre et al. (1998), this layer is assumed to be the consequence of a complicated system of interconnected variables. They emphasized creating WTC as the final result of L2 learning. Layer II (behavior intention) is concerned with the “willingness to communicate” variable. MacIntyre et al. (1998) state that communication behaviors result from a behavioral intention if an individual controls his behaviors. Layer III includes two variables, i.e., “desire to communicate with a specific person” and “state of communicative self-confidence.” The former refers to a person’s tendency to speak with a specific person because of interlocutor’s familiarity or attractiveness in some ways. The latter is a momentary feeling of confidence at a particular time in a specific situation. This also refers to as “self-perceived communication competence” (SPCC) most frequently in the literature, which is explained as how learners perceive or evaluate their L2 ability.



**Fig. 2** MacIntyre et al.'s (1998) pyramidal heuristic model of L2 WTC

Layer IV, which is supposed to be transient to enduring influences on WTC, contains three variables, i.e., “interpersonal motivation,” “intergroup motivation,” and “L2 self-confidence.” Intergroup motivation is when an individual feels that he belongs to a particular social group, whereas, in interpersonal motivation, an individual takes a social role inside the group. L2 self-confidence is explained as when an individual perceives himself as competent to communicate in L2 appropriately and efficiently (1998). Layer V has three variables, i.e., “intergroup attitudes,” “social situation,” and “communicative competence.” Intergroup attitudes show the learners’ attitude of cooperation with the group and feeling contentment while acquiring a language. The social situation variable deals with social factors in a specific context of communication happening in a community. Communicative competence refers to a person’s L2 proficiency which can significantly impact one’s degree of WTC. Finally, the last layer VI deals with two variables, i.e., “intergroup climate” and “personality” variables. The former variable signifies learners’ views toward the L2 group, the value they ascribe to it, and their tendency to increase closeness between the L1 and L2 groups. As MacIntyre et al. (1998) noted, personality is believed to indirectly affect intergroup climate and individuals’ communication behavior.

Nevertheless, since developing the heuristic model in 1998, researchers have been investigating its different aspects. They have indicated the strength of its predictions and the adaptability of the theories, such as the investigation of immersion and non-immersion students with English as L1 and French as L2 and the role of gender (Baker & MacIntyre, 2000), and WTC, SPCC, French anxiety, motivation, and integrativeness in the sense of gender and age (MacIntyre et al., 2002). Although these studies found differences in WTC behavior regarding gender and age, SPCC predicted L2 WTC among beginning learners. At the same time, anxiety was the main predictor among advanced learners. It does not indicate that advanced learners are more

anxious than beginning learners. But, those who use the L2 perceive themselves as more or less competent regarding proficiency. Baker and MacIntyre (2000) claimed that the effect of WTC antecedents is likely to change over time as learners become more experienced in L2. The research shared up to this point has played a crucial role in advancing our knowledge of L2 WTC. However, much attention should be directed toward L2 WTC exercise in different contexts. The next section will cover classroom-centered and context-bounded L2 WTC development.

***RQ3: How is the classroom-centered and context-bounded WTC conceptualized?***

As presented in Table 3, 11 out of the 47 studies were used to discuss classroom-centered and context-bounded WTC conceptualization. The primary studies about WTC in the classroom focus on single contextual variables influencing students' WTC in class, including attitudes about the task and pre-task planning (Cao & Philp, 2006; Dörnyei & Kormos, 2000; Weaver, 2005). For example, Dörnyei and Kormos (2000) investigated various affective and social factors, such as WTC, on L2 students' participation in communicative tasks. They concluded that learners' views on the task affected their WTC in class. Also, the results revealed strong and positive relations between students' WTC and L2 production among students with positive attitudes while performing the task. Weaver (2005) studied the impact of teaching and pre-task planning on learners' WTC while performing various communicative tasks inside the class. The results indicate a post-instruction increases regarding WTC, implying a positive effect of pre-task planning on WTC.

Later, classroom-based studies about WTC focused on the situational and contextual factors (Azizi & Farid Khafaga, 2023; Cao & Philp, 2006; Clément et al., 2003; Khajavy et al., 2016; Öz et al., 2015; Peng, 2007; Zangoei & Derakhshan, 2021). For instance, the impact of scaffolding on the enhancement of language skills and components among EFL learners, as well as its role in the development of psychological constructs like motivation, learning anxiety, and WTC, was investigated by Azizi and Khafaga (2023) through the implementation of group-dynamic assessment (G-DA). Their findings evidenced significant improvements in motivation in the experimental group. Additionally, the experimental group's learning anxiety was significantly relieved due to the G-DA-based teaching. The experimental group's WTC was also significantly improved. Khajavy et al. (2016) investigated university students' WTC majoring in English in Iran. They found that classroom environment directly predicted WTC and influenced attitudes, communication confidence, and motivation; communication confidence directly affected WTC; motivation and English language proficiency indirectly influenced WTC through communication confidence. Zangoei and Derakhshan (2021), in their study, tested students using the Oxford Online Placement Test and only included those in the higher range of 90–120 (120 is the highest score). These 269 upper-intermediate and advanced-level Iranian EFL learners reported that pragmatic listening comprehension has a significant and positive relationship with language proficiency, self-regulated learning in listening, and WTC. However, further research is required to employ different assessment tools such as proficiency tests, and also future research can evaluate the stated relationship using participants with a lower level of proficiency and considering the effect of

**Table 3** Characteristics of studies that met inclusion criteria for classroom-centered and context-bounded WTC conceptualization

Authors	Objectives	Participants	Instruments	Findings
Azizi and Khafaga (2023)	The impact of utilizing G-DA as a scaffolding technique in enhancing the language skills and components of EFL learners was investigated. Furthermore, the study explored the potential benefits of G-DA in fostering psychological constructs like motivation, learning anxiety, and WTC among the learners	124 grade 11 students	Questionnaire	Their findings evidenced significant improvements in motivation in the experimental group. Additionally, the learning anxiety of the experimental group was significantly relieved as a result of the G-DA-based teaching. The experimental group's WTC was also significantly improved
Cao and Philp (2006)	They investigated the eight students' self-reports of their WTC in three circumstances: whole class, small group, and pair work	Ten students of a private language school	Observation, interviews, and questionnaires	The learners' self-reports were found to be ineffective in predicting their WTC behavior. However, it is important to note that these self-reports could be affected by both trait-level and state-level WTC factors - The WTC status varied across the three interactional contexts, and the classroom observation appeared to be a proper way to investigate situational L2 WTC - Some factors were confirmed as influencing L2 WTC, such as self-confidence, group size, familiarity with conversers and discussing topics, cultural background, and medium of communication
Clément et al. (2003)	WTC in L2: context, norms, and vitality effects	130 Anglophone (majority) and 248 Francophone (minority) students	Questionnaire	They argued against the L2 WTC model presented by MacIntyre et al. (1998), claiming that it is unable to explain the context where social pressures might cause L2 use against the speaker's will. Therefore, they combined the model with Clément's (1980) social context model, considering social, contextual, and individual difference variables. However, the results revealed that Francophones, the minority group with less ethnolinguistic liveliness, had high WTC in L2, L2 confidence, more frequency of L2 interaction, and a higher identification with the L2 group compared to Anglophones

**Table 3** (continued)

Authors	Objectives	Participants	Instruments	Findings
Dörnyei and Komros (2000)	They investigated a range of affective and social factors, such as WTC, on L2 students' participation in communicative tasks	46 Hungarian students	Self-report questionnaires	They concluded that learners' views on the task affected their WTC in class. Also, there were strong and positive relations between students' WTC and L2 production among students with positive attitudes while performing the task
Khajavy et al. (2016)	They investigated WTC using a microsystem model	243 Iranian students in the English language	Questionnaire	Classroom environment directly predicted WTC and affected perceptions, communication confidence, and motivation; communication confidence directly impacted WTC; motivation and English language proficiency indirectly influenced WTC through communication confidence
Öz et al. (2015)	Examined students' attitudes toward WTC in Turkey	134	Questionnaire	The students had improved WTC, communicative competence, and communication apprehension. Communicative competence and communication apprehension was strong predictor of WTC, and motivational variables indirectly affected WTC. The suggested model explained 63% of the variance in WTC
Peng (2007)	Studied the WTC antecedents from a Chinese cultural perspective	174 college students	Questionnaire	Students' L2 WTC is influenced by Chinese Confucian heritage Communicative competence is considered a downplayed predictor and a less important variable in the Chinese context, whereas, classroom climate could be considered an environment developed by a larger number of "others" to which the person self is linked up with directed. She also postulated that Chinese students need linguistic, affective, cognitive, and cultural readiness to tend to communicate
Weaver (2005)	Impact of English teaching and pre-task planning on learners' WTC while performing various communicative tasks inside the class	490 Japanese university students	Questionnaire	Post-instruction increase regarding WTC, implying a positive impact of pre-task planning on WTC

Table 3 (continued)

Authors	Objectives	Participants	Instruments	Findings
Zangoei and Derakhshan (2021)	They examined the association of pragmatic listening comprehension with language proficiency, self-regulated learning in listening	269 Iranian EFL learners with advanced proficiency in the language	Questionnaire and multiple-choice test	They found that pragmatic listening comprehension has a significant and positive relationship with language proficiency, self-regulated learning in listening, and WTC
Wen and Clément (2003)	They conceptualized Chinese ESL students' WTC	–	Discussion	The researchers developed Macintyre et al's framework by adjusting certain structural relationships among variables and reevaluating them through a Chinese cultural lens. Their study revealed that cultural values played a significant role in shaping students' attitudes and learning outcomes in L2 communication. Finally, they explained the linguistic, communicative, and social-psychological factors contributing to learners' WTC
Li and Li (2022)	The research focused on investigating the connections between the antecedents at the trait level, specifically the demographic characteristics of students, and their second L2 WTC	1502 university students	Questionnaire	The students' socioeconomic status had a positive effect on their WTC in meaning-focused activities



performance-oriented or exam-oriented learners as performance-oriented learners or educate in such context are more willing to communicate in essence.

Wen and Clément (2003) asserted that WTC is not considered a simple presentation of a factor but rather an interaction of communicative, socio-psychological, and linguistic factors. They emphasized sociocultural factors and argued against MacIntyre et al.'s (1998) model, claiming it was oriented based on the study conducted in Western contexts. For example, Wen and Clément (2003) posited that Chinese learners prefer teacher-centered communicative and grammar-based approaches; they tend to keep their distance from outgroup members and cultures, which they conceptualize as an insider effect. In addition, they are anxious about the potential of damaging their public image if they cannot speak English properly, which they refer to as significant others. Their WTC model in the Chinese EFL context focused on societal context, motivational orientations, personality types, and affective perceptions. In a recent study, Li and Li (2022) observed that the students' socioeconomic status positively impacted their WTC in meaning-focused activities. Öz et al. (2015) also conducted a study in EFL Turkish, examining students' perceptions of WTC. They reported that the suggested model for WTC explains WTC variability. Therefore, it is imperative to investigate the dynamic fluctuations of WTC across contexts to produce WTC most effectively in a specified context. All in all, on logical grounds, it could be argued that it is not only individual difference factors that are believed to impact L2 WTC and L2 use but that the effect of social and contextual variables should not be neglected in L2 communication. The next section will cover the development of WTC in digital contexts.

#### ***RQ4: How is the WTC operationalized in digital contexts?***

As presented in Table 4, 13 out of the 47 studies were used to discuss the operationalization of WTC in digital contexts. The emergence of novel technologies has brought about significant changes and the growing contribution of the digital world to L2 learning, young EFL learners are much more engaged in learning activities and communications through out-of-class digital environments. The L2 communication in digital environments seems to have different characteristics compared to classroom communication. For example, L2 learners have the opportunity to engage in informal communication with unknown interlocutors through different channels and social media without physical presence, asynchronous mode of communication, various communication modes such as texts and audio, and anonymous identity, which all can cause manifest different behaviors in L2 communication Lee and Lu (2023). Following the emerging line of research on L2 WTC in digital environments, a mixed-methods study in Hong Kong was carried out by Lee and Taylor (2022) to investigate the relationship between positive psychology constructs (specifically classroom enjoyment, grit, and growth mindset), extramural English, and the primary school students' WTC. The study involved a sample of 160 students, and it aimed to determine whether these factors have an impact on students' L2 WTC. They found that students' L2 WTC was predicted by classroom enjoyment, grit, extramural English in the classroom, grit, growth mindset, and extramural English outside the classroom. Lee and Dressman (2018) discovered that EFL university students actively participate in extracurricular English activities using technology, leading to a notable enhancement in their online L2 WTC level. However, they employed an

**Table 4** Characteristics of studies that met inclusion criteria for operationalization of WTC in digital context

Authors	Objectives	Participants	Instruments	Findings
Kruk (2022)	The researchers examined the affective factors related to WTC, motivation, language anxiety, and boredom within the context of complex dynamic systems	Two Polish adult learners	Background questionnaire and a session log	The findings showed fluctuations in the levels of the variables under consideration, both within individual interactions and across different visits. These variations in the variables were influenced by various positive factors (such as topics, opportunities for discussing shared interests and understanding the responses from conversation partners) and negative factors (like unfriendly SL users, boredom, uncooperative SL users, and past negative encounters)
Lee (2019)	Lee examined factors influencing L2 WTC in digital contexts	98 Korean EFL university students	In-depth interviews	The researcher discovered that various factors, including the context in which the students were communicating (such as the people they were talking to and the teaching methods used by their instructor), as well as individual factors like anxiety and self-confidence in their second language, collectively influenced the students' ability to engage in L2 communication in a digital environment. This finding further supports the notion that L2 WTC is both context-dependent and subject to change over time. Moreover, despite L2 WTC increasing popularity among researchers in digital contexts, it requires much attention to reveal various aspects of the dynamic nature of L2 WTC
Lee and Liu (2022)	They investigated the dynamicity of seven EFL university students' WTC in an online class	Seven EFL university students	Stimulated recalls and semi-structured interviews	The results of their study revealed that the levels of L2 WTC among EFL learners are subject to constant change due to the interplay of different trait-like factors, such as their receptiveness to new online learning experiences, and state-like factors, such as technical difficulties encountered during the learning process
Lee and Drajati (2020)	They developed a new scale of L2 WTC in digital and non-digital EFL contexts	114 Indonesian EFL students	Questionnaire	They validated L2 WTC scale

**Table 4** (continued)

Authors	Objectives	Participants	Instruments	Findings
Lee and Dressman (2018)	The researchers investigated the correlation between L2 WTC and informal digital learning of English. This study focused on the growing trend among self-directed EFL learners who utilize English in digital environments outside the traditional classroom setting	94 Korean EFL students	Questionnaire and interviews	It was discovered that EFL students actively participate in English activities outside of the classroom using technology, resulting in a noteworthy enhancement of their online L2 WTC
Lee and Lu (2023)	The investigation delved into the correlation between the L2 motivational self system, specifically the ideal L2 self and the ought-to L2 self, and L2 WTC both within and outside the classroom environment	417 Chinese EFL middle school students	Questionnaire and semi-structured interview	The findings indicated that the ideal L2 self had a substantial impact on the L2 WTC in both the traditional classroom environment and the digital setting outside of the classroom
Lee and Taylor (2022)	The researchers investigated whether positive psychology constructs such as classroom enjoyment, grit, and growth mindset, along with extramural English, can be used to predict students' L2 WTC	160 EFL primary school students in Hong Kong	Questionnaire and semi-structured interview	The researchers discovered that the L2 WTC among students was influenced by factors such as classroom enjoyment, grit, and the presence of extramural English within the classroom. Additionally, outside of the classroom, the students' L2 WTC was predicted by their level of grit, growth mindset, and engagement with extramural English activities
Mulyono and Saskia (2021)	They surveyed the effect of affective factors on learners' WTC in conventional classroom and digital environments	436 Indonesian EFL	Questionnaire	The study conducted revealed that self-confidence, speaking anxiety, and motivation were strong predictors of students' WTC. Additionally, it was found that students exhibited a higher level of WTC in digital settings
Rahimi and Fathi (2022)	The researchers investigated the influence of e-tandem on the speaking abilities of EFL students, specifically focusing on speaking fluency and coherence, vocabulary usage, grammatical proficiency, pronunciation, and WTC	22 EFL learners	Questionnaire and semi-structured interview	The findings suggested that both e-tandem and traditional classes contributed to the enhancement of EFL learners' speaking abilities and WTC
Reinders and Wattana (2014)	They explored the impact of engaging in digital game play on learners' WTC	30 Thai EFL learners	Questionnaire	The findings indicated a noticeable and substantial enhancement, as individuals reported increased self-assurance, reduced anxiety, enhanced proficiency, and greater WTC

Table 4 (continued)

Authors	Objectives	Participants	Instruments	Findings
Soyoo (2022)	The researcher conducted interviews to explore the perception of Iranian EFL students regarding WTC in an extramural digital context	50 Iranian EFL	Interview	The findings suggested that educational methods (K-12), personal relationships with conversation partners and supportive communities, emotional factors such as confidence and anxiety in using a L2 in online environments outside of school, and the social atmosphere among different groups all play a role in impacting students' L2 WTC
Tai and Chen (2020)	The impact of Google Assistant on the WTC among adolescent EFL learners was examined by the researchers	112 EFL learners	Questionnaire and interview	The findings indicated that Google Assistant played a crucial role in boosting EFL students' WTC, improving their confidence in speaking, and decreasing their anxiety when speaking
Waldeck et al. (2001)	A scale was created to assess the email communication tactics utilized by students to enhance their WTC with their teachers in online settings	289 undergraduates	Questionnaire and self-reports	It has been discovered that students exhibit a higher tendency to engage in online communication with teachers who utilize message strategies that replicate behaviors associated with immediacy

exploratory methodology with a single-item measure of L2 WTC online. It needs to be further explored by using more developed and established measures in digital settings. Later, Lee and Drajiati (2020) conducted a study with a more developed questionnaire.

Recent studies exploring students' L2 WTC in digital settings indicate that various dynamic factors influence students' L2 WTC (Kruk, 2022; Lee, 2019; Lee & Liu, 2022; Mulyono & Saskia, 2021; Soyoof, 2022). For example, Lee and Liu (2022) investigated the dynamicity of students' WTC. They discovered that the levels of L2 WTC among EFL learners are greatly influenced by trait-like factors such as openness to new online learning experiences, as well as state-like factors like technical issues. Their findings highlight the highly dynamic nature of EFL learners' L2 WTC. Soyoof (2022) also interviewed 50 Iranian EFL students' perceptions of WTC in the digital context outside of the university. He found educational practices, familiarity with the interlocutors and supportive communities, affective variables, and intergroup climate influencing students' L2 WTC. Mulyono and Saskia (2021) surveyed the effect of affective variables on 436 Indonesian EFL students' WTC in the conventional classroom and digital environments. They found that self-confidence, speaking anxiety, and motivation significantly predicted students' WTC, and students revealed a higher level of WTC in digital settings. Lee (2019) examined factors influencing university students' L2 WTC in digital settings. He found that contextual elements like interlocutors and pedagogy, as well as individual factors such as L2 anxiety and L2 self-confidence, collectively influenced the students' L2 WTC in the digital environment, which supports the situated and dynamic nature of the L2 WTC. Moreover, despite L2 WTC increasing popularity among researchers in digital contexts, it requires much attention to reveal various aspects of the dynamicity nature of L2 WTC.

Recent research has also been carried out to investigate the possible influence of technology on the development of L2 WTC such as the effect of interaction with intelligent personal assistants (Tai, 2024), AI-mediated speaking activities, chatbots (Fathi et al., 2024), e-tandem, a language exchange application (Rahimi & Fathi, 2022), e-mail message strategies (Waldeck et al., 2001), Google Assistant (Tai & Chen, 2020), and digital games (Reinders & Wattana, 2014). However, further research is required to explore the substantial contributions to our limited understanding of the potential role of technology in L2 WTC promotion in settings other than in-class and lab settings.

#### ***RQ5: How is the WTC conceptualized in EFL contexts?***

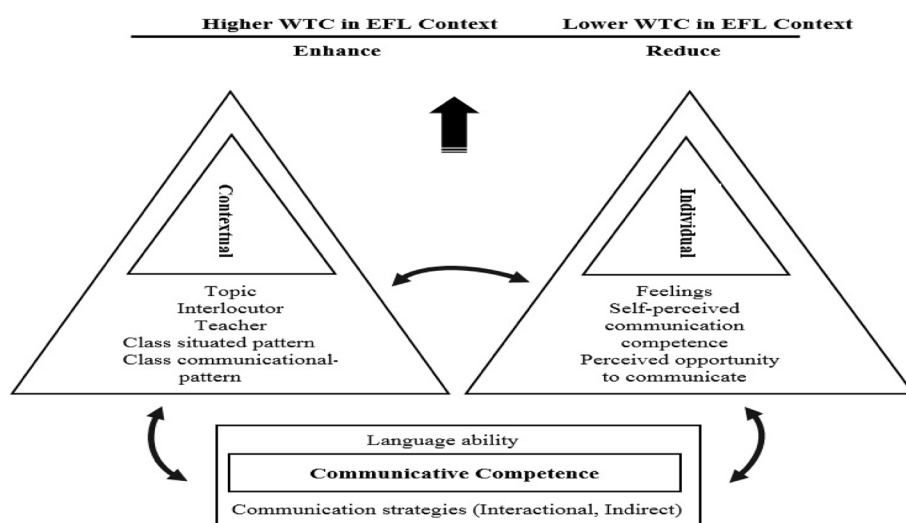
As displayed in Table 5, five out of the 47 studies were used to discuss the conceptualization of WTC in EFL contexts. Given that a specific context of communication happening in a community might not be the same and L2 learners are exposed to the target language differently, learners' WTC behavior might differ, for example, in EFL and ESL contexts. In ESL, English is used in daily social interactions such as mass media, education, and official institutions. On the other hand, English use is restricted to the classroom, and it is not used socially. As Zhang (2022) claimed that one situation does not fit all because of the WTC variability, the studies exploring the WTC variability are still sparse (Ebadi & Ebadijalal, 2022; Henry et al., 2021; Lee, 2022; Vafadar & Chow, 2020; Zarrinabadi et al., 2023). For example, Vafadar and Chow (2020) investigated the instruction effect of Dörnyei and Scott's (1997) communication strategies (CSs) on Iranian intermediate EFL learners' WTC. Their findings

**Table 5** Characteristics of studies that met inclusion criteria for conceptualization of WTC in EFL context

Authors	Objectives	Participants	Instruments	Findings
Ebadi and Ebadijalal (2022)	They investigated the impact of Google Expeditions virtual reality on EFL learners' WTC and oral proficiency	20 upper-intermediate EFL learners	Video-recording and questionnaire	The analysis of qualitative data demonstrated that the implementation of the virtual reality tool resulted in a notable improvement in the participants' overall knowledge, motivation, enthusiasm, cultural awareness, and confidence
Henry et al. (2021)	They studied WTC in Swedish multilingual contexts at the individual level	Seven participants	Questionnaire	Their study revealed the presence of interconnected influences that impact WTC and produce effects at the system level
Lee (2022)	The role of grit (consisting of perseverance of effort and consistency of interests) and classroom enjoyment in EFL learners' WTC was examined	647 Korean EFL learners	Questionnaire	Lee found that grit, specifically perseverance of effort, and classroom enjoyment were significant predictors of L2 WTC across all cohorts. However, it was observed that grit, specifically consistency of interests, did not have a predictive effect on Korean EFL learners' WTC
Vafadar and Chow (2020)	They examined the impact of CSs teaching on students' WTC	67 Iranian intermediate EFL learners	Questionnaire, observation, stimulated recall interviews	Participants who received CSs instructions significantly improved regarding speaking time or WTC and taking turns. The learners found the interactional and indirect CSs to be the strategies that were most frequently used and beneficial - Some interconnected factors such as contextual, individual, and communicative competence either facilitated or inhibited students' WTC, what is referred to as the "tree-gyrate" model
Zarrinabadi et al. (2023)	They studied the effects of praise for intelligence and praise for effort on learners' language mindsets, perceived communication competence, speaking anxiety, and WTC	63 Iranian EFL learners	Questionnaire	They found that praising effort played a crucial role in enhancing Iranian EFL learners' WTC by fostering growth mindsets and reducing speaking anxiety

revealed that students' speaking time significantly increased, and they took more turns in communication than the control group. In addition, the experimental group used the interactional and indirect types of CSs most frequently and found them to be the most useful strategies. They proposed a “tree-gyrate” model by describing interconnected factors such as contextual, individual, and communicative competence that could foster or suppress participants' WTC (Fig. 3). Vafadar and Chow (2020) examined MacIntyre et al.'s (1998) heuristic pyramid WTC model in the EFL context. They explained that a common perspective in both models was to consider the situational aspect of WTC. However, they argued that their model supports the context of the EFL classroom, but MacIntyre et al.'s model does not focus on a specific context and includes enduring and transient factors that affect WTC. Furthermore, there is a one-dimensional and hierarchical relationship between these factors. While there is a recursive and interrelationship between factors in the tree-gyrate model, it is difficult to distinguish the enduring and transient factors.

Ebadi and Ebadijalal (2022), in their mixed-methods study of 20 upper-intermediate EFL learners, investigated the impact of Google Expeditions virtual reality on EFL learners' WTC and oral proficiency. Their quantitative data showed that the oral performance and WTC in the experimental group were significantly higher than the control group. The analysis of qualitative data demonstrated that the implementation of the virtual reality tool resulted in a notable improvement in the participants' overall knowledge, motivation, enthusiasm, cultural awareness, and confidence. Henry et al. (2021) conducted research on WTC in Swedish multilingual environments. Their study revealed the presence of interconnected influences that impact WTC and produce effects at the system level. Zarrinabadi et al. (2023), in their study, found that praising effort played a crucial role in enhancing Iranian EFL learners' WTC by fostering growth mindsets and reducing speaking anxiety. Lee (2022) discovered that both grit, specifically perseverance of effort, and classroom enjoyment were significant predictors of L2 WTC across all cohorts. However, it was observed that grit,



**Fig. 3** Tree-gyrate model of WTC for EFL classroom context (adopted from Vafadar & Chow, 2020)



specifically consistency of interests, did not have a predictive effect on Korean EFL learners' WTC.

As the brief glimpse through the literature on WTC indicates ample support for the L1 and L2 WTC, based on the currently available evidence from EFL WTC literature, it seems fair to suggest that further research is required to address this rather under-researched area and scrutinize different aspects of EFL WTC.

#### ***RQ6: How are teachers evaluated in WTC conceptualization?***

As demonstrated in Table 6, seven out of the 47 studies were used to discuss teachers' status in WTC conceptualization. The related literature on WTC shows that teachers have a significant role in encouraging students' WTC (Sheybani, 2019; Vongsila & Reinders, 2016). A positive classroom atmosphere can decrease linguistic limitations and anxiety and promote involvement and self-confidence (Peng & Woodrow, 2010). Further, Zhong (2013) claimed that the mutual trust and relaxing environment teachers create results in learners' participation in the class. In other words, learners are more enthusiastic about communicating when they find the environment more friendly and supportive. Izadpanah et al. (2018) suggested that EFL teachers need to be aware of students' value orientations that might influence students' performance and WTC in the classroom. For example, if a student remains silent in class, this might be because of their value orientations, not the lack of proficiency or preparedness; accordingly, teachers can develop the most suitable practice and help students balance their value orientations by discussing the issue. Vongsila and Reinders (2016) conducted a study in New Zealand about teachers' attitudes toward developing WTC. They compared data collected through interviews and questionnaires with what they found through the observations of students' behavior. The results confirmed teachers' significant role in fostering students' WTC and identified several strategies they applied in class.

To briefly summarize, the literature on WTC indicates that there has been a growing consensus that teachers' views, involvement, and teaching style affect learners' contribution and WTC (Cao, 2011; MacIntyre et al., 2011). For example, Cao (2011) noted that students raise questions and interact more with their favorable teacher. MacIntyre et al. (2011) highlighted that teachers could increase and decrease students' WTC by externally regulating rules and meeting students' needs. They called for further research to consider the effect of teachers' behaviors, activities, and practices on learners' WTC.

#### ***RQ7: What methodological approaches have been employed in the related literature for evaluating WTC?***

Examining 47 studies selected for the present scoping review indicates that studies have investigated WTC by employing various data-collection instruments such as students' self-reports (Cao & Philp, 2006), classroom observations (Vongsila & Reinders, 2016), semi-structured interviews (Lee & Taylor, 2022), stimulated-recall interviews (Vafadar & Chow, 2020), reflective journals (Cao, 2011), and questionnaire (Azizi & Farid Khafaga, 2023). Altogether, the studies conducted in different contexts employing various data sources indicate that L2 WTC can be affected by different individuals, social, and affective factors; thus, it is frequently seen that L2 WTC has been investigated as a dynamic situational state. The widely used quantitative methods in examining relationships

**Table 6** Characteristics of studies that met inclusion criteria for teachers' status in WTC

Authors	Objectives	Participants	Instruments	Findings
Cao (2011)	Cao explored the ever-changing and context-specific aspects of WTC in L2 educational settings	Six students	Classroom observations, stimulated-recall interviews, and reflective journals	The development of situational WTC in L2 classrooms can be attributed to a combination of personal traits, classroom settings, and linguistic elements
Izadpanah et al. (2018)	They focused on the relationship between Schwartz's value orientation and WTC	500 Iranian university students	Questionnaire	The results indicated that factors such as openness to change, self-enhancement, universalism, tradition, and self-direction may serve as better indicators of WTC
Peng and Woodrow (2010)	They examined EFL learners' WTC in the Chinese context	330 university students	Questionnaire	A positive classroom atmosphere can decrease linguistic limitations and anxiety and increase engagement and self-confidence
MacIntyre et al. (2011)	The researchers delved into the ambivalent attitudes toward communication among students in a French immersion program	100 junior high school students	Questionnaire, focused essay writing	The findings brought to light intricate relationships between the development of language proficiency, the growth of L2 self-development, and the nonlinguistic concerns that adolescents usually encounter
Sheybani (2019)	The researcher examined the correlation between the WTC of EFL Iranian students and the immediacy attributes displayed by their teachers	256 EFL learners	Questionnaire	The findings indicated that verbal and non-verbal immediacy significantly and positively predicted all the subscales of WTC
Vongsila and Reinders (2016)	They examined 30 teachers' attitudes toward improving WTC. They compared the results obtained from interviews and questionnaires with observations	30 teachers	Interviews, questionnaires, observations	The results confirmed teachers' effect on students' WTC improvement and identified some teachers' strategies
Zhong (2013)	In L2 classrooms, Zhong conducted an investigation into the learners' WTC in both teacher-led and collaborative learning scenarios	Five Chinese immigrant learners	Semi-structured in-depth interviews, learning logs, classroom observations, stimulated recall interviews	The study revealed that language-related aspects, socio-cultural influences, self-efficacy, and learner attitudes collectively impacted their WTC in a classroom setting led by a teacher

between L2 WTC and its underlying factors include structural equation modeling, path analysis, and correlation analysis. To date, the main technique of collecting data for investigating WTC trait-like state was self-report questionnaires, and for WTC situational state were observation and interview techniques. However, in methodological synthesis, Sudina (2023) conducted a study on the status of scale quality in L2 anxiety and WTC. The analysis revealed a dearth of support for scale content and construct validity. This shows that future research needs to pay more attention to the measures employed.

Some studies on L2 WTC (Cao, 2011; Cao & Philp, 2006; Lee & Taylor, 2022; Ebadi & Ebadijalal, 2022) favored a mix of quantitative and qualitative methods or mixed methods in examining both trait-like and situational L2 WTC. One such attempt is a mixed-method study conducted by Lee and Taylor (2022), who found that a correlation between positive psychology constructs and extramural English has been shown to play a crucial role in determining students' L2 WTC. Ebadi and Ebadijalal (2022) conducted a mixed-methods study and investigated the impact of Google Expeditions virtual reality on EFL learners' WTC and oral proficiency.

As per L2 learners, the interaction between positive and negative emotional/affective variables plays a crucial role in explaining learners' L2 WTC (Alrabai, 2022). Wang et al. (2021) argued that a desirable academic outcome for teachers is not only restricted to the use of new teaching methods and conveying content but also teachers' integration of positive psychology and its positive factors in the teacher education to enthusiastically teach and interact with learners (Xie & Derakhshan, 2021).

## Discussion

The role of communicative approaches, language use, and interaction in learning a language highlights the significance of facilitating WTC (Swain, 1985). Skehan (1989) and Swain (1985) describe this role as the students' enthusiasm for communication, which allows them to engage in classroom discussions, and L2 output, which is explained by Swain's (1985) output hypothesis. Similarly, Skehan (1989) describes that one must speak to learn L2. Thus, it can be argued that students will not be able to complete tasks fluently and accurately at the L2 level unless they are involved in communication. Furthermore, MacIntyre et al. (1998) believed that WTC mainly predicts production and language use, which should be the main goal of language learning and teaching. Therefore, it is reasonable to argue for creating a learning environment conducive to fostering students' WTC. On the other hand, because of the interrelated factors influencing L2 learners' WTC, more precise assessment tools and methods are required to be considered to reveal the novel aspects of the WTC.

An examination of relevant literature reveals that a significant number of studies have focused on the determinants of WTC; however, there is a paucity of studies in related literature that attempted to examine whether it is possible to foster WTC in practice (Jamalifar & Salehi, 2020; Vafadar & Chow, 2020; Vafadar et al., 2019). One such attempt is Vafadar et al. (2019), who used the ideas generated by previous studies and examined the effects of CSs on intermediate Iranian EFL low- and mid-willing learners' WTC (LWTC and MWTC). They found that the LWTC learners' WTC had significant improvements because they used CSs more than MWTC learners did. Furthermore,

learners applied the indirect types of CSs most frequently. They further indicated that personality type was unrelated to the learners' CSs choice. Additionally, they identified interrelated factors of contextual, individual, and communicative competence that fostered or reduced learners' WTC.

## Conclusions

### Future research questions to examine

There are still fewer unexplored areas that require further research to reach practical solutions for creating learners' WTC and interaction in the L2. Recently, Allahyar et al. (2022) called for more studies focusing on the effect of teachers' attitudes toward learners' WTC that may impact teachers' communicative and teaching behavior. Further studies are required to validate or question the available WTC research. More research can also be conducted to examine factors promoting WTC in various settings, such as EFL and digital contexts. Hopefully, future research will probe into the fluctuation, related influencing factors, and consequences in various settings. Further work can also elucidate how WTC fluctuates based on gender, age, and competency in the language. Moreover, teachers' WTC and its best practices are worth further exploration as this is unexplored. Further, there is still a lot of uncertainty about comparisons of teachers' WTC status, antecedents, and effects with learners' WTC. Hopefully, future work will provide greater insight into this area and deepen our understanding. One of the interesting areas would be to study students' willingness to read, write, and listen and compare them with a willingness to speak. Another interesting research would be to examine WTC in computer-mediated communication, social networks, digital settings, and chat-boxes to see what effects WTC has at work and whether the employment of such platforms can improve WTC.

It is proposed that learning be treated as purposeful, not accidental; therefore, before we can understand the value of learning programs, we need a clear and easily understood conceptualization and idea of what learning might be expected from this conceptualization and the extent to which these outcomes are in line with the goals of learning. WTC is a category of learning for which the courses might be well-designed, and that category need not be—arguably, should not be—narrowly and indefinitely defined. Additionally, conceptualization impacts the assessment as a learning process. Further, there are many difficult questions yet to be resolved regarding the best practices of WTC as well as of teaching and learning and assessing more generally. Rigorous investigation of WTC (appropriately conceptualized) and of the processes that generate it as well as of the assessment knowledge will be most meaningful. This scoping review can serve not only to enhance implementation and contribute to the growing knowledge base on WTC but also to strengthen support for the researchers with both general knowledge and needs for related research in WTC and implementable measures to manage challenges. Furthermore, the outcome of this review may help practitioners, teachers, and researchers know their current status and needs regarding WTC and related concepts and the most effective way to move forward with their developmental work and research.

It should be acknowledged that this study has some limitations. First of all, due to some limitations to the present type of data collection method, all databases and relevant articles may not have been considered when searching for the data. Therefore,

future researchers can incorporate other methods to collect data and deepen our knowledge of the subject under focus. Furthermore, this scoping review focused on specific trends and research questions. Many unanswered queries persist, underscoring the need for further investigations to furnish us with a more comprehensive comprehension of WTC conceptualization. Therefore, it is highly recommended that future researchers undertake a comprehensive investigation into the subject matter and other aspects, such as cultural factors in WTC development, cross-cultural aspects, and WTC in other languages. It should be noted that the digital world and online learning have gained well-deserved recognition in the realm of language education, offering numerous opportunities and possibilities for practicing the language. This scoping review has only focused on WTC development in digital contexts. Thus, future research may unravel various aspects of WTC in digital settings and its representations compared to the traditional ones. Finally, this scoping review was conducted based on 47 articles; it is noteworthy that more articles should be incorporated into future research.

The studies reviewed on WTC point out that it is not only a single factor that influences learners' WTC behavior, but more interconnected factors involve learners' WTC behaviors, which could either increase or reduce participants' WTC. However, these factors have unequal strength of effects on different occasions and can also be perceived differently by learners. The present paper began with the conceptualizations of WTC and clarified two types of it: trait-like and dynamic situational. As discussed, the manifestation of WTC in L1 differs from that in L2: The former is relatively stable and trait-like, while the latter is treated as dynamic situational. L2 WTC largely depends on context, especially L2 communication is considered a context-dependent phenomenon (MacIntyre et al., 2002). Although there may be a relationship between L1 and L2 WTC, as MacIntyre et al. (1998) argued, L1 WTC does not simply translate into L2 WTC, which led MacIntyre et al. (1998) to develop an extensive model of WTC in L2. In the EFL context, Vafadar and Chow (2020), with their so-called tree-gyrate WTC model, examined MacIntyre et al.'s (1998) heuristic pyramid WTC model and argued that the relationships between WTC influencing factors are recursive and interconnected, not one-dimensional and hierarchical ones. However, further research is required to provide more insights into this area of inquiry.

The related reviewed studies on WTC further revealed that WTC is context-bounded and dynamic-situational, which is affected by several interrelated factors. It is no exaggeration to say that students' strong WTC paves the way for L2 practice and use, facilitating language learning. Therefore, it can be suggested that learners who are more inclined to initiate and engage in communication benefit from successful L2 interaction more than those less willing to communicate. Teachers are advised to contemplate how they can provide opportunities and an environment to improve students' WTC and interaction in the L2 by considering linguistic, psychological, and socio-cultural factors. The reviewed studies in this paper also indicated that teachers' role in improving learners' WTC is undeniable. It is also necessary for language teachers to consider students' WTC systematically and what is suitable in the context and attempt to find ways to boost the factors that can enhance WTC as far as they can. Given the dynamicity and context-dependent nature of WTC, language teachers need to approach applying the results of WTC research to L2 pedagogy with caution.

Last but not least, given the dynamic situational nature of WTC behavior, language teachers need to develop the moment-to-moment ability and appropriate actions to deal with unexpected occurrences in students' participation in class. Additionally, further research can shed light on the effects of digital environments on learners' L2 WTC in settings other than in-class and lab settings and the role of computer-assisted language learning practitioners in designing and implementing intervention programs for their target participants.

Finally, a valuable future project would be to develop an easily administered testing tool that assessed the "willingness to communicate." The positive correlation between success as a language learner and WTC would encourage learners to purposefully increase their ranking in such a test and result in success as language learners. Additionally, a stressful atmosphere in interviews, which is considered one of the widely used tools in evaluating "willingness to communicate," and also teaching language learners with teachers with insufficient educational literacy leads to poor performance of language learners. The salient point that most of the past studies have paid less attention to the performance of language learners that can be taken as valuable future projects is that some contexts and classrooms consider more test-driven tasks than performance-based tasks. In a test-driven context, it is evident that both EFL teachers and learners place greater emphasis on exam-oriented skills, namely, vocabulary, reading, and writing, rather than speaking skills. Therefore, students exhibit a greater readiness to engage in communication in the performance-oriented tasks that are included as a part of the final assessment criteria. This is where these challenges prompt us to look at "willingness to communicate" through the lens of testing with more accurate and multiple testing tools.

**Abbreviation**

WTC Willingness to communicate

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