

From matching to meaningful sustainable interaction: Dyad formation for tandem language learning

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Abstract

This study investigates learner engagement and sustainability in eTandem language learning from a Willingness to Communicate (WTC) perspective, using data from five editions (2020–2024) of tandemMOOC, a task-based LMOOC for Spanish–English tandem oral exchanges. Over 4,400 adult learners participated, using either pre-arranged (YouChoose) or spontaneous (Roulette) videoconferencing tools to complete weekly tasks in both languages. Data sources included registration biodata and detailed system logs, enabling analysis of factors influencing individual and pair-level participation. Negative binomial regression models revealed that age, target language (TL), and use of the YouChoose tool were consistent predictors of higher engagement. Self-reported intermediate or proficient TL levels often predicted lower participation, suggesting differing motivational profiles. Task completion significantly predicted longer conversations, while different TL pairings and partner choice autonomy were associated with sustained partnerships. Findings contribute to understanding sustainability and WTC in technology-mediated language exchanges by highlighting the importance of learner agency, task design, and interpersonal dynamics in fostering meaningful communication. This paper advocates for integrating structured, flexible tasks and supporting diverse partnerships, while also recognizing the untapped potential of older learners in lifelong learning contexts.

Keywords: tandem language learning; WTC; online oral interaction; motivation.

1. Introduction

In tandem language learning, learners of different native languages support each other in practicing and improving their target language (TL). This practice is rooted in the principles of autonomy and reciprocity (Little & Brammerts, 1996), whereby learners are in charge of their own learning and alternate between the two languages, switching roles as both learners and experts. eTandem extends this model into digital environments, where participants meet online using asynchronous tools such as email or video forums, or synchronous tools such as chat and videoconferencing, and are encouraged to negotiate meaning, correct errors, and reflect on language use collaboratively. A particular modality of eTandem that has gained attention in recent years is teletandem, which uses videoconferencing tools to facilitate real-time, face-to-face communication between learners in different locations (Vassallo & Telles, 2006). Research has consistently highlighted the benefits of eTandem, including

increased motivation, improved intercultural competence, and enhanced oral proficiency (Akiyama, 2017; Jauregi et al., 2012; Liu et al. 2023; Michel et al. 2022).

While tandem language learning offers many advantages, a recurring issue highlighted in the literature is the difficulty of sustaining learner participation in both formal (Beaven et al, 2017) and informal contexts (Malerba, 2015), as learners often disengage from partnerships over time. One framework that may help explain this phenomenon is Willingness to Communicate (WTC), proposed by MacIntyre et al. (1998) as a model for describing, explaining and predicting L2 communication. This framework combines linguistic, communicative and social psychological variables that influence a learner's disposition to use the target language (see Figure 1 below). WTC has been widely applied in classroom-based language learning research, providing insights into how pedagogical strategies, individual differences, and contextual factors affect learners' readiness to speak in the L2. In these formal learning environments, WTC has been linked to variables such as speaking self-efficacy, perceived communicative competence, language anxiety, and classroom dynamics.

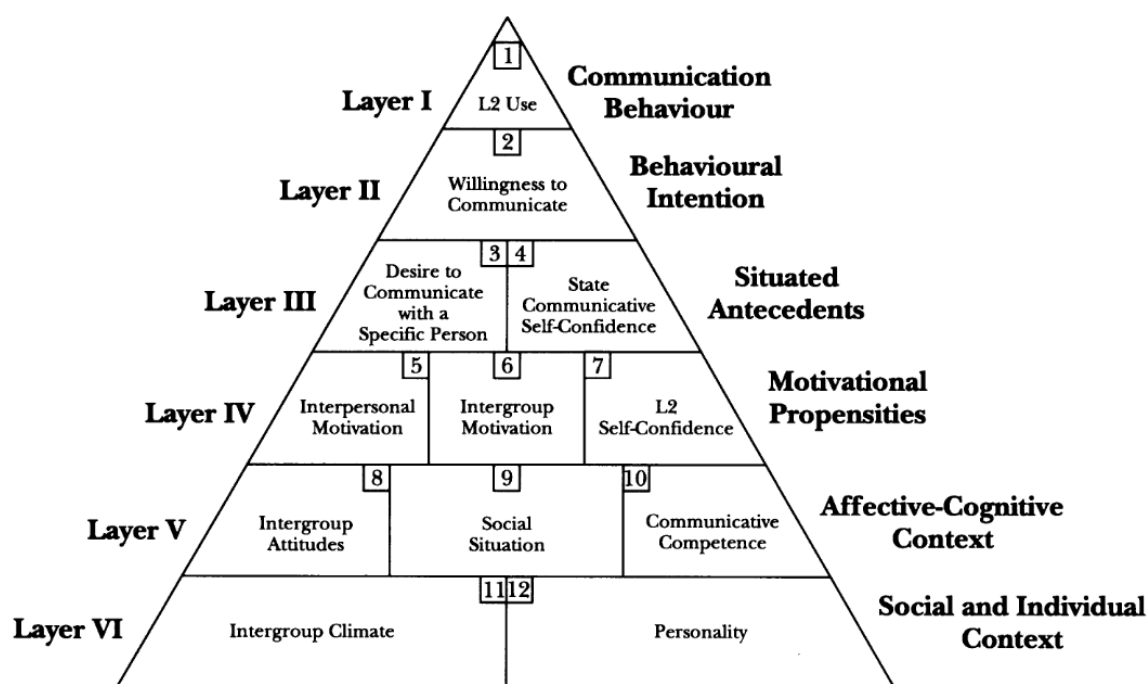


Figure 1. The pyramid model of WTC. (MacIntyre et al., 1998.)

Extensive research has explored WTC in formal classroom settings; fewer studies have examined its role in informal or semi-formal contexts such as eTandem exchanges, where learners interact with peers in different locations through technology-mediated communication. In this context, WTC offers a particularly valuable lens through which to understand learner engagement, since the dynamics are less controlled and more dependent on interpersonal rapport and motivation. Of particular relevance to tandem language learning is the immediate antecedent *Desire to Communicate with a Specific Person*, situated in Layer III Situational Antecedents of MacIntyre et al.'s Heuristic Model of WTC. This variable foregrounds the relational and affective aspects of communication, suggesting that learners are more willing to speak when they feel an interpersonal connection with their interlocutor. Pawlak and Mystkowska-Wiertelak (2015) provide evidence that learners show increased WTC when engaging with peers perceived as cooperative or familiar. These relational dynamics are more difficult to engineer in informal, technology-mediated settings, where tandem partners have never met in person, come from different cultural backgrounds, and communicate in a language that at least one of them does not fully master. Such conditions add complexity to the interaction and should be taken into account when analysing why some tandem partnerships persist while others quickly dissolve.

A particularly insightful direction for explaining partnership sustainability comes from the intersection of WTC and theories of interpersonal affinity, a concept that is integral to the antecedents *Desire to communicate with a specific person* (box 3) and *Intergroup Motivation* (box 6) in the Heuristic model of variables influencing WTC. The notion of perceived propinquity, or perceived closeness between individuals, has long been recognized in communication theory as a facilitator of interaction. In the context of second language learning, this is echoed in Zheng et al. (2025)'s recent work on metaperceptions of interpersonal liking in L1-L2 dyadic interaction and their association to a speaker's desire to communicate again with a specific person in the future. Impressions people believe they make on others can shape the affective bond necessary for sustaining language partnerships. Desire to communicate with a specific person, then, may not be simply about linguistic competence or TL goals, but is also about affective connection and perceived compatibility.

Recent research supports the relevance of WTC in tandem contexts. Kobayashi (2021) found that tandem exchange experiences reduced learners' unwillingness to speak English, a related construct, indicating a shift toward greater WTC. Similarly, Rahimi and Fathi (2022) reported that students engaged in eTandem-based collaborative speaking activities showed higher speaking performance and WTC compared to those in conventional classrooms. Thematic analysis of learner feedback revealed positive attitudes and a strong sense of engagement, pointing to the motivational benefits of peer interaction in tandem settings.

Zhou (2023) confirmed these findings but also highlighted the challenges of sustaining eTandem partnerships, noting issues such as misaligned expectations and partners who were more interested in social than linguistic interaction. This underscores the importance of setting clear expectations and boundaries—conditions that enhance the psychological safety needed to foster WTC. The social-psychological environment of tandem learning is thus just as crucial as the linguistic input provided.

Moreover, platform design and task structure can influence WTC indirectly. Zhang and Du, for instance, found that students had mixed reactions to synchronous computer-mediated communication (SCMC), balancing its convenience with the richer interpersonal experience of face-to-face exchange. This highlights the need for tandem systems to provide flexible, learner-centered tools that support both casual and structured interactions.

Appel and Pujolà (2021) describe the design process of tandemMOOC, an LMOOC which uses a tandem language learning approach with a focus on oral interaction and aims to balance structured learning with flexible, learner-centered tools that support both spontaneous and pre-arranged tandem exchanges. Unlike open social networks, the platform includes safeguards to address safety and pedagogical alignment. While designed to encourage meaningful interaction, the course also reports challenges with sustaining participation over time. Many learners demonstrate their initial Willingness to Communicate (WTC) by enrolling in the course. However, a significant proportion never engage in actual conversations with others, a pattern also observed in social networks, where expressed interest does not always translate into language use. Among those who do initiate tandem exchanges, many discontinue participation over time, mirroring dropout trends seen in formal virtual exchange settings. However, those learners who persist throughout the course show high levels of sustained motivation, notable language use and language gains, and increased WTC that extends beyond the course itself.

To examine these patterns more closely, the present study investigates WTC among participants in the setting of tandemMOOC, with the twofold aim of identifying the factors that influence tandem learner engagement and contributing to a broader understanding of sustainability and WTC in tandem language learning environments.

RQ1: What learner and tandemMOOC environment elements affected tandem language learners' willingness to communicate?

RQ2: What learner and tandemMOOC elements affected tandem language learners' partnership sustainability (Desire to communicate with a specific person)?

The aim is not only to examine patterns of participation and sustainability within tandemMOOC itself, but also to contribute to the broader literature on WTC and interpersonal relationships in tandem language learning—an area

that, despite growing interest, remains underexplored compared to classroom-based or general L2 learning contexts.

2. Method

2.1. Context and participants

The data was collected over five editions (2020–2024) of the tandemMOOC course, which is a task-based LMOOC that follows the principles of tandem learning with an emphasis on task-based synchronous oral communication, peer feedback and learner autonomy (Appel & Pujolà, 2021). The tandemMOOC is a free, six-week course aimed at adult upper-intermediate (B2) learners of Spanish who are native or expert speakers of English and adult upper-intermediate (B2) learners of English who are native or expert speakers of Spanish.

During the course, students completed Spanish-English tandems using one of two videoconferencing tools. One was Roulette tandem, which was introduced as an innovative way to organise learner interaction. Students connected to the tool, and they were paired with another student who was in the tool at the same time, with the priority given to forming dyads with different target languages and thus leveraging the massive element of a MOOC. The other videoconferencing tool used in the course was YouChoose tandem. To carry out a tandem in YouChoose, two students arranged a time to meet in the tool, and one student invited the other. In both tools, once both students had connected, there were tasks for them to complete. In the pre-task activity, students were shown an image designed to elicit 4–5 lexical items or grammatical structures related to the main tasks. They were asked to collaborate in identifying and naming these items in both languages, thereby activating the principle of translanguaging from the outset (Satar et al., 2023). Then, students completed one task in English followed by another task in Spanish, with the exception of same-language pairs formed when no native speakers of their target language were available online; in those cases, both tasks were completed in the shared target language of the pair. The tasks sought to elicit a range of language items and functions using four typologies: free conversation, visual information gap, role play, and problem solving. In the first five weeks of the course, the tasks for each week were based on a topic of general interest (e.g., food and cooking, travelling, leisure and well-being, technology, cultural traditions). In the final week, there were three new tasks to help students reflect on their own learning during the course and all previous tasks were made available.

Over the five editions of tandemMOOC (2020–2024), a total of 4,446 students from across the world (see Figure 2 below) registered for the course.

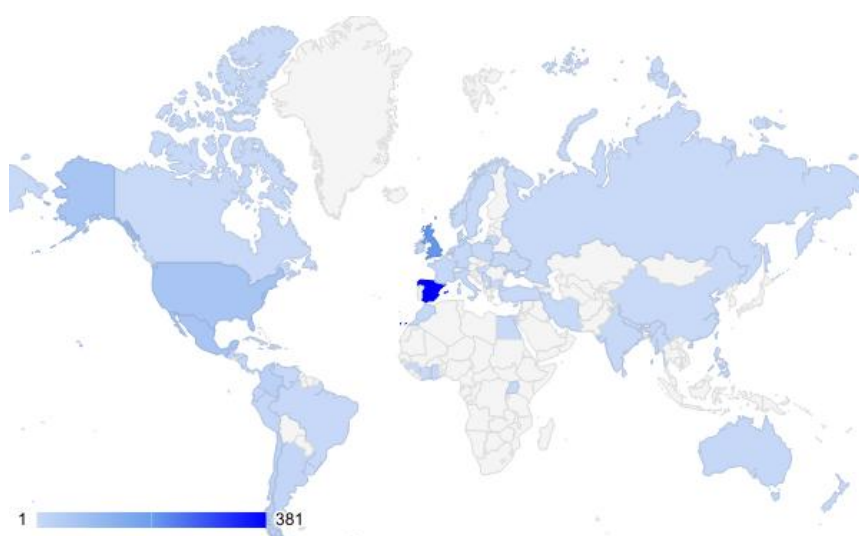


Figure 2. Typical Number and Location of tandemMOOC Participants (2022, $N=902$). Own elaboration.

As seen in Table 1, the proportion of learners choosing English or Spanish as their target language varied across editions but remained relatively balanced overall. Female participants consistently outnumbered males, comprising approximately 67–72% of each cohort. The average age of participants ranged from 37.6 to 43 years, with standard deviations indicating a broad age range across all editions.

Table 1. Registration in Editions of tandemMOOC from 2020 to 2024.

			2020		2021		2022		2023		2024	
Registered students		N	861		477		902		1016		1190	
Target language	English	N	162	55%	102	59%	115	52%	145	40%	121	53%
	Spanish	N	132	45%	72	41%	107	48%	212	60%	108	47%
Gender	Female	N	198	67%	126	72%	154	69%	252	70%	146	64%
	Male	N	96	33%	48	28%	68	31%	107	30%	83	36%
Age		Mean	37.6		43		39		39.9		40.8	
		SD	15		14.3		15.7		17.1		17.4	

2.2. Data collection and analysis

Data for this study were collected over a five-year period, from 2020 to 2024 (inclusive), through a combination of user registration forms and system-generated participation logs available within the course platform. Biodata, such as age, gender, native language, and target language, were gathered at the point of registration. Participation logs provided detailed records of learner activity throughout the course. These system logs included information such as the duration of each tandem session, time spent on individual tasks, and records of who connected with whom, including the specific tool used to initiate the exchange—either YouChooseTandem, indicating a pre-arranged meeting, or RouletteTandem, indicating a spontaneous pairing. A summary of this data can be seen in Table 2 below. Additional data captured included course completion status, the number of tandem partners per participant, frequency of communication, and whether partners provided peer feedback after each task. Together, these data sources enabled a comprehensive analysis of learner behavior, interaction patterns, and indicators of sustainability and engagement across multiple course editions. Data analysis was conducted using descriptive and inferential statistics in *R*.

Table 2. Participation in Editions of tandemMOOC from 2020 to 2024.

			2020		2021		2022		2023		2024	
Tandems		N	1569		749		859		954		857	
Target language	Same	N	459	29%	208	28%	209	24%	145	15%	151	18%
	Different	N	1109	71%	540	72%	650	76%	809	85%	706	82%
Tool	YouChoose	N	1138	73%	511	68%	646	75%	701	73%	630	74%
	Roulette	N	431	27%	238	32%	213	25%	253	27%	227	26%
Task completion	Yes	N	619	39%	245	33%	410	48%	383	40%	436	51%
	No	N	950	61%	504	67%	449	52%	571	60%	421	49%

3. Results

3.1. Analysis of factors influencing an individual's participation

Data for each year was analysed using negative binomial regression models in relation to three dependent variables: the total number of tandems an individual student completed, the average length of the tandems and the number of different partners an individual completed tandems with. The independent variables in each model were an individual's target language, their self-reported level of proficiency in the target language, gender, age, their partner's age, target language, and gender, the tool they used to complete tandems and whether they completed tasks within the tandem session.

Model diagnostics indicated that the data exhibited overdispersion (>1) when modelled with a Poisson regression and model comparison showed that negative binomial regression models consistently yielded substantially lower AIC values ($\Delta AIC < 10$ across all models). Table 3 presents the significant predictors identified in a series of negative binomial regression models across at least four editions of the course.

Table 3. Significant Predictors of an Individual's Number of Tandems, Tandem Length, and Number of Partners.

		Number of tandems	Tandem length	Number of partners
Significant predictors across ≥ 4 editions	Positive impact	Age TL English	Age Using YouChoose Doing the task	Age TL English
	Negative impact	TL level (Proficient)		TL level (Intermediate) TL level (Proficient)

Regarding the number of tandems that an individual did, being a learner of English or in a higher age bracket were consistently significant predictors of doing more tandems ($\beta = .35, p < .001$; $\beta = 0.12, p < .01$). While advanced learners tended to do more tandems, a self-reported target language level of “Proficient” (C1.2/C2.1) was a significant predictor of fewer tandems ($\beta = -0.42, p < .01$).

Regarding the length of tandems, completing the task was a significant indicator of longer tandems across all editions ($\beta = 0.46, p < .001$), and the use of the YouChoose tool was generally an indicator of longer tandems ($\beta = 0.27, p < .05$). Age had a small but significant impact, where being older was a significant indicator of longer tandems ($\beta = 0.08, p < .05$).

Regarding the number of partners, being a learner of English or a slightly older learner was a significant predictor of having more partners ($\beta = 0.39, p < .001$; $\beta = 0.14, p < .01$). On the other hand, being an intermediate- or proficient-level speaker of the target language was a significant predictor of a lower number of partners ($\beta = -0.36, p < .01$; $\beta = -0.41, p < .01$). The models also revealed interaction effects: the number of partners was a significant predictor of a greater number of tandems ($\beta = 0.19, p < .01$), and there was a tendency for tandems to be longer ($\beta = 0.05, p = .06$).

3.2. Analysis of factors influencing a pair’s sustainability

To analyse the effect of characteristics of tandem partnerships and their effect on the dependent variables of number of tandems and tandem length, negative binomial regression models were used. Table 4 below shows the significant predictors identified in a series of negative binomial regression models across at least four editions of the course.

Table 4. Significant Predictors of a Pair’s Total Number and Duration of Tandems.

	Number of tandems	Tandem length
Significant predictors across >=4 editions	Using YouChoose Different TL	Doing the task

Regarding the number of tandems a specific pair completed, the use of the YouChoose tool consistently had a positive effect ($\beta = 0.94, p < .001$), whereas partnerships having the same TL was a significant predictor of fewer tandems ($\beta = -0.26, p < .01$).

Regarding tandem length, completing the task was a significant predictor of longer tandems across all editions ($\beta = 0.25, p < .001$). It is interesting to note that same-TL-partnerships was not a significant predictor of tandem length ($\beta = -0.07, p = .22$).

4. Discussion

4.1. Willingness to communicate

The course is offered as a free, add-on speaking component, and participants likely self-select due to a predisposition toward oral interaction. Nevertheless, observable patterns in students’ language use suggest a general willingness to engage in tandem activities.

Interestingly, having a partner with the same TL did not deter participation. Although tandems involving same-TL partners were typically shorter and less frequent, learners with such pairings often compensated by connecting with a greater number of different partners overall. This suggests that students remained actively engaged by seeking diversity in language exchange.

Age emerged as a strong indicator of willingness to communicate. Older learners were more likely to complete at least one tandem, engage with more partners, and sustain slightly longer conversations. These trends may be explained by differing motivations, more flexible schedules, or the fact that younger participants were often

required—or strongly encouraged—to join tandemMOOC as part of their university coursework, potentially impacting their intrinsic motivation.

TL proficiency also emerged as a predictor for the number of tandems and the number of partners. Learners self-reporting an advanced level of proficiency in the TL tended to engage in more tandems than other levels, although level did not consistently influence the length of sessions or the number of partners. Higher proficiency may reduce foreign language anxiety and increase confidence in initiating communication (Dewaele et al, 2008). However, it was found that being intermediate- or proficient-level in the TL was a significant predictor of fewer tandems. This suggests that intermediate learners may have experienced greater hesitation or insecurity when interacting in the TL, while the course may not have satisfied the learning needs of proficient learners.

Finally, when students were able to choose their own partners, both the number and length of tandems increased, at both the individual and pair level. This points to the positive impact of autonomy on learner engagement and communication. The flexible structure of the course likely supported this effect, underscoring the importance of incorporating learner-centered and adaptable features into tandem systems.

4.2. Desire to communicate with a specific partner

Different TL was a significant predictor for the number of tandems that a pair did, but it is interesting to note that the level of proficiency in the TL was not a consistent predictor of pair sustainability across tandemMOOC. This supports the idea that tandem learning often functions through an expert–learner dynamic (Satar et al. 2023) and that the proficiency level of each student may not be a necessary criterion when considering dyad formation.

Using YouChoose tandem (rather than Roulette tandem) was also a significant predictor of more tandems. This further underscores the role of learner agency in sustaining engagement. However, we believe that the initial use of Roulette Tandem played an important role by exposing participants to a wider range of potential partners, thereby increasing the chances of forming successful future partnerships through informed choice.

The completion of the tasks during the tandem was a consistent and significant predictor of increased tandem length across all years. However, increased conversation length may reflect a combination of task engagement and social interaction, rather than serving as a direct indicator of greater willingness to communicate or stronger pair sustainability.

5. Conclusions

The data highlight the potential of task-oriented interaction to enhance the impact of tandem learning. This study supports the integration of structured tasks within tandem exchanges and advocates for encouraging interactions with multiple partners, an approach that contrasts with the more static pairings commonly found in formal education settings. Findings related to age further suggest the need to reconsider how tandem exchanges are organized, currently implemented primarily within higher education. The stronger engagement observed among older learners indicates that tandem learning may also be well-suited to lifelong learning contexts, where participants may bring different motivations and greater autonomy to the experience. Broader implementation across contexts may help tap into diverse learner motivations and promote more sustainable and meaningful language learning experiences.

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