

Dynamic fluctuations in foreign language enjoyment during cognitively simple and complex interactive speaking tasks

Tzu-Hua Chen ✉

Concordia University, Montreal, Canada

<https://orcid.org/0000-0002-5186-3258>

tzu-hua.chen@mail.concordia.ca

Abstract

Despite evidence on the interaction between cognitive individual differences (IDs) and task complexity, our knowledge of how affective IDs, such as foreign language enjoyment (FLE), interact with task complexity and other factors is limited. Since tasks and activities were found by Dewaele and MacIntyre (2014) to be most relevant to FLE, and since task complexity might interact with learners' perceptions of task difficulty, it is important to investigate how task complexity impacts FLE changes. Informed by the complex dynamic systems theory, this study employed a mixed-methods multiple case study design to study patterns and causes of high and low FLE arousals. The participants were four pairs of Taiwanese high-intermediate EFL university students who were engaged in simple or complex storytelling tasks with speech acts of refusals. The speakers' interactions were triangulated with an individual learner's rating of FLE on a per-second scale and stimulated recalls. Results revealed idiosyncratic patterns of FLE fluctuations of peer interlocutors and a high degree of overlap in sources of low and high FLE in both groups. Speakers reported high FLE as a result of interesting storylines inherent in task design and created by peers, the use of picture prompts, peer collaboration, and task performance. Performance problems, failure to retrieve appropriate vocabulary, task design, and lack of ideas led to low FLE arousals. The findings suggest that task complexity combined with other task-induced, social, and individual

factors to affect the fluctuations of FLE. Implications for task design and oral communication instruction to promote FLE are discussed.

Keywords: foreign language enjoyment; task complexity; oral pragmatic task design; task engagement; peer interaction; an idiodynamic method

1. Introduction

Foreign language (FL) learners may exhibit positive and negative emotions when learning FLs (White, 2018). Although the role of negative emotions, primarily anxiety, in second language (L2) learning has been dominant in second language acquisition (SLA) research since the 1970s, there is a surge in the practice of positive psychology in SLA to recognize a greater – or at least equally important – role of positive emotions in understanding second or foreign language learning processes and outcomes (MacIntyre et al., 2019). One such positive emotion is foreign language enjoyment (FLE). Enjoyment can be defined as “the good feelings people experience when they break through the limits of homeostasis – when they do something that stretches them beyond what they were – in an athletic event, an artistic performance, a good deed, a stimulating conversation” (Csikszentmihalyi, 2014, p. 293). In the field of SLA, having heightened enjoyment enhances learners’ awareness of the environment, strengthens their capacity for language input, helps mitigate or dissipate negative emotions, and promotes psychological resilience (Dewaele & MacIntyre, 2016).

Despite the potential benefits of FLE in L2 learning, research on FLE has just begun to bloom. A small number of studies has approached FLE as a stable personality trait; these studies have examined a linear cause-and-effect relationship between FLE and L2 instructed learning outcomes (e.g., Saito et al., 2018), compared L2 learning effect and enjoyment prior to and after intervention (e.g., Van Batenburg et al., 2019), and explored FLE in relation to other variables, such as English class engagement and English proficiency (Tsang & Dewaele, 2023) and teacher characteristics (Dewaele et al., 2019). The task-dependent, dynamic nature of FLE in L2 learning has gained scant attention. In particular, researchers have not yet examined changes in FLE in task-based peer interaction; therefore, the field has limited knowledge of intraindividual and interindividual variability in L2 learners’ positive affect and the dynamic interplay of this variability in FLE with task design (Butler, 2017).

An empirical investigation into the interplay between interactive tasks and FLE is needed because this inquiry can shed light on how important task design features, such as task complexity and other learner-external and learner-internal

factors (e.g., individual differences in positive affect of learners and their interlocutors), influence fluctuations in FLE from an individual learner's perspective. Studying the nature and causes of learners' on-task positive emotion trajectories can improve our understanding of how a task can be designed and used to better engage learners emotionally in L2 learning, which has been found to be a precursor of learning (Bygate, 2017; Carver et al., 2021). Thus, the present study compared changes in FLE for two groups of English as a foreign language (EFL) university students and their peer interlocutors during task-based dyadic interaction, and aimed to uncover the underlying factors that make EFL learners enjoy an interactive task more or less through the idiodynamic method, a novel research method that features a mixed-methods approach. By doing so, this study aimed to demonstrate that learners' perceptions of FLE can be important sources of information in designing task materials to better foster FLE, which is highly relevant to the emotional aspects of task engagement and task motivation in the process of learning an L2 (Dörnyei, 2019; Nakamura et al., 2021; Phung et al., 2020).

2. Literature review

2.1. Complex dynamic systems theory

The historical roots of the complex dynamic systems theory (CDST) can be traced mainly to the natural sciences – mathematics for the dynamic systems theory and quantum physics, chemistry, biology, and philosophy for the complexity theory (Hiver & Al-Hoorie, 2020; Larsen-Freeman & Cameron, 2008). The moment of integration between the two theories arrived in late 1997, when Diane Larsen-Freeman's seminal article on the value of viewing SLA from a chaos/complex perspective was published in the field of applied linguistics. Since then, both the dynamic systems theory and the complexity theory have amalgamated into one theoretical paradigm known as CDST.

There are three key characteristics of CDST that are particularly relevant to language learners' emotions and other learner IDs: interconnectedness, dynamism, and contextualization (Mercer, 2011; Oxford & Gkonou, 2021). From a CDST perspective, language, language learning, or language learners/users is a system that includes many interconnected subsystems (de Bot et al., 2007; Larsen-Freeman & Cameron, 2008; Larsen-Freeman, 2020; MacIntyre et al., 2019). Language learning therefore results from interaction between various internal (e.g., linguistic and self-regulatory subsystems, individual learner differences) and external interconnected subsystems (e.g., interlocutor). Because all the subsystems are interrelated, changes in one subsystem may affect other subsystems. A supportive or competitive relationship between

the subsystems might be found by investigating the interaction between all the subsystems. Dynamism refers to changes and variability in linguistic and/or nonlinguistic (e.g., willingness to communicate, motivation, and anxiety) measures over time. Since a complex system is adaptive, the subsystems interact with one another and the environment, thus resulting in dynamic, nonlinear patterns of linguistic or nonlinguistic development. Contextualization means that the interaction between different subsystems is context-dependent. For example, fluctuations in an L2 learner's anxiety may arise from the learner interacting, adapting their linguistic and nonlinguistic resources to a specific context, such as a three-minute thesis presentation and an interactive speaking task. These key characteristics and the transdisciplinary nature of CDST lead to different framing of research questions and methods which cut across topical, methodological, and discipline lines (Hiver & Al-Hoorie, 2020; MacIntyre et al., 2021), allowing researchers to uncover the dynamic properties of L2 learners' positive and negative emotions.

2.2. Foreign language enjoyment: Sources and measurements

The importance of FLE and the causes of FLE have recently been highlighted in research findings drawing on survey and interview data, providing evidence of the role of instructional methods, activities, and tasks in L2 learners' FLE (Dewaele & MacIntyre, 2014; Dewaele et al., 2018; Li et al., 2018; MacIntyre et al., 2019; White, 2018). Dewaele and MacIntyre (2014) found that instructional methods and tasks topped the list of factors influencing positive emotions in the L2 classroom. In a similar vein, one major finding in Dewaele et al. (2018) is that FLE in the classroom is more related to teacher and pedagogical practice than foreign language anxiety (FLA), leading Dewaele and his colleagues to conclude that teachers should try to boost learners' FLE instead of worrying about their FLA and recommend implementing more student-centered activities as well as making FL classes unpredictable and challenging to foster FLE.

Because of the complex dynamic systems turn in SLA, researchers have recently studied FLE using an idiodynamic method (Boudreau et al., 2018; Elahi Shirvan & Talebzadeh, 2018), latent growth curve modeling (Elahi Shirvan & Taherian, 2021), and retrodictive qualitative modeling (Elahi Shirvan & Talebzadeh, 2020) to capture the fluid, changing nature of FLE. Among these CDST-inspired research methods, the idiodynamic method is particularly useful for capturing the dynamic nature of emotions during brief communicative activities because this innovative research method involves participants rating their own changing emotion(s) on a per-second scale, followed by stimulated recall interviews based on video recording(s) of an individual learner's interaction with others

(MacIntyre & Ducker, 2022; MacIntyre & Legatto, 2011). Considering the characteristics of the idiodynamic method, it can be reasonably applied to studying L2 learners' fluctuations in task enjoyment. However, task-based language teaching (TBLT) researchers to date have not tapped into this research method to study the impact of task design and implementation factors on learners' fluctuations in FLE. Since task-specific FLE may contribute to a more general FLE in the classroom, which further leads to academic achievement and self-perceived achievement (Botes et al., 2022), understanding learners' fluctuations in FLE and reasons triggering their changing FLE at the task level is warranted.

Two studies outside the domain of TBLT have applied the idiodynamic method to study sources of dynamic FLE fluctuations during communicative activities and presented opportunities for cross-fertilization between learner positive psychology and TBLT. Boudreau et al. (2018) looked at 10 L2 French learners' dynamic FLE and FLA fluctuations during a photo narrative task and an oral interview task (i.e., five interview-style questions on daily issues). The researchers found a negative correlation between anxiety and enjoyment across the two tasks, thereby suggesting these two emotions are best operationalized independently. Because the study focused mainly on the patterns of FLE and FLA, the exact sources of dynamic FLE from the activities learners worked on were not sufficiently discussed. Similarly, Elahi Shirvan and Talebzadeh (2018) asked eight L2 English learners to answer seven interview questions, focusing on easy or difficult topics, and found that FLE fluctuations result from different conversational topics. Overall, they found that a lack of knowledge made learners enjoy the task less, whereas interest in the topics of conversation made learners experience high FLE. Although this small body of research has provided insights into individual trajectories of dynamic FLE, the two studies have not investigated task-based peer interactions in which peer interlocutors can play an important role in learners' affective perceptions and L2 performance or learning (Gurzynski-Weiss, 2020; McDonough, 2015). Instead, an interviewer – either a research assistant or the researcher(s) – interacted with each learner using a list of interview questions. Considering that peer interaction is a norm in L2 teaching and learning contexts (Sato & Ballinger, 2016) and interlocutors adapt to each other on an ongoing basis (Larsen-Freeman & Cameron, 2008; Larsen-Freeman, 2020), research on FLE changes during peer interaction from a micro-perspective is needed. Moreover, these studies did not look at task design factors, which are important variables for positive emotionality in task motivation from a positive affective engagement perspective (Dörnyei, 2019) and for L2 performance and learning (Lambert, 2017). Given that classroom teachers or researchers might manipulate task design features based on their own intuition and thus might design tasks that do not match L2 learners' interests and affective states (Lambert, 2017; McDonough, 2015), such inquiry is needed.

2.3. Task design factors and FLE

Speaking of task design features, cognitive demands of tasks have been the major consideration in L2 task pedagogy and research (Long, 2015). One influential framework is Robinson's (2001) cognition hypothesis, which includes task complexity, task conditions, and task difficulty, and which places task complexity at the center to inform how pedagogical tasks should be sequenced and designed to maximize L2 task performance, learning, and acquisition. *Task complexity* refers to "inherent, unchanging qualities of a task that make it more or less challenging than another task at a given moment in time" (Long, 2015, p. 232). Robinson (2001, 2005, 2010, 2022) classifies task complexity into two dimensions: cognitive/conceptual (resource-directing) and performative/procedural (resource-dispersing) demands. Of particular importance to L2 learning are resource-directing variables of task complexity, which impose greater demands on learners' attention in a way that redirects them to linguistic resources. Specifically, increasing task complexity along resource-directing dimensions by requiring learners to exercise reasoning skills (+spatial, causal, or intentional reasoning demands), to consider many elements (–few elements), or to narrate incidents that are displaced in time and space (–here and now), can direct learners' attention to linguistic features pertinent to the task. According to Robinson (2010), task complexity interacts with task difficulty, which "concerns not characteristics of tasks, but the abilities and affective factors which learners bring to task performance and learning" (p. 254). Robinson then proposes a selective list of learner abilities and affective factors connected with task difficulty that are "intended as a starting point" (p. 255).

Although Robinson's (2005, 2010, 2022) cognition hypothesis indicates that task complexity may interact with learners' affect, only a handful of researchers thus far have investigated this issue. Among these studies, anxiety has almost always been the emotion under scrutiny (e.g., Gilabert et al., 2009; Révész, 2011). In addition, these researchers did not approach learners' affect in a dynamic, individual fashion and did not investigate how trait and state affective learner IDs might interact with other factors (Pawlak, 2017). As one of the few studies that take an open-ended, balanced approach to learner affect, Baralt et al. (2016) compared L2 Spanish learners' affective, social, and cognitive engagement when working as pairs on cognitively simple versus cognitively complex story retell tasks, targeting Spanish grammar in face-to-face and synchronous computer-mediated communication. In the face-to-face learning environment, especially in the complex task group, the learners viewed the task as purposeful, fun, and enjoyable, and nine out of 10 participants thought the task was an "intellectual challenge." Participants also reported peer participation and pair dynamics

as sources of task enjoyment. Specifically, they endorsed working with a helpful partner who was a source of language assistance and friendship and was willing to engage in co-constructing the story retell task. The findings indicate that teachers should carefully consider the appropriate level of task complexity to promote affective (e.g., positive affect) and social (e.g., supportive interaction) engagement. Although the study did not determine whether the reasons that led to positive emotions were the same in both the simple and complex task groups, the findings suggest that, in addition to task complexity, other learner-external and learner-internal factors worked in tandem to influence L2 learners' positive emotional engagement.

The influence of task design on task or state enjoyment is supported by Nakamura et al. (2021) and Phung et al. (2020). The researchers divided 24 Thai university students, who performed speaking tasks during class hours rather than as the objectives of the academic writing course (S. Nakamura, personal communication, February 11, 2023), into groups of three under two experimental conditions (i.e., + and – constraints) in a counterbalanced design. Focusing on the influence of learners' choices in two versions of the same opinion-gap task design (in which learners were asked to choose three buildings they want their university to construct) on task engagement, Nakamura et al. (2021) found that the students reported both higher enjoyment and anxiety when they engaged in a (– constraint) speaking task that required them to discuss and reach an agreement on the three items (school buildings to be constructed in their university) from options they generated than when they discussed nine options given by the teacher – researcher (+ constraint) and reached an agreement on them. The authors speculated that learners in the (– constraint) group experienced heightened attention and greater involvement to negotiate with peers and reach an agreement. This speculation was further confirmed in their follow-up study using the same data set (Phung et al., 2020). Through transcript analysis, the researchers observed high levels of enjoyment when a group of three Thai EFL university students discussed the options for reasons especially relevant to their daily life experiences.

Taken together with the studies reviewed above, analyzing learners' task enjoyment based mainly on a poststudy questionnaire or transcribed interactions suggests that task design can play a pivotal role in FLE. However, these studies also implicate that, in addition to task design factors, FLE may be influenced by a variety of learner-external and learner-internal factors. Thus far, no studies have examined how various subsystems interact with one another to cause FLE arousals throughout peer interaction at the task level. We have limited knowledge of why and how each factor might contribute differently to high and low FLE arousals in L2 interaction. Moreover, there is a dearth of task complexity research looking into L2 learners' emotion fluctuations when they engage in oral

interactive tasks targeting pragmatic features which importantly reflect an L2 speaker's ability for language use in different social contexts. Given that oral tasks targeting pragmatics give L2 learners shorter processing time to carefully consider power, distance, and degree of imposition of characters in designed scenarios, understanding learners' emotions during task-based interaction is important.

2.4. Teaching pragmatics from a TBLT perspective

Because of the synergy between TBLT and L2 pragmatics learning, researchers such as González-Lloret (2019) and Kim and Taguchi (2015) have proposed teaching pragmatics using task-based pedagogy to assist L2 learners in comprehending meaning and identifying what to say and to whom in different social contexts. Researchers have claimed that TBLT, with its focus on meaningful language use while performing tasks in the real world, has great potential to promote L2 pragmatics learning. Despite this premise, relatively few instructional L2 pragmatics studies have adopted task materials (Kim, 2022). According to Ellis (2009), there are four task criteria: (a) meaning-orientation, (b) a communicative gap creating a need to use language, (c) learners using their own linguistic and nonlinguistic resources with help from task input, and (d) a clear task outcome. Among a handful of studies that meet the task criteria, more than half involve email writing or role-play tasks because of the nature of pragmatic features (i.e., speech acts) and have targeted the speech act of request (Kim, 2022), suggesting a need to explore other pragmatic features and task types for pragmatics learning.

This study investigated task materials designed for teaching the speech act of refusal because learning how to refuse others' requests, suggestions, and invitations and respond to others' refusals according to different scenarios is crucial for successful conversations (Youn, 2018). Because a refusal is a face-threatening speech act, a speaker needs to consider social distance, power, degree of imposition, and cultural norms of the target language, making refusals a highly complex speech act (Brown & Levinson, 1987). Thus far, task studies on teaching refusals have been largely confined to role-plays (Kim, 2022). Moreover, L2 learners' affective responses to the learning tasks have remained underexplored in studies on L2 pragmatics instruction in general and on teaching learners how to make and respond to refusals in particular. Broadening the scope of research on task design and implementation for L2 pragmatics learning is crucial for the development of better teaching practices and may provide empirically established guidelines for the design and development of engaging and effective instructional materials.

3. Research questions

The goal of this study is to explore individual learners' and their peer interlocutors' moment-to-moment FLE during task-based peer interaction when they work on either a cognitively complex or cognitively simple task. Adopting a CDST perspective to collect data and interpret learners' evolving FLE by linking their FLE arousals to linguistic production, the study aims to probe into the reasons behind dynamic fluctuations in FLE during paired interaction. With these goals in mind, this study sets out to address two research questions:

1. Do the patterns of peer interlocutors' enjoyment ratings converge (correlate) over a cognitively complex task or a cognitively simple task?
2. What factors influence learners' individual trajectories of enjoyment during task-based peer interaction while carrying out a cognitively complex task or a cognitively simple task?

4. Methodology

4.1. Participants

The participants were eight L1 Mandarin Chinese speakers from different disciplines enrolled in a large public university in northern Taiwan (see Table 1). Convenience sampling was used to identify undergraduate students willing to take part in the study (Dörnyei, 2007). They were taking general English courses designed for upper-intermediate English learners based on a placement test administered one academic year before the study was conducted. All participants took either the TOEFL or IELTS one or two months prior to the study, with the overall score ranges falling into the B2 level (Upper Intermediate) in the *Common European Framework of Reference for Languages*. The participants had been learning English for 14.6 years. None of them had experience studying in an English-speaking country. The participants, who had no previous acquaintance with each other, were randomly paired up to complete two collaborative storytelling tasks. This article focuses on data gathered from the first task. The participants' names have been replaced with pseudonyms for confidentiality.

Table 1 Participant profiles

Group and Pair	Name	Gender	Age	Major	TOEFL/IELTS total score/speaking score	Perceived English speaking/pragmatic ability (1-5)
Complex task, Pair 1	Keyla	Female	19	Graphic Arts and Communication	IELTS, 6.0/6.0	3/3
	Cecilia	Female	19	Chinese as a Second Language	IELTS, 6.5/6.0	2/2
Complex task, Pair 2	Yvonne	Female	19	Nutrition Science	TOEFL, 86/19	4/3
	Sylvia	Female	19	Health Education	TOEFL, 84/18	4/4
Simple task, Pair 3	Serena	Female	21	Civic Education and Leadership	TOEFL, 89/20	3/4
	Yasmin	Female	18	Learning Sciences	IELTS, 6.0/6.5	3/3
Simple task, Pair 4	Kathy	Female	20	Education	IELTS, 6.0/5.5	3/3
	Brian	Male	21	East Asia	TOEFL, 84/19	4/3

4.2. Materials and design

4.2.1. Background and FLE questionnaires

Participants filled in a background questionnaire that consisted of 20 items in four sections, including educational and linguistic background information, English learning history, current English exposure, and self-evaluation of English proficiency. In addition, a Foreign Language Enjoyment Questionnaire (Li et al., 2018) was administered to the participants. The 11-item questionnaire (score range: 11- 55) reflected three FLE dimensions: FLE-Private (private pleasure-like realization of progress), FLE-Teacher (the teacher's attitude or pedagogical practices), and FLE-Atmosphere (positive classroom environment and peer positive engagement). Anchors of the five-point scale were "strongly disagree" and "strongly agree." Example items were "We form a tight group," "I learnt to express myself better in the FL," and "It's a positive environment." All the questionnaire items and instructions were presented in Chinese.

4.2.2. Treatment task

The treatment task was a dialogic storytelling task called "The School and Family Life Task." The task goal was for L2 English learners to create a story about rejection using their imagination. The task involved four sequenced picture prompts with a supporting text. The participants were instructed to develop a story using scenarios informed by a small-scale needs analysis (10 similar learners) and to produce dialogs by taking on the role of a character. The scenes were

then acted out with the peer interlocutor taking part; the production of a storyline was a task outcome. At the pretask planning stage, learners were instructed to create the story before they acted it out during the task (see 4.2.3. for details). The supporting text provided scaffolding regarding the actions of the characters, but learners were encouraged to be creative with their language as they acted out their story. The task featured 10 obligatory contexts (out of 12) for participants to produce refusals as responses to people's requests, suggestions, and invitations by considering power, distance, and degree of imposition between the main character and supporting characters while telling the story, whereas the other two contexts featured agreement. The task concerned a shy female university student who was too preoccupied with her academic achievements and neglected her parents, friends, and professors. After getting sick because of a lack of exercise or relaxation, she decided to change her lifestyle slightly. Based on plausibility for task engagement by three experienced ESL and EFL teachers using four criteria, including relevance (whether learners will use the language for work, education, or leisure), interest (whether the task engages learners' interests), task authenticity (whether the task resembles real-life encounters), and input authenticity (whether the task materials were produced for real-life communicative use of language or for pedagogical purposes; Faez & Tavakoli, 2019), this task design was judged legitimate because all criteria received average scores of 4.7, 4.7, 4.3, and 4 (out of 5, the highest score), respectively.

Two dyads of participants did a simple version of the task (see Appendix A), whereas another two dyads completed a complex version of the task (see Figure 1 for both versions). In this study, task complexity was operationalized as (+/- causal reasoning demands). Learners assigned to the simple task group were supplied with information on the relationship between the characters in the story via bubbles with words in the comics (e.g., close friends, parents, boss, colleagues) and on the actions of the characters in the story presented in text support, whereas the complex task group was not given the above information and was required to infer and decide by themselves the relationship between the characters in the story and the actions the characters in the story performed. Both groups had to use English to create a story and act it out with opening, ending, and transition between picture prompts through face-to-face collaborative interaction. This kind of storytelling task is different from a role-play task in two ways. First, L2 learners not only tell (i.e., create) a story but also role-play different characters. Second, L2 learners encountered many scenarios in a single storytelling task, which provided them with more opportunities to practice pragmalinguistic forms in multiple social situations in a meaningful way. The task was piloted with two speaker dyads from the same university and it satisfied the four task criteria (Ellis, 2009).

Suggestion	Response
1. Spend more time with Mom and Dad	Negative
2. Go Bowling	Negative
3. Walk the dog	Negative

Suggestion	Response
1.	Negative
2.	Negative
3.	Negative

Figure 1 Sample pictures and text prompts for the cognitively simple task (left) and complex task (right)

4.2.3. Metapragmatic instruction and pre-task planning

Existing studies have employed pre-task activities and guided pre-task planning techniques to support interaction-driven learning (e.g., Kim & Taguchi, 2015). To provide participants with knowledge of the target pragmatic features, they were given a brief overview of pragmalinguistic forms and refusal strategies used by American native speakers of English. In addition, they were given the scripts of five similar scenarios related to the treatment task. They took turns role-playing (reading aloud) the script and answered the questions of the teacher (who was also the researcher) regarding whether and how the pragmalinguistic expressions used by the speakers in the conversation were (in)appropriate. After metapragmatic instruction as followed by Kim and Taguchi (2015), there was a guided collaborative pretask planning session that consisted of task practice in the form of procedural repetition and task planning. Specifically, during the guided pretask practice, a sample story that had a picture prompt, a text prompt, and a story script was given to each speaker dyad, accompanied by the teacher's instructions and feedback on their performance. The interactive speaking task for practice, like the one which was performed by the learners later, required the same procedure to accomplish the task goal but had different task content. During the guided pre-task planning time, the participants could use their L1 or English to plan the content of their story (see Appendix A for task instructions), their language use (the participants were orally instructed to use the speech act of refusal and responses to refusals), and decide on the role they wanted to take on in the story. They could also switch the roles during the task if they wished.

4.2.4. Dynamic FLE ratings

After completing the task, participants practiced using the interface of a free computer software, specifically Anion Variable Tester V2, by rating an additional 60-second clip featuring two non-native speakers talking in English. Once they confirmed the rating task was clear, they used a mouse to individually rate their moment-to-moment task enjoyment over time on a scale that ranged from -5 (very low enjoyment) to +5 (very high enjoyment) while viewing the recorded interactions. The participants could rate their level of FLE whenever they wanted if they experienced a high or low level of FLE during the interactions. The participants were informed that in the absence of any rating activity, the software engaged a built-in auto-zero function.

4.2.5. Stimulated recall questions on changes in FLE

A graph of FLE ratings was shown to each participant immediately after their rating task. Together with the graph and the Excel file, which automatically recorded and mapped each idiodynamic rating with a specific time (on a per-second time scale), the instructor played back the video recording of the interaction, stopping at each point where the graph showed a noticeable change in the participant's FLE. Participants were asked to comment on why the change occurred in Chinese, specifically highlighting the reasons for spikes and dips in enjoyment by addressing questions adapted from Boudreau et al. (2018) and Gregersen et al. (2014): 'You rated your enjoyment as particularly high/low at this particular time interval. Can you tell me what you were thinking here and explain why?'

4.3. Procedure

The study was conducted in a university classroom. After signing a consent form, participants filled in the background and trait FLE questionnaires, which took them 10 minutes to complete. The participants then received 20 minutes of metapragmatic instruction, followed by seven minutes of guided collaborative pretask planning (i.e., five minutes of task practice and two minutes of task planning). The participants were not informed whether they were assigned to the simple or complex task group. The speaker dyads spent about 6-13 minutes creating storylines for the four sequenced pictures. After a five-minute break, the participants came back to rate their FLE changes on the laptop computer, followed by a stimulated recall session that averaged 36 minutes.

4.4. Data analysis

Stimulated recall data were audio recorded and transcribed verbatim based on Allwright and Bailey's (1991) transcription conventions by three trained research assistants (see Appendix B). The transcripts were verified by the researcher. Participants' interactions were video recorded and transcribed by the researcher, and each transcript was double-checked to ensure its accuracy. A total of 145 stimulated recall comments were analyzed thematically, driven by the goal of the study. The process involved (a) grouping comments addressing the same theme together and (b) tallying the number of comments each participant provided for each theme. A trained research assistant coded 20% of the data. Interrater reliability was 94% for stimulated recall comments, showing a high degree of agreement. Any disagreements were resolved through discussion. Each learner's trait FLE was analyzed by adding up their responses to each questionnaire item to create a composite score. The Spearman's rho correlation between two speakers' enjoyment ratings in each pair was calculated using SPSS 28 because the participants' ratings were not normally distributed as determined by a normality test (a Shapiro–Wilk test).

5. Findings

Before the research questions are answered, the overall picture of each individual learner's FLE fluctuations throughout the interactive speaking task is presented in Table 2. As shown, the mean dynamic FLE rating of all the participants oscillated between -0.21 and 3.19, with most of the means falling below 1.0. One participant (Serena) had a considerably higher level of enjoyment than the other participants. Notably, all the participants in the simple task group gave +5 as the highest FLE rating, whereas the participants' highest FLE rating in the complex task group varied considerably (ranging from 0 to 5). These results show that participants in the simple task group experienced the most enjoyable moments during peer interaction.

Table 2 FLE ratings, trait FLE scores, and correlations between peer interlocutors' FLE

Idiodynamic FLE ratings by participant's pseudonym	Trait FLE	FLE rating mean (<i>SD</i>)	Seconds in high FLE zone (Above 0)/time on task (seconds)	Seconds in low FLE zone (At 0 or below) / time on task (seconds)	Highest /lowest FLE rating	Correlation between each speaker dyad's FLE
Complex task: Pair 1 – Keyla	39	0.54 (0.84)	108/307	199/307	4, 0	-.06
Cecilia	36	-0.21 (0.59)	0/307	307/307	0, -3	
Complex task: Pair 2 – Yvonne	44	0.70 (1.48)	188/484	296/484	5, -5	.01
Sylvia	48	0.04 (0.26)	16/484	468/484	2, -1	
Simple task: Pair 3 – Serena	40	3.19 (1.46)	674/767	93/767	5, 0	.05
Yasmin	48	0.55 (1.18)	175/767	592/767	5, -1	
Simple task: Pair 4 – Kathy	38	0.50 (1.42)	124/385	261/385	5, -5	.14*
Brian	39	0.63 (2.31)	169/385	216/385	5, -5	

Note. * $p < .05$.

5.1. Patterns of an individual learner and their peer interlocutor's FLE fluctuations

To address the first research question, the relationship between FLE ratings of an individual learner and those of their peer interlocutor was analyzed. As can be seen in Figures 2, 3, 4, and 5, an individual learner's dynamic fluctuations in enjoyment demonstrates idiosyncratic patterns, which was further confirmed by very weak correlations between their trajectory of enjoyment and that of their peer interlocutor for all the pairs (see Table 2).

Keyla and Cecilia were the first pair of the complex task group to complete the task (see Figure 2). Their individual trajectories of enjoyment during the task were very different, indicated by a very weak, nonsignificant negative relationship between their enjoyment trajectories ($r = -.06, p > .05$). Keyla generally had high levels of enjoyment (all ratings were above or at 0), whereas Cecilia's enjoyment level was low (below or at 0). Among all the participants, Cecilia had the lowest trait FLE scores (36 out of 55). Her low trait FLE score corresponded to her overall low, sometimes unaroused enjoyment state.

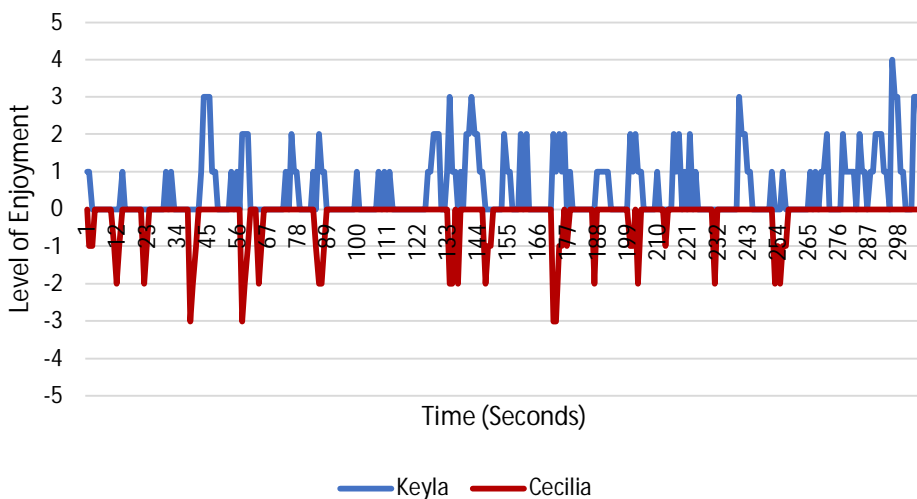


Figure 2 Complex group 1: Keyla and Cecilia's enjoyment ratings

Yvonne and Sylvia were the second pair of the complex task group. As displayed in Figure 3, both speakers' FLE ratings were generally positive or neutral and thus paired trajectories of FLE were more convergent than those of the first pair, though there was almost no correlation between their enjoyment trajectories ($r = .01, p > .05$). Yvonne demonstrated overall high levels of FLE, whereas Sylvia's patterns showed little variability and a fairly steady, unaroused enjoyment state (ratings remained 0 for 466 seconds

out of 484 seconds). Sylvia's unexpectedly low or neutral dynamic FLE pattern was in sharp contrast with her trait FLE (48 out of 55), which was the highest among the participants.

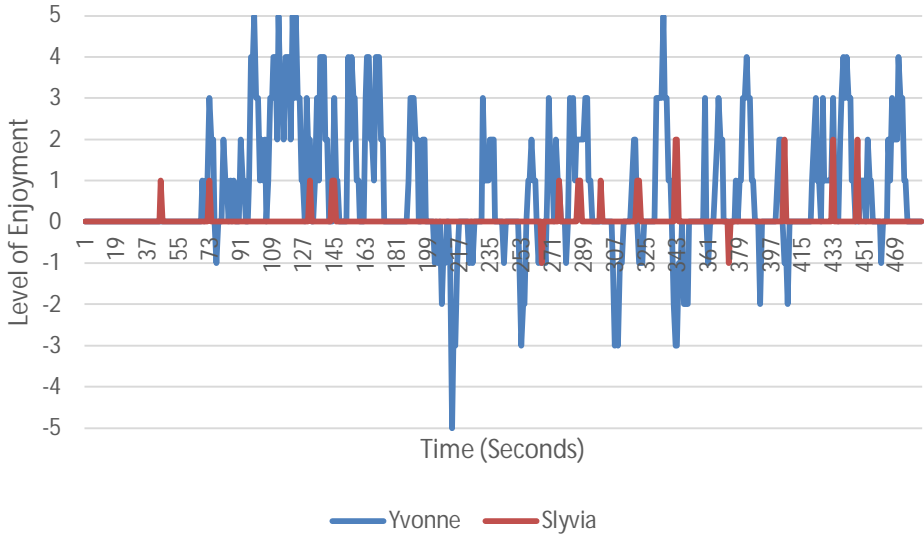


Figure 3 Complex group 2: Yvonne and Sylvia's enjoyment ratings

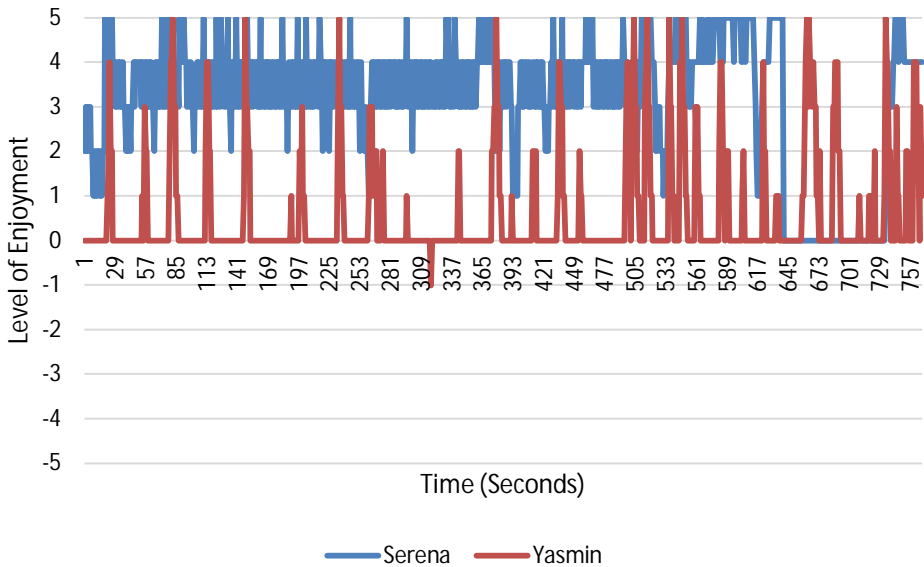


Figure 4 Simple group 1: Serena and Yasmin's enjoyment ratings

Serena and Yasmin worked on a simple task together. Their enjoyment trajectories did not converge because there was a very weak, nonsignificant positive relationship ($r = .05, p > .05$). Both speakers experienced very high levels of enjoyment during the task (see Figure 4), and there was almost no low enjoyment during the task. Since both speakers' trait FLE score was high (40 for Serena and 48 for Yasmin out of 55), this factor certainly merits consideration when evaluating their dynamic FLE changes.

Kathy and Brian worked with the simple version of the task as well. A close look at their enjoyment ratings for the task revealed interesting differences, though there were many overlaps (see Figure 5). Correlation analysis found a significant positive relationship between their own enjoyment ratings throughout the task interaction, indicating that their enjoyment trajectories converged ($r = .14, p < .05$). Brian's enjoyment patterns showed a rollercoaster of swings between high FLE and low FLE during the task, but Kathy's FLE patterns were relatively more positive and stable. Despite their low trait FLE scores (38 for Kathy and 39 for Brian out of 55), they both experienced many enjoyable moments.

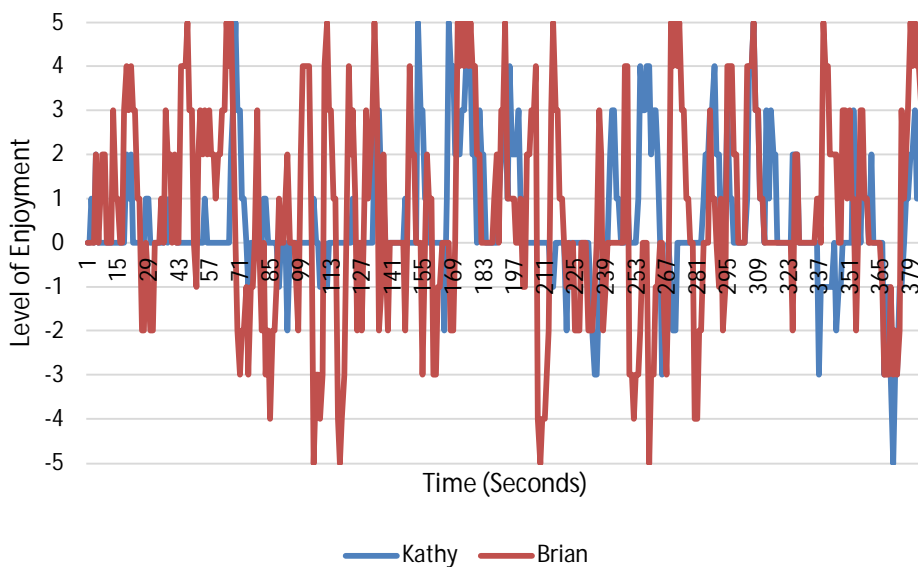


Figure 5 Simple group 2: Kathy and Brian's enjoyment ratings

5.2. Factors associated with high and low FLE episodes

The second research question asked what factors influenced participants' individual trajectories of FLE while performing a cognitively complex task or a cognitively

simple task. Because the factors contributing to high and low FLE arousals for learners in the two task complexity groups overlapped considerably, Tables 3 and 4 present counts of stimulated recall comments organized by factors pertaining to the learners in both groups.

Table 3 reports factors contributing to high enjoyment arousals throughout the task, including interesting storyline created by a peer interlocutor, task design (storyline, use of picture prompts, receiving many refusals), peer collaboration (e.g., helping the speaker with word search, repeating the speaker's utterance), and task performance (flow of the interaction, the use of linguistic expressions). Stimulated recall data are presented along with the corresponding transcript to provide concrete example(s) for each factor.

Table 3 Factors leading to high FLE arousals (3, 4 or 5 points)

Participant	Interesting storyline created by a peer	Task design (storyline, the use of picture prompts)	Peer collaboration (e.g., helping the peer with word search, repeating the peer's utterances)	Task performance (flow of interaction, the use of words)
Keyla	3	2	1	0
Cecilia	0	0	0	0
Yvonne	7	7	3	2
Sylvia	6	3	2	1
Serena	11	5	7	7
Yasmin	10	6	2	1
Kathy	3	2	0	2
Brian	8	6	0	1
Total	48	31	15	14

Note. Cecilia's FLE ratings were all 0 or below 0, so she was not interviewed for any high FLE arousals. Sylvia's positive ratings were all +1 or +2, so the stimulated call interview probed into the reasons for these ratings.

The first common factor leading to enjoyment during task-based peer interaction is *interesting, amusing storyline created by the peer* ($N = 48$), as illustrated in the excerpt below. As Brian's student in the storytelling task, Kathy's enjoyment climbed (from +3 to +4, 174~176 seconds) when she heard Brian's response to her question about how many handout copies were needed:

Kathy: Well yes. No problem. How much handouts do you want?

Brian: uhh Let me think about it. 30 pieces. (Laugh)

Comment: I was thinking he [Brian] wanted me to copy so many handouts. That was funny.

Unexpected, interesting storylines created by the peer interlocutor as a major source of FLE echo the recommendations of Dewaele et al. (2018) that implementing challenging, unpredictable student-centered activities fosters FLE.

The second factor leading to enjoyment during paired interaction is *task design* ($N = 31$), specifically, the storyline embedded in the task and the use of picture prompts. For example, Yvonne's enjoyment peaked (+5 at 99 seconds) when Sylvia played Yvonne's classmate and asked her out:

Hey, it's about winter vacation. Should we go outside to play?

Comment: I was thinking it was great to receive an invitation. Just like in real life, I like to receive invitations. It means the speaker's good will and intention.

Yvonne's comment showed that the scenario in the picture-cued storytelling task was authentic, so this made her particularly enjoy the task.

The third source of enjoyment is *peer collaboration* ($N = 15$). During the task, learners supported each other by supplying a word their peer interlocutor was searching for, by repeating each other's utterance, and by being a collaborative partner. As shown in Serena and Yasmin's conversation below:

Yasmin: . . . She, she, she is so sick. And then after three months, she left us (+5, 743-745 seconds).

Serena: She left us. She was dying in the hospital (+5, 748-750 seconds). And what's worse is that, because she didn't have any friends, so at her famil-fu-funerals—

Yasmin: --Funerals—

Serena: No one came.

Yasmin: No one came (+4, 760-762 seconds).

Serena: So sad for Amy.

Yasmin: Yeah.

Serena's comment: I was thinking that we discussed [during planning time] that we wanted the main character died, but if we just said she died, then that is not a great ending. We need to add more storylines, so I was thinking adding "funerals." I forgot how to pronounce the word, but she [Yasmin] helped me with this. And we also repeated each other's words, which made me feel great. I thought this was fun because we were on the same page.

Yasmin's comment: I was thinking we added novel details to enrich the story and made the story more interesting together. Collaborating with my partner was fun.

Serena and Yasmin adapted to each other's verbal and interactional behaviors, such as repeating each other's utterances, providing a lexical item the interlocutor was struggling with, and making joint efforts in story creation, which led to an alignment in FLE between the interlocutors.

High enjoyment during peer interaction can also be attributed to *task performance*, such as the use of appropriate, accurate expressions ($N = 14$). For example, Sylvia's flat emotion surged (+2 at 433 seconds) when she was able to use an accurate phrase in the role of a professor:

Ok, just let you know, if you really feel stressed out or you don't feel really well, you can write a letter to me to talk more about...

Comment: I felt great here because I came up with the appropriate expression that corresponded to the storyline, and I used the phrase well.

Now we turn to factors that lead to low enjoyment arousals during paired task interaction. As can be seen in Table 4, the major factor contributing to low enjoyment during the task is performance-related issues (e.g., flow of conversation, inaccurate grammar or pronunciation) followed by a failure to retrieve words or phrases. The third low-enjoyment factor is task design (e.g., too many refusals and characters). The fourth factor is lack of ideas.

Table 4 Factors leading to low FLE arousals (-1~ -5, depending on an individual speaker's ratings)

Factor Participant	Performance problems (flow, inaccurate grammar or pronunciation)	Failure to retrieve words or phrases	Task design (too many refusals and characters)	Lack of ideas
Keyla	0	0	0	0
Cecilia	5	5	0	4
Yvonne	1	1	4	0
Sylvia	1	0	1	1
Serena	0	0	0	0
Yasmin	1	0	0	0
Kathy	3	3	0	1
Brian	2	0	3	1
Total	13	9	8	7

Note. Since Keyla and Serena's ratings were all above 0, they were not interviewed for specific low FLE arousals.

The most common factor attributed to low enjoyment arousals is *performance problems*, such as flow of conversation and inaccurate grammar or pronunciation ($N=13$). For instance, Yasmin experienced her lowest level of enjoyment (-1 at 318 seconds) when the flow of her speech was not smooth:

So, um, Amy reject all her three best friend. And . . . their relationship is kind of . . . gone.

Comment: My flow was not smooth because I hesitated a bit before I finished the sentence.

Yasmin's low enjoyment rating seems to be positively related to her perception of her performance fluency.

The second low-FLE factor is *failure to retrieve words or phrases* ($N=9$). Kathy staggered (um . . .) when she tried to come up with a word to continue her turn:

Kathy experienced her lowest FLE: Um, oh, yeah, since I've been so focused on my study, and I think that... (-5, 371 seconds) I need some leisure time. I can and I can't always, um . . . (-3, 373 seconds) refuse I – my friends and my families, uh, for their invitations.

Comment: My flow was not smooth as I was searching for expressions appropriate for this context.

Kathy commented that she was trying to come up with appropriate expressions for the story she was inventing.

Interestingly, *task design* is a double-edged sword because it causes both high and low enjoyment arousals and is ranked the third most common source of low enjoyment level ($N = 8$). A case in point is Brian's mounting low enjoyment moments (-4, -5, -4, -3 during 116–119 seconds) due to many refusals he received from Kathy:

Kathy: But I think I need to focus on my study, so I'm so sorry for that.

Brian: Oh. Ok.

Comment: The main character was so busy. I couldn't imagine she rejected several invitations.

The fourth factor leading to low FLE is *lack of ideas* during the storytelling process ($N = 7$). The excerpt below shows how Cecilia attempted to come up with a reason to refuse her friend's invitation to participate in outdoor activities.

Cecilia's enjoyment level dropped (-2 at 59 seconds and -1 at 60 seconds): I have an science, uh, ex-experiment to do. I think I cannot go to exercise.

Comment: I was thinking how to say no to her parents again. I needed to make a good excuse.

6. Discussion

The present study aimed to uncover the relationship between individual learners' and their peer interlocutors' moment-to-moment FLE during task-based interaction while working on either a cognitively complex or cognitively simple task and enhance the understanding of the reasons accounting for learners' positive affective responses to task design and paired interaction. The first research question asked whether patterns of peer interlocutors' enjoyment ratings converge (correlate) over a cognitively simple task or a complex task. Although observations from the idiodynamic graphs showed that Keyla and Cecilia's trajectories of FLE were divergent, and other pairs' FLE trajectories were relatively more convergent, only Kathy and Brian's FLE trajectories converged, with a significantly positive, yet very weak relationship between their FLE trajectories ($r =$

.14, $p < .05$). Thus, we may argue that all the pairs' enjoyment trajectories showed little, if not no, convergence or divergence, though they occasionally adapted to each other as can be seen in the graphs (Larsen-Freeman & Cameron, 2008; Larsen-Freeman, 2020). The high degree of variability between peer interlocutors in their dynamic FLE ratings provides evidence to support the claim of ergodic principle that we cannot generalize group or pair patterns and statistics to an individual learner and vice versa (Lowie & Verspoor, 2019) and demonstrates the value of studying the dynamic properties of enjoyment as an individual difference variable through multiple case studies. To put it in context, the finding suggests that TBLT researchers consider analyzing intra-individual dynamic fluctuations in FLE as a complement to inter-individual comparisons to be a new, potentially insightful avenue for examining the interaction between task complexity and learners' perceptions of task difficulty. However, it should be noted that the very weak correlations of all speaker dyads' dynamic FLE ratings can also be explained by the duration of the task and the measurement of FLE as the emotional dips and spikes canceled each other out when learners took a long time to perform the task (Gregersen et al., 2014).

The second research question asked about factors influencing individual learners' trajectories of enjoyment during a cognitively complex task or a cognitively simple task. Findings revealed that task complexity combined with multiple learner-external factors (subsystems), including interesting storyline created by peer interlocutor, task design and peer collaboration, as well as with learner-internal factors (subsystems), including task performance (flow of speech and interaction, use of words, mispronunciation), inability to retrieve relevant words or phrases (English ability), and lack of ideas to influence an individual learner's dynamic FLE fluctuations. The dynamism of an L2 learner's second-by-second ratings of enjoyment demonstrates that each learner's enjoyment was a complex system that continually evolved, adapted, and emerged from its interactions with a learner's psychology, English ability, and task performance and the external connections to the contextual conditions of the system, such as peer interlocutor's behaviors and interactive task, finally resulting in idiosyncratic, dynamic patterns of enjoyment for each learner. The influence of these multiple subsystems on a learner's dynamic FLE hinged on the interconnectedness of these subsystems. For example, Serena and Yasmin's collaborative verbal and interactional efforts to finish the task with a creative ending resulted in changes in not only the speaker's FLE but also the interactant's FLE in convergent ways and language production. This only confirms that subsystems of the speaker dyads and their collaborative interaction in CDST are interconnected and therefore influence each other or one another over time (de Bot et al., 2007; Hiver & Al-Hoorie, 2020; Larsen-Freeman & Cameron, 2008; Mercer, 2011; Oxford & Gkonou, 2021).

It is also worth noting that trait FLE (questionnaire data) worked in tandem with task complexity and other factors identified through the idiodynamic method to influence L2 learners' enjoyment during the cognitively simple and complex interactive speaking tasks, and this phenomenon could be seen in many learners. For example, Cecilia's low trait FLE, combined with other subsystems, including lack of ideas, performance errors, and failure to retrieve words or phrases, caused her low arousals of enjoyment during the complex task (see Table 4). The finding indicative of a failure to retrieve words or phrases is consistent with Boudreau et al. (2018), who reported that high levels of anxiety sometimes occurred with low levels of enjoyment when participants experienced a difficulty with self-expression (e.g., vocabulary, organization of thoughts). Serena and Yasmin worked on a cognitively simple task together, and both had high trait FLE scores. They both experienced high levels of enjoyment because of the same constellation of factors (see Table 3). As for Kathy and Brian, despite their low trait FLE scores, which possibly led to several lowest levels of dynamic FLE, they both had several highest levels of dynamic FLE during the simple task, suggesting that FLE is malleable through engaging, cognitively simple task design and peer interaction (see Table 3). These findings (Serena and Yasmin's, Kathy and Brian's cases) further extend previous research on L2 learner engagement with tasks (Baralt et al., 2016; Phung, 2017; Phung et al., 2020) by demonstrating that several subsystems, such as task design with topics and task content relevant and familiar to learners' life experiences and peer interaction and collaboration, were interconnected with one another and thus led to higher learner enjoyment.

7. Pedagogical implications

This study broadened the task type (i.e., role plays) used to teach refusals and other speech acts in previous research (Kim, 2022) by revealing that a collaborative picture-cued storytelling task can be a desirable option for L2 pragmatic learning and can promote and inhibit learners' enjoyment. The findings demonstrate that learners working on a task of different complexity levels experience both high and low levels of FLE because of similar contextual (e.g., task design), social (peer collaboration), and individual (learner task performance, trait FLE) factors. As a result, L2 teachers, materials developers, and researchers are advised to pay attention to those factors when they design or implement interactive speaking tasks. For example, by adding story creation elements to an interactive task targeting the speech act of refusal, learners' creativity and interest were spurred, which facilitated their enjoyment. In contrast, a collaborative picture-cued storytelling task with too many negative speech acts of refusal as the

learning target might be complemented with text prompts that have more positive responses (i.e., agreement, acceptance) than the present study to maintain learners' enjoyment. Alternatively, teachers may instruct learners to occasionally rotate their task role as a refusal receiver. Teachers are advised to encourage students to exhibit linguistic risk-taking and use communication strategies to get their meaning across, both in and outside the classroom (Griffiths & Slavkov, 2021). Moreover, given that peer collaboration by repeating each other's utterances or judiciously supplying a word the interlocutor was searching for helps raise the enjoyment level of the speaker, teachers might consider integrating these interactional features into oral communication instruction and metacognitive instruction (Chen et al., 2020; Tekin et al., 2022). Finally, this study further demonstrates the potential of the idiodynamic method as a pedagogical tool for learners to better understand and reflect on their emotional fluctuations and speaking task performance and for teachers to improve their pedagogical design.

8. Conclusion

This interdisciplinary study has made three kinds of original, novel contributions to task-based pedagogy research and the burgeoning body of literature on positive psychology in SLA: theoretical, methodological, and pedagogical. The findings showed that task complexity works in tandem with multiple learner-external and learner-internal factors to cause dynamic FLE fluctuations during peer interaction. These findings further confirm the utility of CDST as a framework to explain multiple interacting influences on FLE. The adaptation of the idiodynamic method used in previous nontask studies by linking learners' dynamic enjoyment ratings and linguistic production and the comparisons between peer interlocutors' enjoyment trajectories foreground the importance of researching learner attributions for enjoyment during task interaction at the individual level. Further, this study casts new light on the interactive speaking task design and implementation for pragmatic learning.

Despite its novel contributions, this study has several limitations, which indicate avenues for future exploration. In the first place, this study manipulated the impact of a single resource-directing (i.e., causal reasoning) task complexity factor on dynamic FLE. Because task complexity may encompass resource-directing and resource-dispersing dimensions, future research may operationalize task complexity along several resource-directing and resource-dispersing factors (Ellis, 2018). To be sure, other than the construct of task complexity, the field can benefit from using the idiodynamic method to study some well-trodden topics of task design and implementation factors in TBLT, such as task repetition

type, pretask planning type, and task type. Second, speaking task performance (i.e., complexity, accuracy, lexical diversity, fluency, communicative adequacy, and functional adequacy) was not analyzed. Linking L2 learners' enjoyment ratings to these linguistic and/or performance measures of task performance will reveal the role the positive emotion plays in speaking task performance. Third, while the idiodynamic method is an important tool for understanding fluctuations in FLE and the complex interplay of various factors accounting for dynamic changes in FLE, it is a self-report measure. The present study has triangulated idiodynamic ratings with L2 learners' verbal language use during task interaction. Future single or multiple case study research which triangulates idiodynamic data with other relatively objective measures of emotions, such as psychophysiological methods (e.g., electrodermal activity and facial expression analysis) and nonverbal behaviors (e.g., facial expression, gestures, gaze), may be particularly informative (Lambert, 2023). In addition, this study was conducted in a context in which the students shared an L1 and had relatively homogeneous educational and linguistic backgrounds. Because the view of *enjoyable* elements of a task and factors influencing FLE during task-based interaction might vary across contexts, cultures, target languages, teaching and learning situations, gender, and persons (MacIntyre et al., 2019), different results may be found in contexts with a greater diversity of L1 speakers and when a needs analysis is conducted to inform the design of contextually relevant and culturally appropriate task materials. Future research on L2 learners in multilingual and multicultural contexts, for example, may yield interesting insights into their affective responses to task design and interaction. Finally, although the study was conducted in a classroom, which ensured high ecological validity, the participants were remunerated. Future research may consider measuring fluctuations in learners' FLE while carrying out speaking tasks as part of a curriculum in a real classroom environment.

By tracking EFL learners' moment-to-moment dynamic changes in enjoyment during task-based peer interaction, this study contributes to the current understanding of how interactive tasks with different complexity levels can be better designed and implemented to foster FLE from learners' perspectives. It is hoped that this cross-disciplinary fertilization can stimulate further research on the intersection of learner positive psychology and TBLT and encourage teachers and materials developers to create enjoyable tasks to engage students in different aspects of L2 learning.

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References

- Allwright, D., & Bailey, K. M. (1991). *Focus on the language classroom: An introduction to classroom research for language teachers*. Cambridge University Press.
- Baralt, M., Gurzynski-Weiss, L., & Kim, Y. (2016). Engagement with the language: How examining learners' affective and social engagement explains successful learner-generated attention to form. In M. Sato & S. Ballinger (Eds.), *Peer interaction and L2 learning* (pp. 209-239). John Benjamins.
- Botes, E., Dewaele, J. M., & Greiff, S. (2022). Taking stock: A meta-analysis of the effects of Foreign Language Enjoyment. *Studies in Second Language Learning and Teaching*, 12(2), 205-232. <https://doi.org/10.14746/sslit.2022.12.2.3>
- Boudreau, C., MacIntyre, P. D., & Dewaele, J. M. (2018). Enjoyment and anxiety in second language communication: An idiodynamic approach. *Studies in Second Language Learning and Teaching*, 8(1), 149-170. <https://doi.org/10.14746/sslit.2018.8.1.7>
- Brown, P., & Levinson, S.C. (1987). *Politeness: Some universals in language usage*. Cambridge University Press.
- Butler, Y. G. (2017). The role of affect in intraindividual variability in task performance for young learners. *TESOL Quarterly*, 51(3), 728-737. <https://doi.org/10.1002/tesq.385>
- Bygate, M. (2017). Dynamic systems theory and the issue of predictability in task-based language: Some implications for research and practice in TBLT. In M. J. Ahmadian & M. D. P. García Mayo (Eds.), *Recent perspectives on task-based language learning and teaching* (pp. 145-166). De Gruyter Mouton.
- Carver, C., Jung, D., & Gurzynski-Weiss, L. (2021). Examining learner engagement in relationship to learning and communication mode. In P. Hiver, A. H. Al-Hoorie, & S. Mercer (Eds.), *Student engagement in the language classroom* (pp. 120-142). Multilingual Matters.
- Chen, T.-H., McDonough, K., & Trofimovich, P. (2020, October 23-25). *The relationship between interactional fluency features and L2 speakers' perceptions of peer fluency* [paper presentation]. The 39th Second Language Research Forum, Vanderbilt University, Tennessee, United States.
- Csikszentmihalyi, M. (2014). *Flow and the foundations of positive psychology*. Springer.
- de Bot, K., Lowie, W., & Verspoor, M. (2007). A dynamic systems theory approach to second language acquisition. *Bilingualism: Language and Cognition*, 10(1), 7-21. <https://doi.org/10.1017/S1366728906002732>
- Dewaele, J. M., & MacIntyre, P. D. (2014). The two faces of Janus? Anxiety and enjoyment in the foreign language classroom. *Studies in Second Language Learning and Teaching*, 4(2), 237-274. <https://doi.org/10.14746/sslit.2014.4.2.5>
- Dewaele, J.M., & MacIntyre, P. D. (2016). Foreign language enjoyment and foreign language classroom anxiety: The right and left feet of FL learning? In

- P. D. MacIntyre, T. Gregersen, & S. Mercer (Eds.), *Positive psychology in SLA* (pp. 215-236). Multilingual Matters.
- Dewaele, J.M., Witney, J., Saito, K., & Dewaele, L. (2018). Foreign language enjoyment and anxiety: The effect of teacher and learner variables. *Language Teaching Research, 22*, 676-697. <https://doi.org/10.1177/1362168817692161>
- Dewaele, J. M., Magdalena, A. F., & Saito, K. (2019). The effect of perception of teacher characteristics on Spanish EFL learners' anxiety and enjoyment. *Modern Language Journal, 103*(2), 412-427. <https://doi.org/10.1111/modl.12555>
- Dörnyei, Z. (2007). *Research methods in applied linguistics*. Oxford University Press.
- Dörnyei, Z. (2019). Task motivation: What makes an L2 task engaging? In Z. Wen & M. J. Ahmadian (Eds.), *Researching L2 task performance and pedagogy: In honour of Peter Skehan* (pp. 53-66). John Benjamins.
- Elahi Shirvan, M., & Taherian, T. (2021). Longitudinal examination of university students' foreign language enjoyment and foreign language classroom anxiety in the course of general English: Latent growth curve modeling. *International Journal of Bilingual Education and Bilingualism, 24*(1), 31-49. <https://doi.org/10.1080/13670050.2018.1441804>
- Elahi Shirvan, M., & Talebzadeh, N. (2018). Exploring the fluctuations of foreign language enjoyment in conversation: An idiodynamic perspective. *Journal of Intercultural Communication Research, 47*(1), 21-37. <https://doi.org/10.1080/17475759.2017.1400458>
- Elahi Shirvan, M., & Talebzadeh, N. (2020). Tracing the signature dynamics of foreign language classroom anxiety and foreign language enjoyment: A retrodictive qualitative modeling. *Eurasian Journal of Applied Linguistics, 6*(1), 23-44. <https://doi.org/10.32601/ejal.710194>
- Ellis, R. (2009). Task-based language teaching: Sorting out the misunderstandings. *International Journal of Applied Linguistics, 19*(3), 221-246. <https://doi.org/10.1111/j.1473-4192.2009.00231.x>
- Ellis, R. (2018). *Reflections on task-based language teaching*. Multilingual Matters.
- Faez, F., & Tavakoli, P. (2019). *Task-based language teaching*. TESOL Press.
- Gilabert, R., Barón, J., & Llanes, À. (2009). Manipulating cognitive complexity across task types and its impact on learners' interaction during oral performance. *IRAL-International Review of Applied Linguistics in Language Teaching, 47*(3-4), 367-395. <https://doi.org/10.1515/iral.2009.016>
- González-Lloret, M. (2019). Task-based language teaching and L2 pragmatics. In N. Taguchi (Ed.), *The Routledge handbook of second language acquisition and pragmatics* (pp. 338-352). Routledge.
- Gregersen, T., Macintyre, P. D., & Meza, M. D. (2014). The motion of emotion: Idiodynamic case studies of learners' foreign language anxiety. *Modern Language Journal, 98*(2), 574-588. <https://doi.org/10.1111/modl.12084>

- Griffiths, E., & Slavkov, N. (2021). Linguistic risk-taking: A bridge between the classroom and the outside world. *Canadian Journal of Applied Linguistics*, 24(2), 127-158. <https://doi.org/10.37213/cjal.2021.31308>
- Gurzynski-Weiss, L. (Ed.). (2020). *Cross-theoretical explorations of interlocutors and their individual differences*. John Benjamins.
- Hiver, P., & Al-Hoorie, A. H. (2020). *Research methods for complexity theory in applied linguistics*. Multilingual Matters.
- Kim, Y. (2022). The interface between instructed L2 pragmatics and TBLT research: A review of instructional materials. *Applied Pragmatics*, 4(2), 159-177. <https://doi.org/10.1075/ap.00007.kim>
- Kim, Y., & Taguchi, N. (2015). Promoting task-based pragmatics instruction in EFL classroom contexts: The role of task complexity. *Modern Language Journal*, 99, 656-677. <https://doi.org/10.1111/modl.12273>
- Lambert, C. (2017). Task, affect, second language performance. *Language Teaching Research*, 21(6), 657-664. <https://doi.org/10.1177/1362168817736644>
- Lambert, C. (2023). Psychophysiological methods. In C. Lambert, S. Aubrey, & G. Bui (Eds.), *The role of the learner in task-based language teaching: Theory and research* (pp.156-176). Routledge.
- Larsen-Freeman, D. (1997). Chaos/complexity science and second language acquisition. *Applied Linguistics*, 18(2), 141-165. <https://doi.org/10.1093/applin/18.2.141>
- Larsen-Freeman, D. (2020). Complex Theory: Relational systems in interaction and in interlocutor differences in second language development. In L. Gurzynski-Weiss (Ed.), *Cross-theoretical explorations of interlocutors and their individual differences* (pp.189-208). John Benjamins.
- Larsen-Freeman, D., & Cameron, L. (2008). Research methodology on language development from a complex theory perspective. *Modern Language Journal*, 92(2), 200-213. <https://doi.org/10.1111/j.1540-4781.2008.00714.x>
- Li, C., Jiang, G., & Dewaele, J. M. (2018). Understanding Chinese high school students' foreign language enjoyment: Validation of the Chinese version of the foreign language enjoyment scale. *System*, 76, 183-196. <https://doi.org/10.1016/j.system.2018.06.004>
- Long, M. H. (2015). *Second language acquisition and task-based language teaching*. Wiley Blackwell.
- Lowie, W. M., & Verspoor, M. H. (2019). Individual differences and the ergodicity problem. *Language Learning*, 69, 184-206. <https://doi.org/10.1111/lang.12324>
- MacIntyre, P., & Ducker, N. (2022). The idiodynamic method: A practical guide for researchers. *Research Methods in Applied Linguistics*, 1(2), 100007. <https://doi.org/10.1016/j.rmal.2022.100007>

- MacIntyre, P. D., & Legatto, J. J. (2011). A dynamic system approach to willingness to communicate: Developing an idiodynamic method to capture rapidly changing affect. *Applied Linguistics*, 32(2), 149-171. <https://doi.org/10.1093/applin/amq037>
- MacIntyre, P. D., Gregersen, T., & Mercer, S. (2019). Setting an agenda for positive psychology in SLA: Theory, practice, and research. *Modern Language Journal*, 103(1), 262-274. <https://doi.org/10.1111/modl.12544>
- MacIntyre, P. D., Mercer, S., & Gregersen, T. (2021). Reflections on researching dynamics in language learning psychology. In R. Sampson & R. Pinner (Eds.), *Complexity perspectives on researching language learner and teacher psychology* (pp. 15-34). Multilingual Matters.
- McDonough, K. (2015). Perceived benefits and challenges with the use of collaborative tasks in EFL contexts. In M. Bygate (Ed.), *Domains and directions in the development of TBLT: A decade of plenaries from the international conference* (pp. 225-245). John Benjamins.
- Mercer, S. (2011). The self as a complex dynamic system. *Studies in Second Language Learning and Teaching*, 1(1), 57-82. <https://doi.org/10.14746/ssl.t.2011.1.1.4>
- Nakamura, S., Phung, L., & Reinders, H. (2021). The effect of learner choice on L2 task engagement. *Studies in Second Language Acquisition*, 43(2), 428-441. <https://doi.org/10.1017/S027226312000042X>
- Oxford, R. L., & Gkonou, C. (2021). Working with the complexity of language learners' emotions and emotion regulation strategies. In R. J. Sampson & R. S. Pinner (Eds.), *Complexity perspectives on researching language learner and teacher psychology* (pp. 52-67). Multilingual Matters.
- Pawlak, M. (2017). Overview of learner individual differences and their mediating effects on the process and outcome of interaction. In L. Gurzynski-Weiss (Ed.), *Expanding individual difference research in the interaction approach: Investigating learners, instructors, and other interlocutors* (pp. 19-40). John Benjamins.
- Phung, L. (2017). Task preference, affective response, and engagement in L2 use in a US university context. *Language Teaching Research*, 21(6), 751-766. <https://doi.org/10.1177/1362168816683561>
- Phung, L., Nakamura, S., & Reinders, H. (2020). The effect of choice on affective engagement: Implications for task design. In P. Hiver, A. Al-Hoorie, & S. Mercer (Eds.), *Student engagement in the language classroom* (pp. 163-183). Multilingual Matters.
- Révész, A. (2011). Task complexity, focus on L2 constructions, and individual differences: A classroom-based study. *Modern Language Journal*, 95, 162-181. <https://doi.org/10.1111/j.1540-4781.2011.01241.x>

- Robinson, P. (2001). Task complexity, task difficulty, and task production: Exploring interactions in a componential framework. *Applied Linguistics*, 22, 27-57. <https://doi.org/10.1093/applin/22.1.27>
- Robinson, P. (2005). Cognitive complexity and task sequencing: Studies in a componential framework for second language task design. *International Review of Applied Linguistics in Language Teaching*, 43, 1-32. <https://doi.org/10.1515/iral.2005.43.1.1>
- Robinson, P. (2010). Situating and distributing cognition across task demands: The SSARC model of pedagogic task sequencing. In M. Putz & L. Sicola (Eds.), *Cognitive processing in second language acquisition: Inside the learner's mind* (pp. 243-268). John Benjamins.
- Robinson, P. (2022). The cognition hypothesis, the triadic componential framework and the SSARC model: An instructional design theory of pedagogic task sequencing. In M. J. Ahmadian & M. H. Long (Eds.), *The Cambridge handbook of task-based language teaching* (pp. 205-225). Cambridge University Press.
- Saito, K., Dewaele, J. M., Abe, M., & In'nami, Y. (2018). Motivation, emotion, learning experience, and second language comprehensibility development in classroom settings: A cross-sectional and longitudinal study. *Language Learning*, 68(3), 709-743. <https://doi.org/10.1111/lang.12297>
- Sato, M., & Ballinger, S. (2016). Understanding peer interaction: Research synthesis and directions. In M. Sato & S. Ballinger (Eds.), *Peer interaction and second language learning: Pedagogical potential and research agenda* (pp. 209-239). John Benjamins.
- Tekin, O., Trofimovich, P., Chen, T.-H., & McDonough, K. (2022). Alignment in second language speakers' perceptions of interaction and its relationship to perceived communicative success. *System*, 108, 102848. <https://doi.org/10.1016/j.system.2022.102848>
- Tsang, A., & Dewaele, J. M. (2023). The relationships between young FL learners' classroom emotions (anxiety, boredom, & enjoyment), engagement, and FL proficiency. *Applied Linguistics Review*. Advance online publication. <https://doi.org/10.1515/applirev-2022-0077>
- Van Batenburg, E. S., Oostdam, R. J., Van Gelderen, A. J., Fukkink, R. G., & De Jong, N. H. (2019). Oral interaction in the EFL classroom: The effects of instructional focus and task type on learner affect. *Modern Language Journal*, 103(1), 308-326. <https://doi.org/10.1111/modl.12545>
- White, C. J. (2018). The emotional turn in applied linguistics and TESOL: Significance, challenges and prospects. In J. M. Agudo (Ed.), *Emotions in second language teaching* (pp. 19-34). Springer.
- Youn, S. J. (2018). Task-based needs analysis of L2 pragmatics in an EAP context. *Journal of English for Academic Purposes*, 36, 86-98. <https://doi.org/10.1016/j.jeap.2018.10.005>

APPENDIX A

Storytelling Task

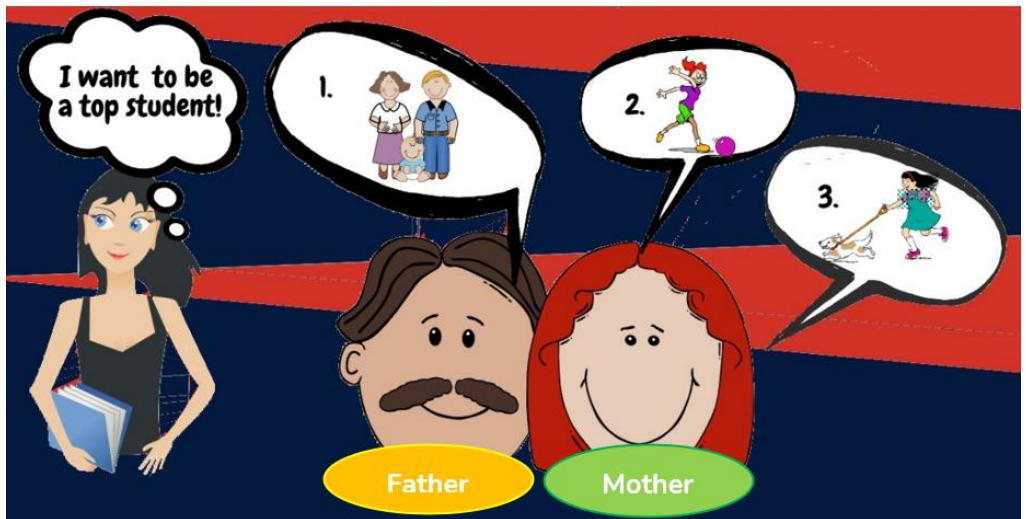
Simple task group

Task instructions: You and your partner are required to create a story using the four pictures you got. The number at the top of each picture prompt card shows the sequence of the story. You are *encouraged* to retell the story through thinking carefully about all illustrations within each picture and through using the text support provided under each picture. Some creativity (change the wording or the description a little bit) is allowed!

Two reminders:

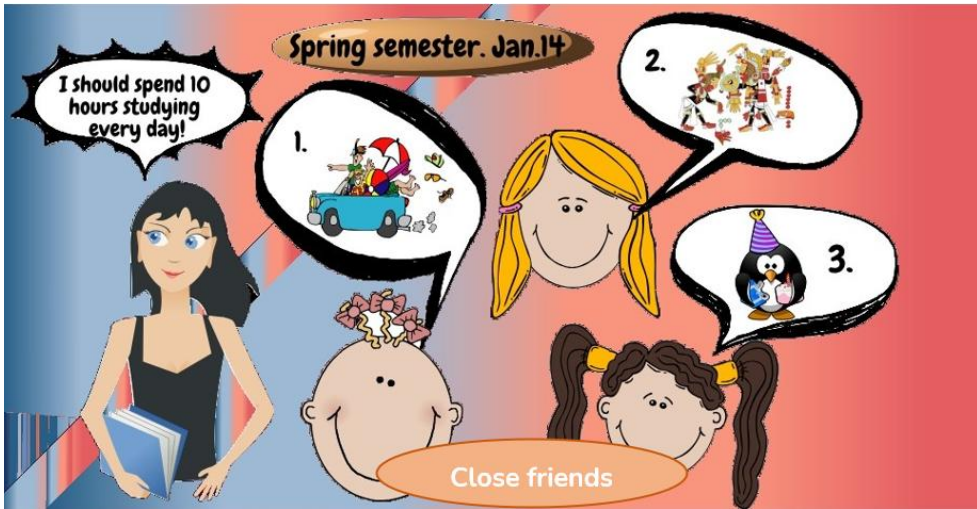
- (1) While you are creating the story, please make sure you consider the relationship between the female main character and other characters.
- (2) You and your partner are advised to negotiate who is going to be the main character and who is going to be the supporting characters in the story.

(1)



Suggestion	Response
1. Spend more time with Mom and Dad	Negative
2. Go Bowling	Negative
3. Walk the dog	Negative

(2)



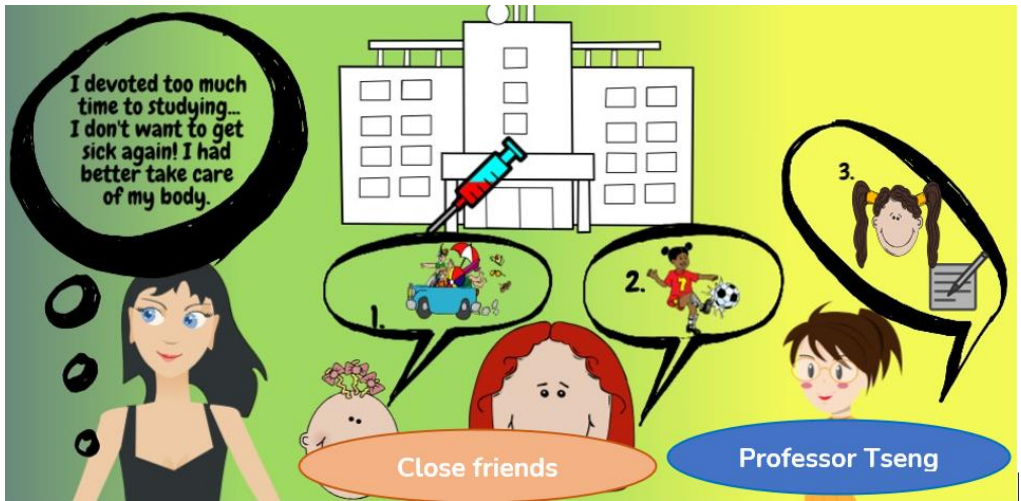
Invitation	Response
1.Go on vacation	Negative
2.Participate in a cultural festival	Negative
3.Attend a birthday party	Negative

(3)



Request	Response
Print handouts for class	Positive
Collaborate with classmates on a course project	Negative
Borrow books from school library	Negative

(4)



Invitation, Suggestion, & Request	Response
1. Go to the beach together	Negative
2. Play soccer with the whole family	Positive
3. Help a classmate with her homework	Negative

APPENDIX B

Transcription conventions

(adapted from Allwright and Bailey, 1991)

/---/	unintelligible speech
% %	simultaneous speech/overlap between speakers
...	unfilled pause (1 second +)
uh	filled pause
- -	interrupted speech
—	self-repair
[]	commentary of any kind