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Developmental trajectories of second language learner classroom engagement: Do students' task value beliefs and teacher emotional support matter?

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ABSTRACT

Engaging students in the second language (L2) classroom is important, but sustaining and promoting L2 learner classroom engagement over time is even more crucial for the long-term acquisition of the target language. This study contributes to the L2 engagement literature by tracking L2 learner classroom engagement over the course of a semester and identifying personal and contextual factors that sustained their long-term engagement. Questionnaire data were collected over three time points during a semester from 389 EFL learners enrolled in a Bachelor of Arts in English language program at a university in Vietnam. Results of latent growth curve modeling showed that the participants displayed both intraindividual growth and interindividual differences in the rate of growth in their classroom engagement over the semester. These interindividual differences in engagement growth were attributable mainly to the interest value that they attached to learning English in the respective classroom and the extent to which they perceived their teachers to be responsive to their emotions and learning difficulties. The findings are discussed in light of engagement and motivation theories in both educational psychology and psychology of second language learning and teaching. Implications are also offered to inform relevant classroom-based practices to enhance students' long-term engagement in the L2 classroom.

1. Introduction

Emerging out of the school reform and school drop-out prevention research tradition, student engagement has attracted great research interest largely due to its critical role in students' educational success and well-being (Wong & Liem, 2021). Over the last four decades, research on student engagement has reached a level of "scientific rigor" that is mainly attributable to the cumulative knowledge drawn from the research fields of education, psychology, learning science, and public health (Wang, Henry, & Degol, 2020). In the field of second language (L2) learning, engagement research has grown exponentially in recent years following efforts by L2 scholars to build on the rich body of knowledge on school engagement and extend it in domain-specific ways (Hiver, Mercer, &

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Al-Hoorie, 2021b). Numerous empirical studies, research syntheses, and monographs have been published to set the scene for L2 engagement research as well as establish frameworks, models, and instruments for scholarly enquiries into the role of engagement in the L2 learning process. As discussed by Mercer (2019), L2 engagement indeed has been researched for more than 20 years, but often under different terminologies, conceptualizations, and operationalizations of the construct, and with a predominant focus at task level. Recent development in both theoretical understanding and methodology has paved the way for a stronger research focus on unpacking the nature of L2 engagement and its links with students' learning outcomes and various contextual and personal antecedents, thereby offering a rich understanding of what L2 engagement constitutes, how it benefits learners, and how it is shaped by contextual factors. However, there is one line of research enquiry, namely the developmental trajectory of L2 learner engagement, that is still limited and thus merits further scholarly attention (Hiver, Mercer, & Al-Hoorie, 2021a).

Understanding how L2 engagement unfolds over time, whether it remains stable or fluctuates, and what accounts for such fluctuations, if any, is a critical research endeavor that has potential to contribute significantly to the knowledge base of L2 engagement in both theoretical and practical senses. Theoretically, the multidimensional and dynamic nature of engagement makes it a highly situated and malleable concept, operating across multi-level contexts and time frames (Hiver et al., 2021b; Wang, Degol, & Henry, 2019). Therefore, taking a snap-shot approach to examining L2 engagement through cross-sectional methods ignores its dynamic and evolving nature and limits our understanding of the development of engagement in different contexts and on different timescales. Practically, as teachers and practitioners ourselves, we do not want our students to just show engagement in a single task or lesson, and then such engagement decreases or disappears when the task or lesson is over. What we desire is that students can maintain the quality and intensity of their engagement over tasks, lessons, classes, and even beyond the classroom. Such durable form of engagement is contingent on the various conditions in the classroom and how those conditions are effectively and consistently orchestrated in the instructional settings over time (Hiver & Wu, 2023). Affording long-term engagement is challenging given the dynamic nature of the L2 classroom where various teacher-, peer-, and task-related factors come into play to shape student engagement (Hoi, 2022). Understanding the effect of these factors on the development of L2 engagement over time is beneficial for both teachers and students as it informs appropriate intervention programs and instructional methods applicable to the immediate classroom setting. For these reasons, this paper reports on the results of a research study examining the growth trajectory of L2 learner classroom engagement over a semester and identifying the personal (i.e., subjective task value beliefs) and contextual (i.e., classroom climate and teacher emotional support) factors that shape engagement trajectories over time. In the ensuing sections, we provide a conceptual discussion on the construct of L2 learner engagement with a particular focus on engagement at the classroom level and review existing research on the longitudinal development of L2 engagement as well as the contextual and personal factors that shape such development to lay the background for the present study.

2. Literature review

2.1. L2 learner engagement

Student engagement is a slippery construct (Hiver, Mercer, & Al-Hoorie, 2020), as evidenced by the considerable variation in how the construct is defined and measured in the literature (Fredricks, Hofkens, & Wang, 2019). This variation has stemmed from the numerous research traditions (e.g., on-task and academic engaged time, drop-out prevention and intervention, and school reform) and theoretical perspectives (e.g., the check and connect model, the development-in-sociocultural-context model; the study demand – resource model) that have informed research on student engagement over the past 40 years (Reschly & Christenson, 2022). In second language education, engagement is an emerging concept but has received substantial research attention in recent years (Zhou, Hiver, & Zheng, 2022). However, L2 engagement is also fraught with definitional issues and conceptual ambiguity (Mercer, 2019). To clarify the construct of L2 learner engagement and allow for comparisons of research findings across contexts, there have been calls for L2 engagement researchers to be specific about at least two aspects in their research on L2 engagement: the context (e.g., engagement at task-, lesson-, classroom-, or school-level) in which L2 engagement emerges and the timescale (e.g., moment-to-moment, day-to-day, and long-term engagement) upon which it is studied. In this study, we focus on L2 engagement at the classroom level and seek to understand the developmental trajectory of L2 classroom engagement over a semester. Therefore, we define L2 engagement as the quality of L2 learners' participation in and interaction with teachers, peers, and learning activities within the dynamic context of the language classroom. In that context, L2 learner engagement is manifested in behavioral, cognitive, and affective aspects. Behavioral engagement refers to the observable behaviors when students are on task such as their active involvement, participation, and persistence (Zhou, Hiver, & Al-Hoorie, 2021). Cognitive engagement is concerned with L2 learners' mental investment in learning such as their use of self-regulated learning strategies, efforts to connect prior knowledge with new materials, and the willingness to go beyond what is normally required (Hoi, 2023; Sang & Hiver, 2021). Affective engagement represents students' emotional reactions to teachers, peers, learning tasks, and their own participation in the learning process (Mercer, 2019; Zhou et al., 2021). Although each engagement component represents a qualitatively distinct aspect of participation in the L2 learning process, L2 learners need to exhibit all three dimensions if they are to fully immerse in meaningful interaction and active use of the language (Mercer, 2019).

Despite diverse perspectives on the definition and measurement of L2 engagement, researchers seem to reach a consensus on at least two key characteristics of the construct. First, engagement is highly situation-specific and context-dependent, operating at the intersection of multiple ecologies and across multiple timescales. As such, engagement can happen at the micro-level of a single task or at the macro-level of school and community where students show their commitment, valuing, and belongingness to the school and the wider community. At each of these levels, engagement can be studied in varying time frames, ranging from moment-to-moment engagement in a task to long-term engagement over years of schooling (Wang, Henry, & Degol, 2020). Second and relatedly,

engagement is malleable, dynamic and in constant flux. It can be enhanced or undermined by various contextual influences. Therefore, teachers can provide instructional strategies, tasks, and various types of support to enable students to remain persistent and committed to the learning process. To do so, contextual variables primed for student engagement need to be identified and orchestrated. In this respect, our review of the literature on L2 learner engagement reveals two salient strands of research enquiries.

The first and predominant line of research has focused on task level engagement (Mercer, 2019; Sang & Hiver, 2021). This research primarily examines the interaction patterns when learners engage in task completion and identify features of tasks that can promote L2 learner engagement (Hiver & Wu, 2023). Engagement in this research is assumed to be embedded in the interaction output produced during task completion such as word counts, turn counts, revisions and uptakes, and role plays (behavioural engagement, see for example, Bygate & Samuda, 2009; Dörnyei & Kormos, 2000; Ellis, 2010; Mystkowska-Wiertelak, 2020; Zheng & Yu, 2018); active thoughts and language comprehension, creativity, problem solving, language-related episodes and idea units, self-repairs and elaborative clauses (cognitive engagement, see for example, Dao, 2020; Dao & McDonough, 2018; Mystkowska-Wiertelak, 2020; Oga-Baldwin, 2019; Qiu & Lo, 2017); willingness to interact, task enjoyment, enthusiasm, interest, and emotions (affective engagement, see for example, Dao, 2020; Svalberg, 2009; Yu, Zhang, Zheng, Yuan, & Zhang, 2019). Task features that have been found to promote L2 learner engagement include task familiarity (Aubrey, King, & Almukhaild, 2020; Qiu & Lo, 2017), feedback types and behaviours (Lee, 2020; Zheng & Yu, 2018), task choice (Butler, 2017; Phung, 2017), and task relevance (Phung, 2017; Sulis & Philp, 2020). Although these studies provide valuable inputs and design features for the development of tasks that promote L2 learner short-term engagement, they remain relatively silent about the broader context of the L2 classroom in which engagement is embedded. Therefore, the second and growing body of research has shifted to contextual influences on L2 learner engagement. Contextual variables found to be engaging for L2 learners include teacher instructional and communication practices and peer support (Hoi, 2022), teacher autonomy supportive teaching (Dincer, Yeşilyurt, Noels, & Vargas Lascano, 2019; Hoi, 2022), teacher care and teacher-student rapport (Derakhshan, Doliński, Zhaleh, Enayat, & Fathi, 2022), classroom social climate (Derakhshan, Fathi, Pawlak, & Kruk, 2022), and teacher enthusiasm (Dewaele & Li, 2021). In addition, various mediating mechanisms by which these contextual factors influence L2 engagement were also identified, such as students' task value beliefs (Hoi, 2022), basic psychological needs (Dincer et al., 2019), boredom and student enjoyment (Dewaele & Li, 2021). The studies reviewed above have provided a broader understanding of the nature of L2 engagement, what it involves, and how it is shaped by the context beyond task completion. However, their contribution to the literature on L2 engagement remains limited in that they only capture a snapshot of how L2 engagement unfolds in the process of L2 learning through the angle of a single point in time, thereby ignoring the dynamic and constantly evolving nature of L2 engagement. Following recent calls for further longitudinal research that investigates the evolvement of L2 engagement over time, recent research has started to unpack the longitudinal trajectory of L2 learner engagement on different timescales - an emerging body of research to which we now turn.

2.2. *Longitudinal L2 learner engagement*

Long-term engagement is beneficial not only for students' educational development but also for their future occupational outcomes (Symonds, D'Urso, & Schoon, 2022). However, research on engagement in school contexts has well established a decline in student engagement throughout adolescent years, particularly during school transition periods (Burns, Martin, & Collie, 2019; Salmela-Aro et al., 2021; Wang, Henry, & Degol, 2020). This decline has been reported across different academic disciplines and countries (Burns et al., 2019). For example, Martin, Anderson, Bobis, Way, and Vellar (2012) observed a strong decline in student engagement in mathematics and reduced aspirations in mathematics for future academic life, thus prompting extensive research efforts to understand students' trajectories in mathematics engagement and what underlines these trajectories. Compared to research on student engagement in school contexts, longitudinal L2 engagement research is scarce (Mercer, 2019; Sang & Hiver, 2021). This is an important missing piece in the overall understanding of L2 engagement given that L2 learning is a long and arduous journey that is unlikely to culminate in L2 attainment without long-term commitment and persistence (Mercer, 2019). That said, longitudinal L2 engagement research has gained momentum in recent years, as evidenced by the publication of several studies that track L2 learners' engagement on different timescales. For example, Dao and Sato (2021) tracked L2 learners' emotional engagement over the course of a single task and examined how fluctuation in emotional engagement was associated with their interactional behaviours. Using an experience sampling method that captured 37 dyads' emotional engagement at three 5-min intervals during a communicative task, they found that L2 learners' emotional engagement fluctuated significantly over time with stabilization toward the end of the task. Additionally, these fluctuations were associated with the amount of L2 production measured by word counts, turn counts, and the degree of collaboration, though the associations varied across the intervals.

Noels, Lascano, and Saumure (2019) tested a longitudinal model of the relationship between L2 engagement and student self-determined motivation over the course of a semester. Through latent growth curve and cross-lagged panel analyses of self-report data from 162 French-as-a-second-language learners, they found that student engagement decreased significantly over the semester, whereas their basic psychological needs and self-determined motivation increased. Moreover, it was found that the decrease in engagement was attenuated by an increase in students' self-determined motivation and that early engagement had a positive effect on mid-term self-determined motivation before the effect became reciprocal toward the end of the semester. Zhou et al. (2022) gauged 686 EFL students' engagement over a 17-week semester and found that those who had lower initial engagement experienced a greater rate of growth as the semester progressed. They also reported that changes in students' engagement and disengagement over the semester were respectively associated with changes in their satisfaction and frustration of basic psychological needs so that these psychological processes reciprocally influenced and reinforced one another over time. Finally, Sulis (2022) examined changes in L2 learner engagement over one academic year using stimulated recalls and semi-structured interviews. She discovered that the different

dimensions of L2 engagement fluctuated considerably across tasks, lessons and throughout the academic year. These fluctuations were accounted for by various factors such as self-efficacy, dynamics of the classroom, enjoyment, or task demands depending on whether engagement was measured at task, lesson, or course level.

The studies reviewed above suggested that L2 learner engagement constantly changed over different time frames whether at the level of a single task, lesson, semester, or an academic year and that these changes were associated with various psychological and contextual variables, further attesting to the dynamic, evolving, and situated nature of learner engagement. In this study, we expand on this emerging body of research by examining trajectories of L2 students' classroom engagement over a semester and identifying relevant contextual influences through the lens of the development-in-sociocultural context model of student engagement (Wang, Henry, & Degol, 2020).

2.3. Predictors of L2 engagement

The development-in-sociocultural context model is an integrative theoretical framework that synthesizes three decades of research and conceptual development of student engagement to clarify the construct and organize relevant theoretical underpinnings (Wang et al., 2019; Wang, Henry, & Degol, 2020). Implicit in this model is the context-motivation-engagement-learning cycle in which engagement plays multiple roles: a critical determinant of learning outcomes, a mediator channelling the effect of contextual influences and motivation on learning outcomes, and an academic outcome in itself. This model posits that student engagement emerges out of the "dynamic, developmental, and relational processes involving transactions across multiple ecologies". Engagement, therefore, is a developmental process shaped by both proximal psychological beliefs and the distal socio-cultural context which students find themselves in. Psychological beliefs refer to students' self-appraisals of their own experiences in the learning process that create a motivational context for decision-making as to whether to remain persistent or give up in the face of challenges. These psychological beliefs in turn are linked to students' socialization experiences in the school, family, and classroom contexts. Wang, Henry, and Degol (2020) draw from various theoretical perspectives (i.e., basic psychological needs and expectancy-value) to shed light on how psychological beliefs drive student engagement as well as synthesize empirical evidence on how the school, family, and classroom contexts inform their self-appraisals and engagement. In this study, we examine how L2 engagement develops as a function of students' expectancy-value beliefs and the classroom context. While we focus on expectancy-value theory in this study, we acknowledge that L2 studies have begun to understand L2 engagement more comprehensively from an ecological perspective through the lenses of various motivational theories such as basic psychological needs theory (Noels et al., 2019; Zhou et al., 2022; Zhou, Hiver, et al., 2023) and achievement goal theory (Jiang & Zhang, 2021).

2.3.1. Expectancy-value beliefs

Expectancy-value theory of motivation (Eccles & Wigfield, 2002) has been influential in guiding research on student engagement and academic achievement (Gladstone, Wigfield, & Eccles, 2022). According to this theory, students' performance on and engagement with academic tasks as well as their choice of which tasks to pursue are contingent on their anticipation of how well they will accomplish an upcoming task (i.e., expectancy for success) and the purposes and incentives for engaging in it (i.e., subjective task values). Since prior research has consistently found task value beliefs to be a stronger predictor of student engagement than expectancy beliefs (Rosenzweig, Wigfield, & Eccles, 2022), we only focus on students' task value beliefs in this study.

Task value beliefs refer to the perceived qualities of academic tasks and how those qualities influence students' desire to do the tasks (Eccles & Wigfield, 2020). Task value beliefs are theorized to consist of three components: attainment value, utility value, and interest value. Attainment value is the personal importance of performing well on a given task and is associated with students' identity (Rosenzweig et al., 2022). Students perceive a task to have high attainment value when they consider it to be essential to their sense of self. Utility value refers to how useful and relevant the task is to students' current and future goals and plans (Gladstone et al., 2022). For example, students might find utility value in learning English because English is an important skill in their future job. Interest value is the inherent enjoyment that students derive from doing a task (Eccles & Wigfield, 2002). That is, they engage in the task out of their own interest rather than being imposed upon by external forces. Research delving into the separate components of subjective task value beliefs and engagement or examining the two overarching constructs has found that attainment, utility, and interest value positively predict all dimensions of student engagement in maths and science (Fredricks, Hofkens, Wang, Mortenson, & Scott, 2018; Guo et al., 2016; Marchand & Gutierrez, 2017; Wang & Eccles, 2013).

In L2 learning research, Hoi (2022) found that EFL students' task value beliefs measured as an overarching construct significantly predicted their behavioural, cognitive, and affective engagement in the L2 classroom. Ghasemi and Dowlatabadi (2018) reported that L2 learners' task value beliefs positively predicted their deep learning strategies and metacognitive self-regulation - indicators of cognitive engagement. A similar predictive effect of perceived task value beliefs on L2 learner engagement was also found in Eren and Rakıcıoğlu-Söylemez (2023) study. Although there has been little research on the effect of task value beliefs on longitudinal student engagement, existing evidence in school contexts suggests that attainment and utility value are linked to long-term academic participation such as career intentions (Durik, Vida, & Eccles, 2006; Updegraff, Eccles, Barber, & O'Brien, 1996; Watt et al., 2012), whereas intrinsic value is a more robust predictor of short-term participation in academic settings such as day-to-day involvement in the classroom or during a course of learning (Durik et al., 2006; Guo et al., 2016; Watt et al., 2012). In her qualitative study on L2 learner engagement trajectories, Sulis (2022) reported that engagement fluctuations during a task and lesson were attributable to students' perceptions about topic interest and task value, but no other studies have systematically investigated the effect of perceived task value beliefs on longitudinal L2 engagement – a research gap that we aim to address in the present study.

2.3.2. L2 classroom context

The classroom is a complex, relational, and developmental environment in which students develop their social skills and academic competencies through interactions with peers, teachers, and learning activities (Hofkens & Pianta, 2022; Wang, Hofkens, & Ye, 2020). In that context, teachers are key social agents who play fundamental roles in fostering student motivation and engagement through the creation of emotionally supportive student-teacher interactions alongside their instructional strategies and behaviours (Pianta, Hamre, & Allen, 2012; Ruzek et al., 2016). Teacher emotional support comprises teachers' care, respect for and concern about students, their desire to understand students' feelings and points of view, and their interest in students' individuality (Pianta & Allen, 2008; Pianta & Hamre, 2009; Ruzek et al., 2016). In the classroom context, teacher emotional support is demonstrated through the provision of interactional processes that establish a positive emotional climate, teachers' sensitivity to students' emotional needs, and their regard for students' perspectives (Hofkens & Pianta, 2022; Pianta & Hamre, 2009). Positive emotional climate describes a classroom ambience featuring warm and caring interactions and devoid of humiliating and punitive ones. Teachers' sensitivity refers to their awareness of and responsiveness to cues about students' emotional needs and their timely provision of support. Finally, regard for students' perspectives is concerned with teachers structuring learning and interactions according to students' motivation and interest, allowing choices in learning, taking their opinions and ideas into account, and providing them with opportunities to take leadership roles.

Studies have indicated that students in classrooms where teachers created an emotionally supportive atmosphere demonstrated higher engagement (Rimm-Kaufman, Baroody, Larsen, Curby, & Abry, 2015; Ruzek et al., 2016; Wang et al., 2019; Wang & Eccles, 2013) and fewer disruptive behaviours (Patrick, Ryan, & Kaplan, 2007; Wang, Brinkworth, & Eccles, 2013). Research on L2 learner engagement has also yielded relatively robust evidence of the link between teacher emotional support and student engagement (Liu, Du, & Lu, 2023; Sadoughi & Hejazi, 2021, 2022; Sulis & Philp, 2020).

In addition to student engagement, research has also linked perceived teacher emotional support to students' motivational beliefs about task values, with task value beliefs playing a mediating role in the relationship between teacher emotional support and student engagement in some studies. For example, Wang and Eccles (2013) reported that when students perceived their teachers to be emotionally supportive, they tended to place higher value on their learning, which in turn fuelled their engagement in the classroom. A similar pattern of relationships was also observed by Tas, Subaşı, and Yerdelen (2019), who found that students perceiving stronger teacher emotional support had higher task value beliefs and subsequently higher engagement in the science classroom. Although there is a paucity of longitudinal L2 research on the role of teacher emotional support in shaping L2 learners' task value beliefs and engagement, school engagement research indicated that perceived teacher emotional support at the beginning of the school year predicted subsequent increases in students' engagement (Ruzek et al., 2016) and that teacher emotional support buffered against the decline in student subjective valuing of school (i.e., task value belief) and in student engagement from 7th to 11th grades (Wang & Eccles, 2012).

Given the research gaps identified above, the present study aims to address the following research questions:

1. To what extent does L2 classroom engagement develop over the course of a semester?
2. Do L2 learners' task value beliefs predict interindividual differences in the initial levels and growth rates of engagement over the semester?
3. Do L2 learners' task value beliefs mediate the effects of perceived teacher emotional support on interindividual differences in initial levels and growth rates of engagement over the semester?

Based on the thorough review of the pertinent literature discussed above, we hypothesize that L2 learner classroom engagement in this study show a general increase trend over the semester, consistent with Zhou et al. (2022) given the similar context of EFL learning and the similar timescales upon which longitudinal L2 engagement is examined in both studies. Furthermore, we hypothesize that all components of task value beliefs positively and significantly predict interindividual variability in both initial levels and growth rate of L2 engagement over time given the substantial evidence in cross-sectional research that supported these effects. However, we also speculate that L2 students' interest value belief would have a more salient effect than attainment and utility value beliefs, consistent with findings related to the more pronounced effect of interest value belief on shorter-term desired learning outcomes (i.e., an academic semester) (Durik et al., 2006; Guo et al., 2016; Watt et al., 2012). Finally, we hypothesize that perceived teacher emotional support has positive and significant effects on both L2 students' task value beliefs and interindividual differences in initial levels and growth rates of L2 engagement over time, considering the bulk of research evidence pointing to the benefits of emotionally supportive teaching for both students' task value beliefs and engagement.

3. Materials and methods

3.1. Context and participants

This longitudinal classroom-based study spanned the entire 15-week duration of a semester in a department of foreign languages at a university in Vietnam. Similar to other Bachelor of Arts programs in the country, the English-major undergraduate program in this department extends over four academic years (i.e., 8 semesters). Each year, the department admits approximately 350–400 new students. In 2023, there were about 700 first- and second-year students, of whom 389 students enrolled in first- and second-year English language listening courses volunteered to participate in this study.

To gain admission to the English-major bachelor's program, prospective students were required to pass the university's English

entrance examination. Furthermore, in accordance with the four-year curriculum tailored for English-major undergraduates at the institution, students were expected to attain an English proficiency level equivalent to A2 on the Common European Framework of Languages (CEFR) by the end of their first year, and a level corresponding to B1 by the end of their second year. At the time of data collection, the first-year participants were working towards the A2 listening proficiency level, and the second-year participants the B1 listening proficiency level.

Based on the typical schedule for first and second-year students, these participants received an average of 12 h of English instruction per week during the semester. Their goal was to achieve CEFR C1 proficiency or obtain an English certificate equivalent to CEFR C1 by the time of graduation. Of the 389 participants, 56 were male, reflecting a common gender distribution in Teaching English as a Foreign Language (TEFL) or English Language Studies programs in Vietnam. All participants were aged between 19 and 22, with approximately 95% falling in the 19–20 age range. Nearly 62% of the participants were in their second year of the program, one third in their first year, and the remaining 3% in their third or fourth year.

The English listening courses, from which the participants were recruited, were designed to enhance English listening skills and were conducted for 1.5 to 2 contact hours per week throughout the 15-week semester. The required course materials were aimed at the pre-intermediate levels and included resources such as 'Get ready for IELTS Listening' and 'Complete IELTS 4–5.' However, the teachers were also granted some flexibility in choosing supplementary materials from the B1 Preliminary Exam (PET) to complement their instruction.

Student assessments in these courses were based on attendance (10% of the course grade), mid-term tests (30%), and final exams (60%). It is worth noting that English was strongly encouraged as the primary medium of instruction in the classes, though Vietnamese was occasionally used. In addition to lectures on listening strategies and vocabulary instruction before listening exercises, students engaged in numerous pair and group activities during regular class sessions. They were also occasionally required to make individual presentations in English.

In general, Vietnamese learners of English have limited exposure to the target language, primarily restricted to classroom lessons and, if available, homework assignments. The amount of exposure to English can vary considerably, depending on individual students' learning attitudes and styles. While there may be a few dedicated learners who show interest in extensively reading and watching available English resources, it would be unrealistic to anticipate this level of engagement from the majority of learners. This research setting can be characterized as a typical English-as-a-foreign-language (EFL) context, where students rely heavily on classroom activities and teacher guidance to develop their English language skills and knowledge. In this particular context, the majority of the participants were found to require substantial guidance and support from their teachers.

3.2. Instruments

We used a 3-item scale adapted from Zhou and Hiver (2022) to measure L2 learner classroom engagement in this study. The items assess the three components of behavioural, cognitive, and affective engagement in the L2 classroom. A sample item is: "*Think about the different ways you can actively participate in an English class (e.g., raising your hand & asking questions; consulting your peers & instructors; paying attention to the teacher's instructions, etc.), how would you rate your level of participation in these ways during your English class?*" (Behavioral engagement).

Students' subjective task value beliefs were measured by a 6-item scale adapted from Jiang, Rosenzweig, and Gaspard (2018). Attainment value belief was gauged by two items asking them about how important English learning was for their sense of self. (e.g., *Understanding and being able to use English is very important to me.)*. Utility value belief was assessed by two items eliciting their perceptions about how useful and relevant English was for their current and future goals (e.g., *I think I will be able to use what I learn in English class in other places.)*. Finally, interest value belief was measured by two items about the extent to which they enjoyed learning English in their classroom (e.g., *I am very interested in learning English in this class)*.

Students' perceptions of teacher emotional support were elicited by an 8-item scale adapted from Wang, Hofkens, and Ye (2020). Positive climate was indexed by two items about the extent to which they felt respected and cared for by the teacher in their class (e.g., *My English teacher respects me.)*. Teacher sensitivity was assessed by three items about the extent to which the teachers were responsive to their learning and emotional needs (e.g., *My English teacher understands how I feel about things in class*). Finally, regard for student perspectives was measured by three items about the extent to which the teachers encouraged them to share ideas and perspectives freely in the classroom and how this autonomy to share was respected by the teachers (e.g., *My English teacher lets me know that if I do not agree with him/her, it is important that I express my disagreement.*)

Students rated the questionnaire items on a 5-point Likert-type scale. These items were translated into Vietnamese for ease of comprehension after a careful translation and back translation process that involved two independent translators. The refined version of the questionnaire was piloted with an intact class of 32 students and yielded acceptable reliability coefficients for engagement ($\alpha = 0.82$), utility value ($\alpha = 0.80$), attainment value ($\alpha = 0.94$), interest value ($\alpha = 0.91$), positive climate ($\alpha = 0.94$), teacher sensitivity ($\alpha = 0.87$), and regard for student perspectives ($\alpha = 0.97$).

3.3. Data collection and procedure

Participants were asked to complete an online questionnaire in class at three distinct points during the second semester of the academic year. Prior to their participation, they were provided with clear information that assured them that their responses in the questionnaire would be collected solely for research purposes and would have no impact on their ongoing or end-of-term assessments in listening or other language skills courses. The data collection spanned four months, coinciding with the length of a full semester. The

first testing session (referred to as wave 1) occurred over a 12-day period, commencing two weeks after the beginning of the second semester (from February 20 to March 2, 2023). The second session (wave 2) took place over another 12-day period, aligning with the mid-term of the semester (from March 20 to March 31). The third session (wave 3) encompassed a 3-week duration, occurring just before the final exams (from April 24 to May 15). In total, 389 students at wave 1, 294 students at wave 2, and 230 students at wave 3 completed and returned the questionnaire, representing an attrition rate of 24.4% and 16.5% between consecutive time waves. The Little's MCAR test suggested that data on the main study variables (L2 engagement, task value beliefs, and teacher emotional support) were missing completely at random ($\chi = 29.136$, DF = 21, Sig. = 0.111).

3.4. Data analysis

In this study, we aimed to 1) examine the developmental trajectories of L2 learner classroom engagement over a 15-week semester; 2) test whether L2 learners' attainment, utility, and interest value measured at the beginning of the semester predicted changes in L2 classroom engagement over the course of the semester; and 3) whether students' perceived teacher emotional support measured at the start of the semester predicted changes in L2 classroom engagement via their task value beliefs.

Prior to the main analyses, we conducted confirmatory factor analyses to examine the psychometric properties of the teacher emotional support and task value beliefs scales and to evaluate the longitudinal measurement invariance of the L2 classroom engagement scale. Longitudinal measurement invariance is an important assumption in the analysis of repeatedly measured constructs (i.e., LGCMs) because the interpretation of change patterns is only meaningful to the extent that the measurement scales carry the same properties and meaning across different measurement time points, and thus responses to the repeated measures reflect true changes in the construct over time rather than changes in the instrument properties (Byrne, 2016; Liu et al., 2017). We tested the assumption of longitudinal measurement invariance of the L2 classroom engagement scale by comparing the fit of four systematically and sequentially constrained models: a baseline model with all parameters freely estimated (configural model), a weak invariance model with all factor loadings constrained (metric model), a strong invariance model with all factor loadings and indicator means constrained (scalar model), and a strict invariance model with factor loadings, means, and residual variances constrained across all three time points (residual model) (Wickrama, Lee, O'Neal, & Lorenz, 2021). Thompson and Green (2006) suggested that strict invariance is ideal but might be unattainable in practice. Therefore, meeting the strong invariance assumption should be sufficient for the meaningful interpretation of the longitudinal parameter estimates.

To address the first research aim, we performed an unconditional latent growth curve model (LGCM) – a longitudinal statistical modelling approach that allows for the estimation of inter-individual differences and intra-individual patterns of change over time (Burant, 2016; Zhou, Yang, & Hiver, 2023 b). LGCM is a flexible modelling approach that can discern whether the growth trajectories of an attribute are flat (i.e., no change), decreasing or increasing over time, and linear or curvilinear (i.e., fluctuate) (Curran, Obeidat, & Losardo, 2010). Since L2 engagement in this study was measured over three time points during the 15-week period, we fit a linear LGCM. The unconditional linear LGCM assumed that changes in L2 learner classroom engagement during the semester was captured by an unobservable growth trajectory. This growth trajectory was modelled as two latent factors: an intercept that represented students' initial level of L2 engagement at the beginning of the semester and a slope that represented intraindividual changes in L2 engagement over time. These two factors were indexed by three observed indicators, namely, the aggregated scores of L2 engagement at the three time points. Adhering to the default specifications of the linear LGCM, all factor loadings of the intercept were fixed at 1, whereas factor loadings of the slope were fixed at 0, 1, and 2 respectively (Wickrama et al., 2021). In addition to the estimation of the fixed effects of intercept and slope means, the LGCM also estimated two random effects: 1) the intercept and slope variance which indicate whether there are interindividual differences in the initial level and rate of growth of L2 classroom engagement and 2) the intercept and slope covariance which estimate whether the interindividual differences in the initial level are associated with the interindividual differences in the rate of growth over time. A significant intercept or slope variance suggests that students do not start off at the same level of engagement, nor do they follow the same rate of engagement growth over time. Some students might show higher level of engagement at the beginning of the semester and higher growth rate over time than others. A positive significant intercept and slope covariance suggests that students who show higher engagement initially are likely to also show higher increase in engagement over time. It is, therefore, important to examine what accounts for such interindividual differences in both students' initial engagement and rate of growth over time – the focus of the second and third research questions.

To address the second and third research aims, we ran two conditional LGCMs. The first model incorporated the participants' task value beliefs measured at the beginning of the semester as a time-invariant covariate to test whether the interindividual differences in the initial level and growth rate of L2 engagement could be explained by the extent to which students attached values to L2 learning. We also controlled for students' gender and year level by including these two time-invariant variables as predictors in the model. The second model added perceived teacher emotional support as a contextual variable that indirectly predicted interindividual differences in the L2 engagement initial level and growth rate via students' task value beliefs.

We performed all LGCM analyses using Mplus version 7.11 with the robust maximum likelihood estimator. Missing data were handled by the full information maximum likelihood estimation method which has been found to result in unbiased parameter estimates even in the presence of high missing data (e.g., 50%) and under missing-at-random assumptions, compared to the more computationally intensive multiple imputation procedures (Ender, 2010). Model fit was assessed by common goodness-of-fit indices including the comparative fit index (CFI), the root mean square error of approximation (RMSEA) and the standardised root mean square residuals (SRMR). Acceptable and excellent model fit were respectively flagged by values > 0.90 and 0.95 for CFI and values $<$ 0.08 and 0.05 for RMSEA and SRMR. When we compared the fit of nested models in longitudinal measurement invariance testing, we relied on changes in the value of comparative fit index (ΔCFI) and root mean square error of approximation (ΔRMSEA). Changes

exceeding 0.01 in ΔCFI and 0.015 in ΔRMSEA indicate that models with more parameter constraints significantly reduce model fit and thus should be rejected (Cheung & Rensvold, 2002).

4. Results

In this section, we present the results of the data analyses in four steps: the validity of the measurement scales, unconditional LGCM, conditional LGCM1 with task value beliefs as predictor of changes in L2 classroom engagement, and conditional LGCM2 with teacher emotional support as predictor of both task value beliefs and changes in L2 classroom engagement.

4.1. Preliminary analyses

The means, standard deviations and correlations among the study constructs are presented in Appendix 1. Overall, all correlations were statistically significant except for the correlation between attainment value and engagement at time 1. Students reported high average levels of all the studied variables ranging from 4.12 to 4.67. Confirmatory factor analysis yielded adequate fit for the 3-factor task value belief ($\chi 2$ (df) = 16.969 (6), $p = 0.009$; CFI = 0.991; TLI = 0.978; SRMR = 0.024; RMSEA = 0.069) and the 3-factor teacher emotional support models ($\chi 2$ (df) = 47.324 (16), $p = < 0.001$; CFI = 0.982; TLI = 0.969; SRMR = 0.029; RMSEA = 0.071). All the factor loadings (see Appendix 2) were strong, ranging from 0.53 to 0.91, and statistically significant with no instances of Heywood cases (negative variance or correlations exceeding 1).

The longitudinal measurement invariance of the L2 classroom engagement scale was tested by progressively constraining parameters in the nested models. Changes in the CFI and RMSEA values of the metric, scalar, and residual models compared to the configural model can be found in Appendix 2. Accordingly, constraining the factor loadings in the metric invariance model did not significantly reduce its fit compared to the configural model (ΔCFI = 0.00; ΔRMSEA = 0.00). When the factor loadings and the indicator means were constrained in the scalar invariance model, the reduction in fit of the model remained trivial (ΔCFI = 0.00; ΔRMSEA = 0.00). However, constraining all the factor loadings, means, and residuals in the residual invariance model resulted in a noticeable reduction in model fit (ΔCFI = 0.003; ΔRMSEA = 0.016). Taken together, the longitudinal measurement invariance tests supported the strong invariance of the L2 classroom engagement scale, allowing for a meaningful interpretation of changes in the L2 classroom engagement over time.

4.2. Unconditional LGCM

The unconditional LGCM tested the initial level and growth trajectory of students' L2 classroom engagement over the semester (see Fig. 1). This model yielded acceptable fit indices except for the RMSEA value ($\chi 2$ (df) = 7.843 (1), $p = 0.005$; CFI = 0.979; TLI = 0.937; RMSEA = 0.133; SRMR = 0.027). The RMSEA value exceeded the recommended threshold for acceptable model fit; however, since the RMSEA tends to over-reject correctly specified LGCMs with small degrees of freedom (Kenny, Kaniskan, & McCoach, 2015), the L2 classroom engagement LGCM is deemed acceptable given the adequate values of the other fit indices.

Table 1 shows the growth parameters of the LGCM. The mean of the intercept was positive and significantly different from zero, as was the mean of the slope, suggesting a linear growing trend of L2 classroom engagement over the semester. The intercept variance was significant, suggesting the presence of interindividual differences in the initial level of L2 engagement: some students had high levels of engagement, others had low levels, and still others had engagement levels around the mean value at the beginning of the semester. However, the slope variance was not significant, nor was the covariance between the intercept and slope. While this finding was indicative of intraindividual non-variability in the growth rate of L2 engagement, it might also point to the low power of the Wald test in detecting the slope variance in Mplus when only three time points of measurement were included in the model (Hertzog, von Oertzen, Ghisletta, & Lindenberger, 2008). Including covariates in the model might potentially increase power and more effectively tease out the variance in the slope (Burns et al., 2019). It is suggested, therefore, that researchers examine the longitudinal covariance

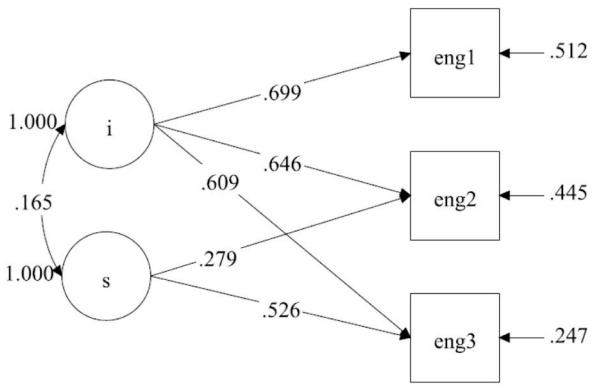

Fig. 1. The unconditional LGCM (standardized estimates).

Table 1
Growth parameters of the L2 engagement LGCM.

	Estimate	S.E.	C.R.	*p*
ICEPT mean	7.816	0.063	124.459	<0.001
ICEPT variance	0.807	0.149	5.421	<0.001
SLOPE mean	0.096	0.036	2.666	<0.01
SLOPE variance	0.150	0.078	1.917	= 0.055
ICEPT <–> SLOPE	0.058	0.082	0.707	= 0.480

patterns of the focal variable (Wickrama et al., 2021). A positive variance value derived from the formula: ($\sigma_{12} + \sigma_{23}$ - $2\sigma_{13}$)/2 indicates significant slope variance, which was the case in this data (0.489 + .629 - 0.972)/2 = 0.073). The analysis, therefore, proceeded with the examination of what accounted for the interindividual differences in the intercept and slope factors.

4.3. Conditional LGCM1

The conditional LGCM1 tested whether task value beliefs (i.e., attainment, utility, and interest value) accounted for the interindividual differences in the initial level and changes in L2 classroom engagement over time (Fig. 2).

The conditional LGCM1 fitted the data well ($\chi 2$ (df) = 20.202 (6), $p = 0.003$; CFI = 0.970; TLI = 0.909; RMSEA = 0.078; SRMR = 0.018). Out of the three task value components, only interest value positively and significantly predicted engagement intercept (Est. = 0.490, S.E. = 0.098, C.R. = 5.022, $p < 0.001$) and slope (Est. = 0.191, S.E. = 0.058, C.R. = 3.299, $p = 0.001$). This suggested that those students who had higher interest value at the beginning of the term tended to have higher initial engagement level and greater rate of growth for their engagement throughout the semester.

4.4. The conditional LGCM2

The conditional LGCM2 incorporated perceived teacher emotional support as a contextual variable predicting both task value beliefs and L2 classroom engagement intercept and slope (Fig. 3). Since interest value was the only significant predictor of L2 classroom engagement intercept and slope in the conditional LGCM1, attainment value and utility value were excluded from the LGCM2. This model achieved excellent fit to the data ($\chi 2$ (df) = 17.608 (9), $p = 0.040$; CFI = 0.986; TLI = 0.960; RMSEA = 0.050; SRMR = 0.025). Among the three components of teacher emotional support, only teacher sensitivity was positively and significantly associated with interest value (Est. = 0.638, S.E. = 0.103, C.R. = 6.164, $p < 0.001$). Teacher sensitivity also had a positive and significant effect on engagement slope (Est. = 0.408, S.E. = 0.113, C.R. = 3.607, $p < 0.001$) but not engagement intercept (Est. = −0.153, S.E. = 0.194, C.R. = −0.790, $p = 0.430$). Interest value remained a strong predictor of engagement intercept (Est. = 0.393, S.E. = 0.091, C.R. = 4.319, $p < 0.001$) and slope (Est. = 0.135, S.E. = 0.053, C.R. = 2.527, $p = 0.011$). Taken together, interest value fully mediated the effect of teacher sensitivity on the initial level of engagement and partially mediated the effect of teacher sensitivity on changes in engagement over time. Neither perceived emotional climate nor teacher's regard for student perspective predicted task value beliefs and engagement growth.

5. Discussion

This study contributes to the L2 engagement scholarship by shedding light on the developmental trajectories of L2 classroom

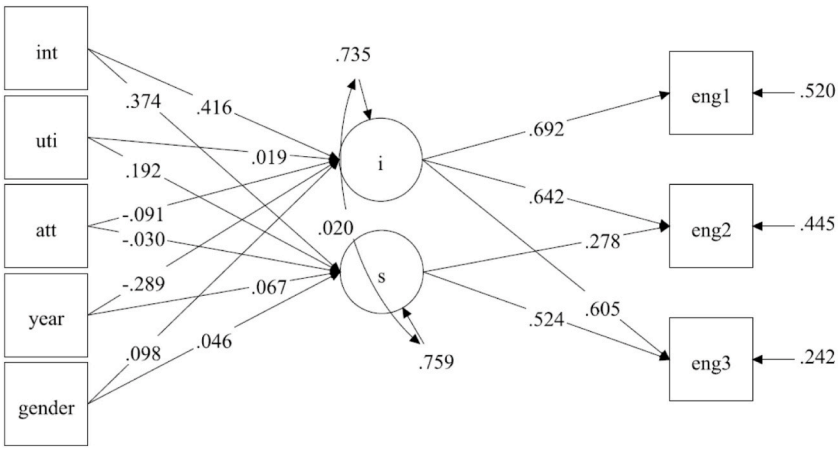

Fig. 2. The conditional LGCM1 (standardized parameters).

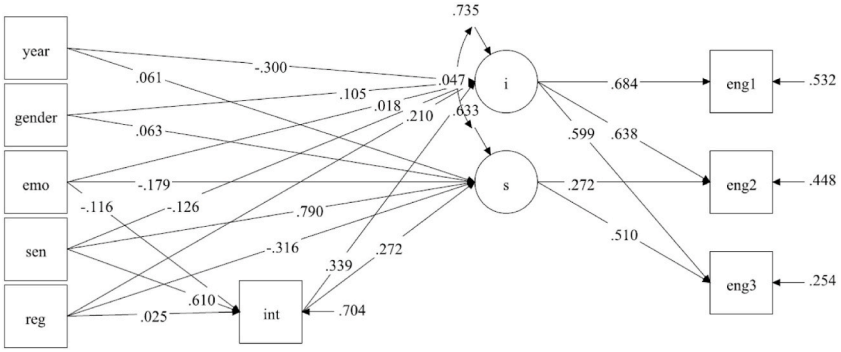

Fig. 3. The conditional LGCM2 (standardized estimates).

engagement over an academic semester and the motivational and contextual predictors of such developmental patterns. The study produces unique findings that not only enrich theoretical understanding of L2 engagement but also offer new insights into how L2 engagement research could be further extended to meaningfully inform classroom instructional practices and teacher behaviors for the sake of enhancing L2 students' classroom engagement.

5.1. Findings related to the unconditional LGCM (research question 1)

Engaging L2 learners in the classroom is important, but sustaining and enhancing their engagement over time is even more crucial for their language learning success. The results of this study show that the L2 students in this study generally exhibited an upward trend in their classroom engagement over the course of a 15-week semester. This finding seems to be at odds with engagement research in school contexts documenting a well-established declining trend in engagement throughout the adolescent years (Salmela-Aro et al., 2021). In L2 learning research, this finding is consistent with Zhou et al. (2022), who detected increases in classroom engagement over a semester among first- and second-year students enrolled in general-purpose L2 English courses at two universities in China, but contradicted Noels et al. (2019) finding about a general decline in engagement among first- and second-year students enrolled in French courses at a Canadian university. These inconsistencies in L2 engagement trajectories were further complicated by findings from Dao and Sato (2021) and Sulis (2022), who reported on considerable variations in L2 engagement trajectories across task, lessons, and over an academic year. Although this finding adds further complexity to the emerging body of research on longitudinal L2 engagement, it provides empirical evidence that attests to the dynamic, evolving, context- and domain-specific nature of L2 engagement. Accordingly, L2 engagement varies across short-term (tasks, lessons), mid-term (semester), and long-term timeframes (academic year), and across languages (French versus English) or academic disciplines (non-language versus language majors), though these latter findings would need further empirical support in future studies. In this respect, we tend to concur with Zhou et al. (2022) in attributing L2 students' general increase in engagement over the semester to the dynamic and evolving contextual conditions in the classroom that might shape their learning behaviors over time. As the semester proceeds, students might become more familiar with the second language learning process, better understand the course requirements and expectations, gradually build up their relationship with peers and teachers, and develop an overall orientation toward assessment and exam outcomes, particularly toward the end of the semester. These L2 classroom experiences and how they are interpreted might provide students with a self-appraisal mechanism through which they view themselves as capable individuals, as active members in the classroom, and as autonomous learners who take charge of their own learning process to achieve desired learning outcomes, thus further reinforcing their engagement over time (Wang, Hofkens, & Ye, 2020). In addition, the significant slope variance suggests that although L2 students in this study showed a general increment in their engagement over the semester, not all students experienced the same rate of growth. Some students showed higher rate of growth likely owing to their ability to adapt more quickly to the new learning environment, new relationships, and new learning process while others showed lower rate of growth arguably because of their slower adaptation process.

Despite this general increase in L2 engagement over time, we found no significant covariance between students' engagement at the beginning of the semester and their rate of growth in engagement over time. That is, students who showed higher engagement at the beginning did not necessarily experience stronger increase in their engagement over the semester, compared to other students. This finding suggests that inter-individual differences in students' engagement growth might not be associated with their relative standing on the initial engagement level. Instead, there were potentially other contextual variables that might better account for interindividual variance in both initial status and rate of growth in L2 engagement – a discussion to which we now turn.

5.2. Findings related to the conditional LGCM1 (research question 2)

Since L2 students in this study showed significant variation in both their initial level and growth rate of engagement, it is desirable to identify contextual and personal variables that explain such variation. Previous research identified various task-level (e.g., task familiarity, task relevance, and task difficulty), classroom-level (e.g., teacher support and peer relatedness), and personal variables (e.g., students' basic psychological needs and self-determined motivation) that could shape L2 long-term engagement. This study

proposed and tested whether L2 students' task value beliefs – a personal variable – determined the extent to which students differed from each other in their initial engagement and rate of growth. Although cross-sectional research has provided empirical evidence in support of the predictive effect of all dimensions of task value beliefs (i.e., attainment, utility, and interest value) on L2 learner engagement (Eren & Rakıcıoğlu-Söylemez, 2023; Ghasemi & Dowlatabadi, 2018; Hoi, 2022), the present study found that it was L2 students' interest value rather than attainment or utility value that positively predicted interindividual differences in initial engagement and rate of growth. As such, L2 students who enjoyed L2 learning and participate in the L2 learning process out of their own interest (rather than being imposed upon by external influences) not only showed higher engagement initially but also experienced stronger increase in their engagement over the semester, compared to other students. This finding is important and informative given the absence of research on the effect of students' task value beliefs on longitudinal L2 engagement. The finding, however, is consistent with research on task value beliefs in school contexts that has shown attainment and utility value to be stronger predictors of long-term academic participation such as career intention and course-taking decisions (Durik et al., 2006; Watt et al., 2012) but interest value to be more predictive of day-to-day participation such as engagement, involvement, and expedition of efforts in classes (Guo et al., 2016; Watt et al., 2012). On a timescale of a 15-week semester, students' involvement in L2 learning is punctuated by clearly demarcated class schedules, during which they interact with the same learning contents, peers, and teachers, and are involved in the same workload and assessment practices. The ability to maintain and uphold their engagement during this period is more likely to be influenced by the pure interest they develop out of these immediate interactions within the classroom rather than by how well they develop their identity (i.e., attainment value) and perceived usefulness or relevance of L2 learning to their future goals (i.e., utility value) - qualities that require more extensive involvement and experience with the learning process over extended periods of time to change (Eccles, 2009; Rosenzweig et al., 2022). An alternative explanation for the null effect of attainment and utility value could be the very nature of the learning materials and instructional approaches the participants in this study engaged with. As pointed out in previous research in a similar context (Hoi, 2017, 2022), an exam-oriented approach to instructional strategies, coupled with a heavy reliance on learning materials imported from the West with little adaptation to suit the specific context of study, might have made it difficult for students to connect what they were learning in the class with life outside or their future goals (i.e., utility value). In addition, limited opportunities for authentic English communication beyond the classroom might have deterred the development of L2 learners' language identity and a clear understanding of how important the language was for their sense of self (i.e., attainment value).

The finding that interest value was a strong predictor of interindividual differences in the initial level and changes in L2 classroom engagement during the semester adds to the knowledge base of L2 engagement in meaningful ways by highlighting contextual factors that become more prominent in a specific context and within a specific timeframe, and thus deserve serious attention in course and lesson design (Hiver et al., 2020). For example, emotion is a salient psychological factor that is significantly associated with the amount of language production (i.e., cognitive engagement) and collaboration (i.e., social engagement) at the task level (Dao & Sato, 2021). Therefore, an important consideration in task design is how to arouse students' positive emotions and reduce negative affect during task completion to harness the potential of tasks for L2 engagement and learning. On the other hand, at the classroom level examined in this study, interest value is a prominent factor because it sustains L2 engagement over time. As such, efforts to nurture interest value should include considerations about what types of learning activities are enjoyable for learners, how patterns of interaction should be sequenced to arouse students' interest, and what teacher behaviors or practices might help stimulate interest value (Gaspard et al., 2015; Linnenbrink-Garcia et al., 2018) – the latter of which is the focus of the last step of data analysis in this study.

5.3. Findings related to the conditional LGCM2 (research question 3)

Among the three components of teacher emotional support, only teacher sensitivity positively predicted student's interest value and interindividual variation in engagement rate of growth. More specifically, L2 students who perceived their teachers as responsive to cues about their emotional needs exhibited higher interest value, which in turn led to higher engagement over time, compared to other students. This finding is theoretically plausible and empirically supported given that both teacher sensitivity and interest value pertain to students' individual affective reactions to their learning experience in the classroom. Interest value shares characteristics with intrinsic motivation (Gladstone et al., 2022) and describes students' emotional attachment to a specific subject or task, and therefore is inherently driven by enjoyment and interest (Dietrich, Dicke, Kracke, & Noack, 2015). Teacher sensitivity, as conceptualized by Pianta and Hamre (2009), "encompasses teachers' responsivity to and awareness of students' level of academic and emotional functioning" (p.57). Existing empirical evidence suggests that when teachers accurately read students' emotions such as fear, sadness, or frustration and realize that students are struggling with their learning and understanding, they are more likely to react appropriately and tailor their instructional strategies in ways that buffer against negative emotions (e.g., anxiety and boredom) and buttress positive ones such as enjoyment (Aldrup, Klusmann, & Lüdtke, 2020; Jennings & Greenberg, 2009; Nurmi et al., 2013; Strati, Schmidt, & Maier, 2017). As was found in this study, the emotional closeness and safety established as a result of high perceived teacher sensitivity not only reinforced students' interest value but also contributed to growth in L2 classroom engagement over the semester. Perceived teacher sensitivity, however, was found to only predict variation in students' initial engagement indirectly via interest value. A plausible explanation could be that students need some time during the initial weeks of the semester to gain better understanding of and establish positive relationships with other social partners in the classroom including teachers. Only those who inherently enjoyed L2 learning and thus attached high interest value to L2 learning activities from the beginning were able to channel the effect of teacher sensitivity and responsiveness on their initial engagement by showing curiosity, asking questions, and constantly exhibiting help-seeking behaviors. Although not directly tested in this study, we speculate that it is students' interest value that serves as a stimulus for the bi-directional, reciprocal relationship between teacher sensitivity and L2 student engagement over time: those who consider L2 learning as more enjoyable initially are more likely to engage in the L2 learning process by showing curiosity, asking

questions, and seeking help, which stimulates teacher responsiveness and timely support, which in turn further consolidates students' interest and engagement over time. Therefore, we task future engagement researchers with a more systematic, well-designed examination of this potential bi-directional process.

Although we are not able to explain the null effects of teachers' regard for student perspectives and perceived emotional climate on both the variance of interest value and student engagement based on empirical evidence in the international literature, we tend to attribute these findings to the cultural elements and the very nature of L2 engagement examined in this study. First, this study was conducted in Vietnam – a country where Confucian values have been deeply rooted in the educational foundations for years. Confucianism places values on moral development and behavior, compelling individuals to adhere to group norms that exemplify both benevolence and altruism (Schenck, 2023). Following the Confucian cultural norms, teacher and student relationships in the classroom are characterized as hierarchical, where teachers hold the dominant position and serve as "sage on the stage" while students are the passive receivers of knowledge, unwilling to take on autonomous roles in the classroom, to express opinions, or to challenge teachers' viewpoints (Kim, 2013). For these reasons, it might be that being allowed choices in learning, taking leadership roles, and having opportunities to express own opinions – indicators of teachers' regard for student perspectives - were not positively endorsed by the study participants. Second, of the three teacher emotional support components examined in this study, perceived emotional climate refers generally to the affective atmosphere in the classroom as afforded by the teachers rather than to the affective aspects associated with specific language learning activities or language learning problems. However, it should be noted that engagement always has an object (Hiver et al., 2021b). In language learning, the object is language, hence student engagement should be discussed in the context of language learning, language interaction, and language use (Svalberg, 2009). Therefore, providing affective affordances to promote the positive classroom emotional climate without relating those affordances to the language and the language learning process per se might not produce the corresponding affective reactions on the part of the learners.

6. Limitations and future directions

While our findings contribute to a richer understanding of longitudinal L2 classroom engagement, there remains several limitations that could be addressed in future replication attempts. First, this study has not examined the longitudinal reciprocal relationship between L2 engagement and task value beliefs or teacher emotional support. Recent developments in both theory and research on L2 engagement have suggested that the relationship between engagement and personal/contextual variables can be described as a reciprocal feedback loop in which engagement not only is shaped by but also exert influence on the context in which learning takes place. Therefore, exploring only the unidirectional path from personal/contextual factors to engagement might have obscured the dynamic and complex nature of L2 classroom engagement. Future studies can address this limitation by investigating both the autoregressive and cross-lagged effects of engagement on personal/contextual variables through the use of cross-lagged panel models. Second, students' task value beliefs and their perceptions of teacher emotional support were treated as time-invariant covariates in this study. However, it should be noted that such perceptions/beliefs are dynamic and evolving themselves. Task value beliefs and perceived teacher emotional support can fluctuate over time and in tandem with fluctuations in L2 engagement. Future studies might need to take this aspect into account by investigating the parallel growth processes of both L2 engagement and task value beliefs and/or teacher emotional support to gain deeper insights into the nature of L2 engagement and relevant classroom processes.

CRediT authorship contribution statement

Hoi Vo: Writing – review & editing, Writing – original draft, Visualization, Validation, Software, Resources, Methodology, Investigation, Formal analysis, Conceptualization. **Thi Thu Hien Hoang:** Writing – review & editing, Writing – original draft, Data curation, Conceptualization. **Guangwei Hu:** Writing – review & editing, Writing – original draft, Visualization, Supervision.

Declaration of competing interest

The authors declare no competing interests related to the manuscript.

Appendix 1. Descriptive statistics

	1	2	3	4	5	6	7	8	9
1. T1 engagement	1								
2. T2 engagement	0.465**	1							
3. T3 engagement	0.469**	0.604**	1						
4. Attainment	0.076	0.244**	0.281**	1					
5. Utility	0.132**	0.215**	0.317**	0.765**	1				
6. Interest	0.255**	0.377**	0.469**	0.591**	0.569**	1			
7. Emotional climate	0.134**	0.189**	0.264**	0.485**	0.482**	0.391**	1		
8. Teacher Sensitivity	0.164**	0.291**	0.384**	0.493**	0.508**	0.539**	0.799**	1	
9. Regard	0.179**	0.264**	0.327**	0.455**	0.508**	0.474**	0.767**	0.882**	1
Mean	4.159	4.126	4.234	4.771	4.679	4.447	4.542	4.403	4.402
SD	0.610	0.650	0.688	0.567	0.564	0.758	0.714	0.725	0.735

Note: ** Correlations significant at $p < 0.01$.

Appendix 2. Standardized factor loadings for the scales

Construct	Item	Factor loading (β)	Significant value
Task value belief			
Attainment value	Attainment 1	0.88	$p < 0.001$
	Attainment 2	0.87	$p < 0.001$
Utility value	Utility 1	0.53	$p < 0.001$
	Utility 2	0.85	$p < 0.001$
Interest value	Interest 1	0.89	$p < 0.001$
	Interest 2	0.91	$p < 0.001$
Teacher emotional support			
Emotional climate	Emotional 1	0.64	$p < 0.001$
	Emotional 2	0.79	$p < 0.001$
Sensitivity	Sensitivity 1	0.87	$p < 0.001$
	Sensitivity 2	0.61	$p < 0.001$
	Sensitivity 3	0.75	$p < 0.001$
Regards for students	Regards 1	0.82	$p < 0.001$
	Regards 2	0.90	$p < 0.001$
	Regards 3	0.77	$p < 0.001$

Appendix 3. Longitudinal measurement invariance of L2 classroom engagement

	CFI	ΔCFI	RMSEA	ΔRMSEA
Baseline model	1.00		0.00	
Weak invariance model	1.00	0.00	0.00	0.00
Strong invariance model	1.00	0.00	0.00	0.00
Strict invariance model	0.997	0.003	0.016	0.016

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