

Topic Interest and Engagement in Indonesian Primary EFL Classrooms: Cognitive, Behavioural, and Motivational Links

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Abstract—This study examined the relationship between topic interest and cognitive, behavioural, and motivational engagement among Indonesian primary EFL learners and whether this relationship strengthens across instructional cycles. Using a five-cycle mixed-methods longitudinal design (101 learners per cycle), we combined cycle-wise Spearman correlations, repeated-measures correlations (rmcorr) to capture within-student coupling, and linear mixed-effects models with person-mean centring to test change over time. Brief observations and student/teacher interviews provided explanatory vignettes. Cycle-wise associations ranged from moderate to very strong, and rmcorr indicated large within-student coupling between interest and each engagement strand ($r_{rm} \approx .80-.88$, $p < .001$). Mixed-effects models revealed robust positive effects of interest on all outcomes, as well as significant interactions between interest and cycle, indicating that the payoff of interest increased throughout the semester. Qualitative episodes illustrated mechanisms—topical resonance, clear criteria and rehearsal, and bounded autonomy—that converted value into strategy use, participation, and persistence. Findings position topic interest as a high-leverage, classroom-proximal target for primary EFL; curating resonant themes, making progress visible and manageable, and embedding minor choice points are low-cost moves that make engagement more likely and more durable over a semester.

Index Terms—topic interest, primary EFL learner engagement, mixed-methods, repeated-measures correlation, linear mixed-effects models

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I. INTRODUCTION

In primary English-as-a-foreign-language (EFL) classrooms, engagement depends not only on exposure and practice but also on whether the lesson content connects with what pupils find meaningful. Topic interest—how engaging, relevant, or enjoyable content appears—can catalyse attention, curiosity, and effort in ways that routine coverage often does not (Renninger & Hidi, 2016; Wahyuni et al., 2025a). In Indonesia, primary EFL is commonly delivered as “muatan lokal” (local content) using standard syllabi and teacher-assembled materials. While this arrangement affords flexibility, it also places a heavy burden of curation that can misalign topics with children’s lived interests (Zein, 2017a). Addressing topic interest is therefore a pragmatic lever: it can be shaped within existing curricular structures and daily routines, with the potential to energise participation and sustain the engagement that schools aim to cultivate (Wahyuni et al., 2025b, 2025c).

This study is grounded in three complementary strands of research. *First*, interest development conceptualises interest as a growing relation between a person and content, progressing from triggered and maintained situational interest to emerging and well-developed individual interest (Renninger & Hidi, 2016). As interest develops, learners devote more attention, connect new material to prior knowledge, and persist through difficulty. *Second*, student engagement research—especially the tripartite model of Fredricks et al. (2004)—distinguishes cognitive, behavioural, and affective/motivational dimensions; later syntheses show that engagement is malleable and responsive to task design, relevance cues, and classroom climate (Fredricks et al., 2016). Treating topic interest as a proximal antecedent explains how lesson content can “switch on” cognitive strategies, visible participation, and persistence, particularly for young learners. *Third*, contemporary L2 motivation accounts highlight future-oriented selves and sustained effort; meaningful, self-concordant tasks maintain engagement over time, linking classroom episodes to longer-term trajectories (Dörnyei & Henry, 2022).

Despite this theoretical clarity, several issues persist in Indonesian primary EFL. Empirically, topic interest is often subsumed under broader motivation, obscuring its distinctive contribution as an antecedent to cognitive, behavioural, and motivational engagement (Wahyuni et al., 2025a, 2025c). Conceptually, its operation at the level of everyday lesson content remains under-specified, even though small choices about themes, examples, and task formats may cumulatively shape climates of curiosity and participation (Fredricks et al., 2016; Renninger & Hidi, 2016). Practically, teachers and school leaders need actionable levers that are compatible with existing curricula; yet, research is rarely translated into concrete, topic-level decisions about materials, scaffolding, and autonomy-supportive routines that are feasible in busy classrooms (Zein, 2017a, 2017b). These gaps motivate a focused analysis that centres topic interest as a malleable, classroom-proximal driver of engagement in Indonesian primary EFL.

The present study makes four contributions. *First*, it foregrounds topic interest—rather than treating it as background context—clarifying its status as an antecedent to cognitive, behavioural, and motivational engagement (Renninger & Hidi, 2022). *Second*, it adopts a classroom-embedded, developmental lens, recognising that interest and engagement unfold across the rhythms of a school term and can be shaped by topic selection, task design, and autonomy supports appropriate to young learners. *Third*, it bridges theory and practice by translating interest–engagement principles into decisions that teachers can enact—curating resonant topics, layering scaffolds, and inviting bounded autonomy (Fredricks et al., 2016). *Fourth*, it situates these micro-level choices within contemporary L2 motivation accounts that emphasise persistence and self-relevance, linking day-to-day design with broader motivational trajectories (Dörnyei & Henry, 2022).

Guided by this background and framing, the study asks: (1) How is topic interest related to cognitive, behavioural, and motivational engagement in Indonesian primary EFL classrooms? (2) How do these relations change across instructional cycles over a semester as topics and supports evolve? (3) How do routine classroom practices—especially topic selection, scaffolding, and autonomy support—activate and sustain topic interest and engagement? Together, these questions aim to specify a coherent, practical pathway from topic choices, through classroom processes, to engagement dynamics that is theoretically grounded yet workable within existing policy and curricular constraints.

A. Leveraging Topic Interest in Primary EFL Classrooms

Topic interest—the value learners attach to lesson content—acts as a lever for mobilising engagement in primary EFL. The four-phase model of interest development explains how situational interest, triggered and maintained across short episodes, can develop into emerging and well-developed individual interests through repeated meaningful encounters, marked by attention, persistence, and self-initiated strategy use (Renninger & Hidi, 2016). Appealing topics provide an initial motivational boost, but the spark fades unless instruction re-signals their value, making topic choice a key design variable. In CLIL, subject matter that matters to learners supports tolerance of higher linguistic load, extended task engagement, and extra effort to express ideas (Coyle et al., 2010). Micro-studies show that curiosity scaffolds—co-authored prompts, picture sequences, and branching choices—help sustain attention as complexity rises (Ainley, 2012; Ainley & Hidi, 2014). Value raises the payoff of effort and tolerance for ambiguity, whereas novelty without links to children’s concerns yields only brief arousal.

Motivational frameworks clarify the rationale behind. Self-determination theory predicts that contexts that support autonomy, competence, and relatedness sustain intrinsic motivation (Ryan & Deci, 2018). Interest-aligned topics afford meaningful choice (autonomy), optimally challenging work (competence), and socially recognised concerns

(relatedness). Small decisions—between two themes, response modes, or project foci—are sufficient for ownership while preserving coherence (Renninger & Hidi, 2016). Contemporary L2 motivation syntheses argue that self-concordant tasks maintain effort over a school term (Dörnyei & Henry, 2022; Hiver et al., 2021). Classroom emotion research suggests that foreign language enjoyment increases when teaching is supportive and the content is meaningful, while anxiety is mitigated (Dewaele et al., 2023a, 2023b; Wahyuni et al., 2025c). Read together, topic interest is a reliable upstream condition for affective and cognitive engagement.

The Indonesian context heightens salience. With English positioned as local content, instruction often relies on teacher-assembled materials and uneven guidance (Zein, 2017a, 2017b), which risks misalignment between mandated content and children's interests. Recent Indonesian work treats situational interest as a feasible entry point within constraints, drawing on local culture and child-centred experiences to make value visible (Wahyuni & Tan, 2024; Wahyuni et al., 2025a, 2025b). Interest-forward curation raises participation and opens space for strategy modelling and metalinguistic noticing.

Methodologically, operationalisations sometimes blur the distinction between value, enjoyment, and novelty; rely on single-item proxies; or covary with interactional changes, complicating attribution. Many demonstrations are short-cycle. These issues motivate designs that keep topic interest analytically distinct, track relations across lessons, and attend to co-varying features. The stance here is to treat topic selection as its own design variable and examine how interest relates to affective/motivational and cognitive engagement over cycles.

Finally, interest is not “free.” Under tight constraints, teachers may lack readily available materials; yet, low-cost levers—such as learner-contributed artefacts, locally sourced images, and brief two-option choice architectures—can make autonomy and value perceptible, especially when paired with tasks that require explanation, inference, or perspective-taking. The defensible position is not that interest cures all, but that it is a high-leverage starting point for orchestrating the emotion–cognition conditions under which primary learners invest effort.

In sum, the literature justifies centring topic interest as a malleable, near-task antecedent to engagement and identifies conditions for durability: re-signalled value, miniature genuine choices, and thinking-visible tasks—a synthesis consistent with theory (Dörnyei & Henry, 2022; Renninger & Hidi, 2016; Ryan & Deci, 2018) and evidence from international and Indonesian settings (e.g., Ainley, 2012; Dewaele et al., 2023a, 2023b; Wahyuni et al., 2025a, 2025c; Zein, 2017a).

B. Cognitive-Affective Engagement in Primary EFL Learning

Engagement explains why some lessons elicit sustained effort while others fade. The tripartite account distinguishes behavioural, affective/motivational, and cognitive strands (Fredricks et al., 2004), with later syntheses refining definitions and emphasising malleability to design and climate (Fredricks et al., 2016). In primary EFL, the closest companions to topic interest are the affective/motivational and cognitive strands, which together determine whether learners feel inclined to invest and whether they can invest effort strategically.

On the cognitive side, engagement entails sustained attention, strategy use, goal monitoring, and metacognition. Across primary L2 contexts, tasks that require explanation, inference, and perspective-taking prompt deeper processing than recognition-level activities, especially when learners transform input into personally meaningful output (Ellis & Shintani, 2013). Formative assessment—characterised by clear criteria, success exemplars, and timely, specific feedback—raises persistence and calibrates next steps (Andrade & Heritage, 2017). These routines stick more readily when topics are valued; perceived meaning buffers risk-taking during strategy deployment (Renninger & Hidi, 2016). Interest, then, does more than lift mood: it shifts the cost–benefit calculus of investing cognitive resources.

On the affective/motivational side, classroom emotion research identifies foreign language enjoyment as a robust correlate of participation and persistence, shaped by teacher support, task design, and content meaningfulness (Dewaele & Li, 2021). Recent modelling suggests enjoyment, boredom, and anxiety coexist dynamically; activities that foreground meaning and provide supportive challenge buoy enjoyment and mute boredom (Dewaele et al., 2023a). Control-value theory explains why activating positive emotions is more likely when learners perceive value (in terms of interest/relevance) and control (as a manageable challenge with clear goals); the inverse pattern fosters withdrawal (Pekrun, 2024). Through this lens, topic interest functions as a value signal that co-generates adaptive emotion and readies cognitive systems for effortful work.

Because engagement intertwines emotion and cognition, the choice of measurement matters. Studies often combine affective and motivational indicators into composites, blending interest with enjoyment or willingness to participate, thereby obscuring the specific role of interest. Post-task self-reports in primary classrooms are sensitive to novelty and social desirability; observation rubrics and teacher ratings are underused, and factor structures are rarely revalidated for younger learners in new cultural contexts. A defensible strategy is to keep interest analytically distinct, triangulate (using questionnaires, observations, or interviews), and employ repeated measures across sequences—an approach adopted in this study. Design work shows how cognition and affect can be co-engineered: story-based tasks with perspective-taking ask children to reason about intentions while expressing ideas in the L2; inquiry tasks with public displays invite explanation and justification; and reflective closures prompt pupils to name what they learned and how it felt (Gkonou et al., 2016; Pinter, 2017), creating control–value experiences that invite engagement and success.

Autonomy support cuts across both strands. Age-appropriate choices—between two topic options targeting the same forms, among product formats, or in grouping—reliably raise perceived value and ownership and are associated with

strategic effort (Fredricks et al., 2016; Philp & Duchesne, 2016). For novices, autonomy works best as guided autonomy: bounded options preserve curricular coherence and cognitive clarity; unconstrained choice can inflate uncertainty and erode control. Here, topic interest is the hinge—choice around content is the most straightforward route to value for children and amplifies the payoff of feedback and metacognitive routines.

Recent syntheses in language education, therefore, treat engagement as dynamic and co-regulated, responsive to design (Hiver et al., 2021), and situated within longer-arc motivational currents (Dörnyei & Henry, 2022). Within this framework, the role of topic interest is not trivial or merely additive; it primes affective readiness and cognitive willingness. Accordingly, this review positions topic interest as an upstream design decision that determines whether the rest of the engagement architecture can function as intended in primary EFL.

C. *Topic Interest and Engagement—An Integrative View*

The literature supports a theory of action for primary EFL in which topic interest acts as a near-task antecedent: when teaching braids value, control, and thinking and re-signals value over time, interest energises affective/motivational and cognitive engagement. Short elicitation—such as picture talks, learner artefacts, and quick polls—helps teachers adapt texts and tasks that already matter to pupils. CLIL work shows that when content is meaningful, learners tolerate a higher linguistic load, allowing teachers to model strategies and prompt metacognitive reflection (Coyle et al., 2010). The challenge is sustainability: value must be refreshed through rotating sub-themes, varied stimuli, and visible learner contribution; one-off “fun” topics rarely endure (Ainley & Hidi, 2014; Renninger & Hidi, 2016).

Designs that pair reasoning with emotionally resonant artefacts are especially productive in the primary years. Stories, songs, and local issues operate not only as hooks but also as vehicles for explanation, inference, and perspective-taking, cultivating the cognitive habits teachers seek (Darmawati et al., 2020; Sakti et al., 2024). Control–value theory clarifies the mechanism: when pupils see why an activity matters and how it is manageable, emotions such as enjoyment and curiosity are activated, supporting strategic effort (Pekrun, 2024). Feedback and reflective closures that make criteria explicit help children link what they did with how it felt, reinforcing value and perceived control (Andrade & Heritage, 2017; Pinter, 2017).

Within this architecture, autonomy support is bounded and purposeful. Limited options—such as two topics serving the same language functions, alternative response modes, or negotiated grouping—signal respect for preferences without overcomplicating planning and are associated with greater enjoyment, ownership, and effort (Dewaele et al., 2023a, 2023b; Philp & Duchesne, 2016). In Indonesia, where teachers assemble materials under tight planning time, bounded choice offers a low-cost route to visible autonomy while preserving coherence (Zein, 2016). Because novelty, teacher immediacy, peer relations, and reading load also shape engagement, robust designs separate topical value from novelty through recurring routines with rotating themes and input pitched just above the independent level.

The Indonesian context sharpens the case. With English taught as local content, teachers are responsible for curriculum design. Interest-forward planning is a lever that does not require policy reform: locally grounded topics, combined with familiar activity formats (picture talk, role-play, and project work), can sustain situational interest as linguistic demands increase. Recent Indonesian studies have shown that these designs are feasible and effective (Sakti et al., 2024; Wahyuni et al., 2025a). Overall, the evidence supports positioning topic interest as a malleable, classroom-proximal driver of affective/motivational and cognitive engagement, theoretically grounded (Dörnyei & Henry, 2022; Pekrun, 2024; Renninger & Hidi, 2016; Ryan & Deci, 2018) and aligned with Indonesian schooling (Zein, 2017a, 2017b). Accordingly, this study traces how topic interest relates to engagement across instructional cycles in ordinary classrooms.

II. METHODOLOGY

This study used a mixed-methods, classroom-embedded longitudinal correlational design to examine links between topic interest (TIE) and engagement—cognitive (CEG), behavioural (BEG), and motivational (MOT)—across one semester in Indonesian primary EFL classrooms. Teaching followed the regular timetable and curriculum (no experimental treatment). Data were collected over five instructional cycles (~4–5 weeks apart), each tied to a teacher-planned topic, with qualitative observations and interviews complementing the measures.

A. *Participants and Setting*

The study took place in a Cambridge Curriculum International school with 101 Grade 5 pupils (ages 10–11; ~50% girls) and four English teachers. All pupils assented, parents and teachers provided consent, and pseudonyms were used to protect confidentiality (see Ethics).

B. *Measures*

The Topic Interest and Engagement Questionnaire (TIEQ) is a 20-item Likert-type instrument for young EFL learners, developed from interest development theory (Renninger & Hidi, 2016), self-determination theory (autonomy, competence, and relatedness), and contemporary frameworks of student engagement. Items were adapted from a previously validated instrument with established construct validity and reliability (Wahyuni et al., 2025b). In the present sample, all subscales demonstrated satisfactory internal consistency ($\alpha \geq 0.80$).

TIEQ comprises four 5-item subscales: Topic Interest and Enjoyment (TIE; situational value/enjoyment), Cognitive Engagement (CEG; curiosity, strategy use, effortful processing), Behavioral Engagement (BEG; participation, attention, visible effort), and Motivation for Future Learning (MOT; intention to keep exploring the topic, treated as motivational engagement rather than achievement). Items used age-appropriate wording (checked against the Oxford 5000) and were rated on a five-point scale (1 = Strongly disagree to 5 = Strongly agree), supported by emoji anchors (🙄–😞–😐–😄–😁). Example items include “I like learning about this topic” (TIE1), “I ask questions because I want to understand better” (CEG3), “I try my best when doing tasks on this topic” (BEG3), and “Learning about this topic will benefit me in the future” (MOT5). Subscale scores were computed as item means, with higher scores indicating higher topic-specific interest, cognitive engagement, behavioural engagement, and motivation for future learning. The instrument was administered at the end of each cycle’s focal lesson to capture topic-specific responses.

C. Data Collection and Management

Each instructional cycle centred on a co-planned, locally relevant topic and included one ~75-minute focal lesson. During these lessons, trained observers conducted 10–15-minute sweeps of the whole class using a brief, structured protocol to record on-task behaviour, participation, help-seeking, strategy talk, visible curiosity, and key teacher moves (e.g., prompts, feedback). Topical anchors (e.g., foods, local places) were noted to support later interpretation.

At the end of each focal lesson, all students completed the TIEQ (~10–12 minutes). After selecting lessons across cycles 2–5 and 7–10, semi-structured interviews were conducted with a purposive subsample of pupils spanning observed engagement levels. Interviews probed perceived topic value, moments of curiosity, and reasons for participating or holding back. Sessions were audio-recorded in English or Indonesian (as appropriate) and summarised immediately. Observation sheets and interview notes were anonymised and indexed by cycle.

D. Data Analysis

TIEQ responses were range-checked; item missingness $\leq 10\%$ was handled via ordinal multiple imputation ($m = 5$, MAR); otherwise, complete-case analysis was used. Subscale scores were computed as item means (minimum three items required).

Quantitatively, we first described mean levels of topic interest and engagement by cycle, then estimated cycle-specific Spearman correlations between TIE and each engagement strand (CEG, BEG, MOT) to provide simple snapshots of their association over time. Because data were ordinal and repeated within students, primary associations were estimated using repeated-measures correlations (rmcorr), which aggregate within-person covariation across cycles. To examine whether the interest–engagement link strengthened across the semester, we fitted linear mixed-effects models of the form Outcome (CEG/BEG/MOT) \sim TIE (person-mean centred) + Cycle (1–5) + TIE \times Cycle, with random intercepts for students (and class where identifiable). Robustness checks were repeated on these models using imputed and complete-case datasets, and ordinal models were fitted as a sensitivity test. Observation indicators were treated as auxiliary correlates rather than covariates to avoid over-control.

Qualitatively, observation and interview excerpts were coded for value signals (e.g., topical resonance, choice moments) and engagement evidence (e.g., visible curiosity, persistence). A joint display aligned these qualitative patterns with the quantitative trajectories by cycle, supporting a convergent mixed-methods interpretation.

E. Ethics and Approvals

School permission and informed consent/assent were obtained. Participation was voluntary (with withdrawal permitted at any time), no grade-linked incentives were offered, data were de-identified with code keys stored securely, and procedures complied with the institution’s (BRIN - Indonesia) guidelines for minimal-risk classroom research with minor participants.

III. RESULT

Across five waves ($N = 101$ per cycle), we described scale ranges and trends, examined cycle-wise correlations, estimated within-student coupling via repeated-measures correlations, and fit mixed-effects models to test and visualise whether the interest–engagement link strengthened over time.

A. Descriptive Profile and Cycle-Wise Associations

Across the five instructional cycles, mean scores on topic interest (TIE) and all three engagement strands (CEG, BEG, MOT) were high at the outset ($M_s \approx 4.5$ – 4.8 on the 1–5 scale) and declined modestly toward the end of term ($M_s \approx 3.7$ – 3.9 by Cycle 5), indicating generally positive but slightly softening responses (Table 1). Cycle-wise Spearman correlations showed that interest and engagement increasingly moved together over time: for CEG, ρ rose from .51 at Cycle 1 to .93 at Cycle 5; for BEG, from .40 to .87; and for MOT, from .59 to .79 (all $p < .001$). These patterns suggest a progressively stronger coupling between topic-specific interest and how students think, behave, and plan for future learning in this course.

TABLE 1
DESCRIPTIVE STATISTICS (M, SD) BY SUBSCALE AND CYCLE

Cycle	N	TIE (M)	TIE (SD)	CEG (M)	CEG (SD)	BEG (M)	BEG (SD)	MOT (M)	MOT (SD)
1	101.0	4.79	0.25	4.58	0.31	4.58	0.43	4.74	0.25
2	101.0	4.69	0.31	4.52	0.4	4.49	0.42	4.59	0.35
3	101.0	4.21	0.45	4.06	0.44	4.23	0.38	4.16	0.45
4	101.0	3.92	0.64	3.72	0.55	3.8	0.53	3.80	0.5
5	101.0	3.78	0.66	3.74	0.67	3.83	0.62	3.71	0.58

B. Within-Student Coupling Across the Semester

The repeated-measures correlation (rmcorr) compacts all waves to estimate the within-student association. When a student reported higher-than-usual interest in a given cycle, that cycle also tended to show higher engagement relative to their own average: TIE–CEG $r_{rm} = .88$, 95% CI [.86, .90]; TIE–BEG $r_{rm} = .80$, 95% CI [.76, .83]; TIE–MOT $r_{rm} = .83$, 95% CI [.79, .86]; all $p < .001$, based on 505 observations from 101 students across five cycles. The rmcorr panels visually depict this idea by centring each student’s scores and overlaying per-student fits that share a common slope (Figure 1).

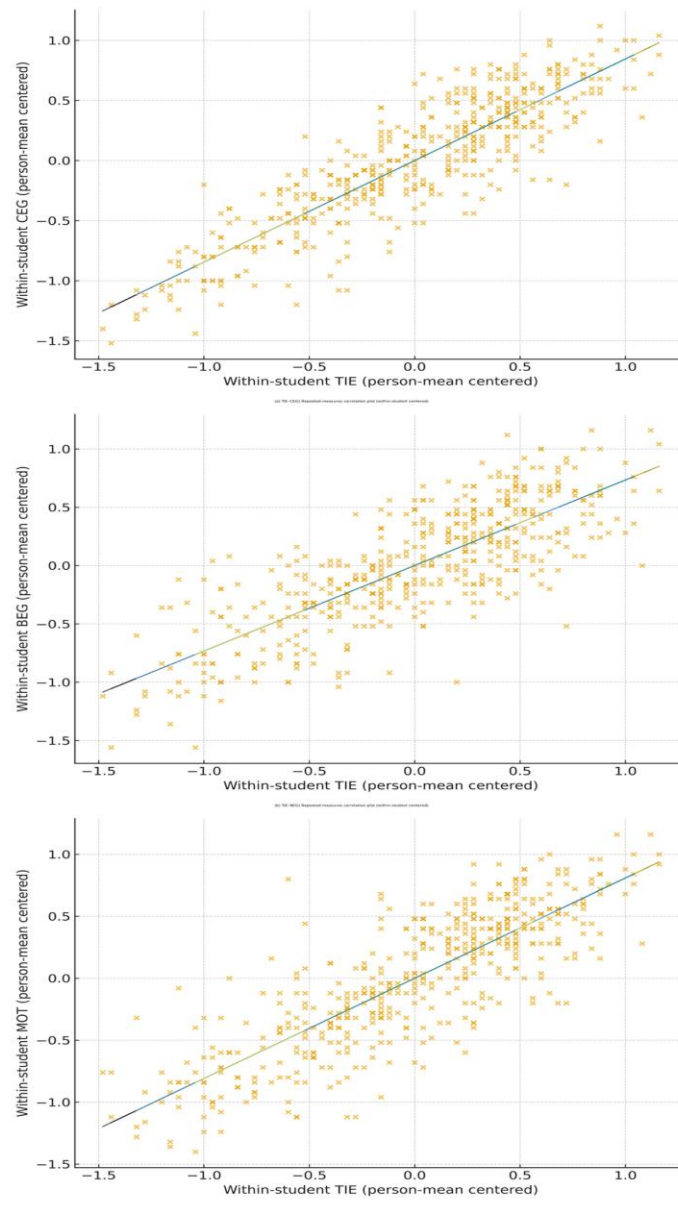


Figure 1. Repeated-Measures Correlation Plots (Panels: TIE–CEG, TIE–BEG, TIE–MOT)

C. Change in the Interest–Engagement Link Across Cycles

Linear mixed-effects models predicted each engagement strand from person-mean-centred topic interest (TIE), cycle (1–5), and their interaction, with random intercepts for students. Across outcomes, cycles in which a student reported higher-than-usual interest were also cycles with higher-than-usual engagement: TIE positively predicted cognitive ($\beta = 0.56$, $SE = 0.08$, $p < .001$), behavioural ($\beta = 0.31$, $SE = 0.10$, $p = .002$), and motivational engagement ($\beta = 0.31$, $SE = 0.09$, $p < .001$). Small negative main effects of the cycle indicated that mean engagement tended to soften slightly over the semester.

Crucially, the TIE \times cycle interaction was positive for all three outcomes (CEG: $\beta = 0.07$, $SE = 0.02$, $p = .002$; BEG: $\beta = 0.10$, $SE = 0.03$, $p < .001$; MOT: $\beta = 0.08$, $SE = 0.02$, $p < .001$), suggesting that the payoff of interest increased as the program unfolded. As shown in Figure 2, predicted slopes of engagement on TIE are relatively shallow at Cycle 1 but progressively steeper by Cycle 5, meaning that the same one-point increase in topic interest yields larger gains in cognitive, behavioural, and motivational engagement later in the semester than earlier. Intraclass correlations ($ICC = .27-.46$) indicated that a substantial proportion of variance remained within students over time, aligning with the study’s focus on within-person change.

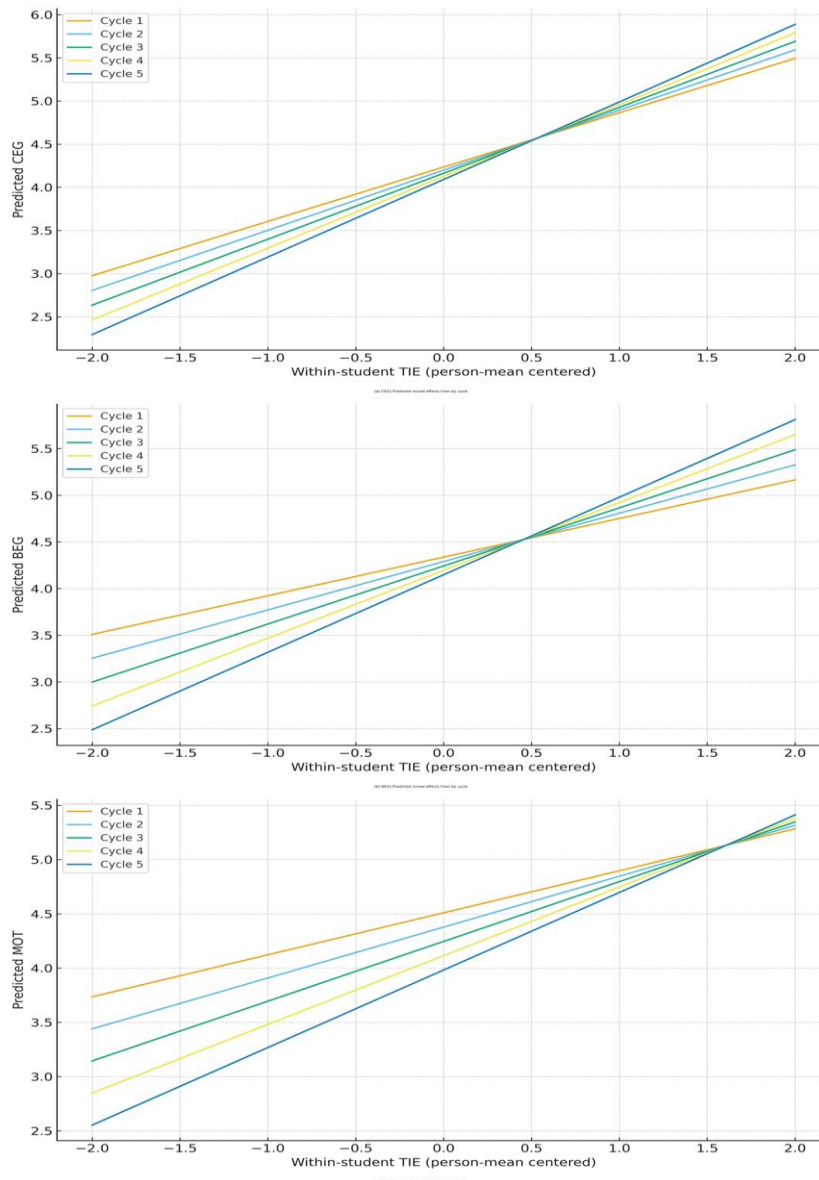


Figure 2. Predicted Mixed-Effects (LME) Lines by Cycle for Cognitive, Behavioural, and Motivational Engagement (CEG, BEG, MOT) as a Function of Person-Mean-Centered Topic Interest (TIE); Lines Show Fixed-Effect Predictions From the Linear Mixed-Effects Models

D. Robustness Checks

Sensitivity analyses compared (a) linear mixed-effects models estimated on complete cases, (b) the same models with imputed data, and (c) pooled proportional-odds (ordinal) models using rounded 1–5 categories for each outcome.

Across all specifications and engagement strands, topic interest (TIE) remained a positive predictor, and the TIE \times cycle interaction stayed positive and statistically significant, indicating a strengthening interest–engagement link over time. Complete-case and imputed LME estimates were essentially identical, reflecting near-zero missingness across cycles. Ordinal models yielded convergent patterns with slightly attenuated but still robust effects. These checks suggest that the main findings are not sensitive to missing-data handling or to treating the Likert responses as approximately continuous.

Across descriptive trends, cycle-wise snapshots, within-student correlations, and mixed-effects estimates, a consistent pattern emerges: topic interest is strongly and positively associated with cognitive, behavioural, and motivational engagement, and the strength of this association grows over cycles as classroom work organises around evolving topics and supports. This provides a quantitative basis for the qualitative patterns—in topic selection, scaffolding, and bounded autonomy—that are elaborated in the subsequent section.

E. Interviews and Observations

Classroom observations and brief, targeted interviews were used to illuminate how topic interest surfaced in day-to-day lessons and how it related to cognitive, behavioural, and affective/motivational engagement among primary EFL learners.

In Week 2, a unit on “My Favourite Food”—selected after a short class poll—prompted visibly higher behavioural and affective engagement. Multiple students volunteered during pair-to-whole speaking; turn-taking accelerated without teacher prompting. Hanif (10) brought a drawing from home and expanded beyond sentence frames to describe ingredients and family routines. Asked what made the lesson enjoyable, he said, “My mom often bakes cookies and cakes, and we talked about it in the lesson today. It was fun!” The episode showed affective resonance (enjoyment, pride) together with behavioural initiative (unprompted contribution) and early signs of cognitive elaboration as he connected vocabulary to everyday practices.

Teacher accounts echoed this pattern. Ms Dian noted that traditional foods generated “more active than usual” participation, including show-and-tell artefacts students sourced at home. She contrasted this with a less familiar topic, such as global warming, where contributions slowed unless background knowledge or interest in science was present. Observational field notes from her lesson recorded denser peer-to-peer questions and more sustained on-task time when topics were familiar and concrete, suggesting that recognition and relevance lowered entry costs for participation and supported strategic talk (e.g., asking for clarification, expanding on a peer’s example).

A Week 4 lesson on “Our Carbon Footprint” initially showed weaker engagement, as two of the five focal students were distractible during small-group writing. When the teacher reframed the task through local experience—inviting examples from home and neighbourhood—participation recovered. Hana (11) linked the theme to a community clean-up with her mother and later reflected, “I liked writing about my experience helping the community... I like to remember when learning about our carbon footprint at school and how much our community project actually helps save our earth.” This pivot illustrates how value cues anchored in lived experience can convert an abstract theme into affectively meaningful work and re-engage cognitive effort (planning and revising a short text).

The highest observed engagement occurred in Week 5 during a student-driven mini-project with bounded choice over presentation topics. One student selected his pet cat, integrating teacher-provided vocabulary with hand-drawn visuals to create a personalised representation. Peers spontaneously asked follow-up questions, and several students stayed after class to refine their posters. The classroom teacher commented, “This was the most focused I have seen them all semester.” In field notes, this lesson concentrated on multiple indicators: behavioural persistence (time on task beyond the bell), cognitive investment (organising information, monitoring language accuracy), and motivational energy (visible enthusiasm, peer encouragement). The choice structure appeared to amplify the payoff of interest—once students owned a topic, they invested more effort in planning, practising, and presenting.

Across classrooms and weeks, three patterns were consistent: 1) topical resonance (food, pets, neighbourhood routines) boosted participation and enjoyment, especially at openings and whole-class sharing; 2) clarifying scaffolds (brief exemplars, checklists, rehearsal) converted interest into planning, elaboration, and self-monitoring rather than fleeting enthusiasm; and 3) bounded autonomy (choosing subtopics or artefacts within a shared theme) increased ownership and persistence, with students extending work time and offering deeper explanations.

These qualitative patterns align with the quantitative picture reported above: when topic interest is surfaced through resonance, structured supports, and bounded choice, engagement rises not only in level but in quality—from volunteered turns to sustained strategy use. The vignettes illustrate how interest cues were enacted moment by moment, complementing the observed strengthening of interest–engagement coupling over the five cycles.

IV. DISCUSSION

This study examined the relationship between topic interest (TIE) and cognitive (CEG), behavioural (BEG), and motivational (MOT) engagement in Indonesian primary EFL classrooms, and whether this relationship strengthens over the course of a semester. Across analyses, a consistent picture emerged. Cycle-wise Spearman coefficients increased from moderate to powerful magnitudes, repeated-measures correlations (rmcorr) indicated large within-student coupling, and mixed-effects models showed positive TIE main effects together with positive TIE \times Cycle interactions, implying

that the payoff of interest rises over time (see Table 1; Figures 1–2). Qualitative episodes—familiar themes like ‘My Favourite Food,’ a reframed Carbon Footprint lesson, and bounded-choice mini-projects—showed how topical resonance, clear criteria, and rehearsal, along with small but meaningful choices, channel interest into strategic effort, participation, and persistence. These findings accord with accounts of interest development in which value cues trigger and maintain interest (Renninger & Hidi, 2016), multi-component views of engagement (Fredricks et al., 2004, 2016), L2 motivation research on ownership and vision (Dörnyei et al., 2015), and control–value perspectives linking perceived control and value to activating emotions (Pekrun, 2024) and Foreign Language Enjoyment (Dewaele et al., 2023b). In young-learner EFL contexts, the fit between topic and lived experience is a well-established catalyst of participation (Pinter, 2017; Zein, 2017a). The present data quantify the evolving power of this catalyst over the course of a semester.

Focusing first on the relationship between interest and each engagement strand, the evidence shows that when the same learner reports higher-than-usual interest, the cycle tends to exhibit higher engagement across cognitive, behavioural, and motivational dimensions (Figure 1). This within-student pattern is significant because it reduces the likelihood that results are driven by stable dispositional differences (e.g., trait enthusiasm) and instead indicates a process: interest fluctuates with topic and task design, and engagement fluctuates accordingly. In classroom terms, familiar, concrete themes accelerated volunteered turns and joyful talk (affective/motivational engagement), scaffolding that made aims and criteria visible routed energy into elaboration and monitoring (cognitive engagement), and brief feedback loops consolidated time on task and peer follow-ups (behavioural engagement). The sequence—value → positive emotion → strategy and participation—aligns with interest development (Renninger & Hidi, 2016) and control–value theory (Pekrun, 2024) and with classroom work showing that clarity and progress markers support strategic effort (Andrade & Heritage, 2017). For young-learner EFL specifically, centring content in children’s lived worlds has long been recommended (Philp & Duchesne, 2016); the present estimates quantify its continuing role in routine lessons.

Turning to how the relation develops across cycles, mean scores on some subscales softened toward the term’s end (Table 1)—a familiar seasonal drift in primary classrooms—yet the relationship between interest and engagement intensified. Linear mixed-effects models with person-mean centring yielded robust positive TIE effects and positive TIE × Cycle interactions for all outcomes, and predicted lines steepened from early to late cycles (Figure 2). Thus, an equivalent increment in within-student interest buys more engagement later than earlier. The trajectory is coherent with interest-development theory: repeated value signals sustain situational interest and render its cognitive consequences more reliable (Renninger & Hidi, 2016). It also fits control–value reasoning, whereby clarity and manageability amplify activating emotions that facilitate strategy use (Andrade & Heritage, 2017; Pekrun, 2024). Observationally, once a stable “task grammar” (brief model → guided practice → share → reflect) is internalised, cognitive friction drops; value cues translate more efficiently into behavioural persistence and deepening explanations. Bounded autonomy further amplifies ownership without fragmenting instruction, echoing L2 motivation frameworks that link self-concordant choices to sustained engagement (Dörnyei et al., 2015).

Finally, the practices that surfaced and sustained interest in ordinary lessons matched what the models captured. Topics anchored in children’s worlds (foodways, pets, neighbourhood routines) reliably lowered participation thresholds and lifted enjoyment and willingness to try (Dewaele et al., 2023a; Renninger & Hidi, 2016; Zein, 2017b). Scaffolding that made goals feel manageable—utilising visible criteria, mini-exemplars, brief rehearsal, and timely feedback—converted value into cognitive work and steadier behavioural engagement (Andrade & Heritage, 2017; Pekrun, 2024). Small, coherent choices within a shared format increased ownership and persistence without compromising coherence (Dörnyei et al., 2015). As these moves co-occurred more predictably across weeks, the quantitative models captured a tightening interest–engagement coupling, while the vignettes provided the classroom texture of that shift (Figures 1 and 2). The result is a process-sensitive account of engagement in young-learner EFL that is rooted in classroom-proximal design, rather than one-off novelty (Philp & Duchesne, 2016; Zein, 2017a), and is consistent with contemporary views that teacher mediation and value-focused design are central to sustained participation.

In synthesis, three contributions follow. *First*, repeated-measures evidence demonstrates that interest is a tractable, within-student driver of cognitive, behavioural, and motivational engagement—an effect visible in ordinary primary EFL lessons (Fredricks et al., 2016; Renninger & Hidi, 2016). *Second*, the marginal impact of interest strengthens as routines stabilise and choice is bounded and purposeful (Dörnyei & Ryan, 2015). *Third*, pairing rmcrr and LME with targeted vignettes yields a process-sensitive account that moves beyond between-student averages (Philp & Duchesne, 2016). Practically, curating resonant topics, making progress visible and manageable, and embedding minor choice points are low-cost moves that increase the likelihood and durability of engagement over a semester (Pekrun, 2024; Zein, 2017b).

V. CONCLUSION

Three conclusions emerge. *First*, topic interest and engagement were positively related at every cycle and strongly coupled within students: when a learner reported higher-than-usual interest, that cycle typically showed higher cognitive, behavioural, and motivational engagement. *Second*, the payoff of interest increased over time: mixed-effects models

indicated that the same increment in within-student interest produced larger gains in engagement in later cycles, suggesting that stable routines and clear expectations help convert perceived value into sustained effort. *Third*, classroom vignettes illustrated the mechanism in everyday practice: topical resonance made activities meaningful, scaffolding rendered goals manageable, and bounded autonomy lifted ownership—together making engagement more likely and more durable.

The practical contribution is straightforward. To strengthen engagement across a semester, teachers can curate themes connected to children's lives; make progress visible and manageable through brief modelling, explicit criteria, rehearsal, and concise feedback; and embed small but genuine choice points within shared task formats. These moves require minimal resources, fit typical curricula, and appear to gain impact as cycles unfold.

The study has several limitations. The single-site, single-grade study employed Likert measures with high means; sensitivity checks supported the claims, although models that account for ordinal structure with random effects would extend the analysis to provide further insights. Mixed-effects fits sometimes showed near-zero random-intercept variance after person-mean centring, so random-effect inferences warrant caution, even as fixed-effect results were stable. The qualitative corpus was intentionally compact and explanatory, designed to illuminate mechanisms rather than achieve thematic saturation.

Future studies are recommended. Replicate across schools and grades; use designs that vary in topical resonance, scaffolding, and autonomy to estimate separate and interactive effects; and develop lightweight tools (topic polling, checklist scaffolds, and bounded-choice templates) to operationalise these levers and track engagement trajectories.

In summary, aligning classroom work with what matters to children—and structuring it so that goals are clear, progress is visible, and choices are purposeful—makes engagement more likely and more durable throughout the semester.

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