

Exploring Reading Needs in Mixed-Ability EFL Classrooms: A Mixed-Methods Basis for an Inclusive Mindfulness-Based Flipped Classroom Model

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ABSTRACT: This study explores reading-related needs and learning characteristics in mixed-ability EFL classrooms to provide an empirical foundation for the development of an inclusive Mindfulness-Based Flipped Learning model. A sequential explanatory mixed-methods needs-analysis method was used with 94 seventh-grade students in two public junior high schools. Questionnaire data were collected on reading needs, learner autonomy, critical thinking, and technology readiness. The qualitative phase involved 16 selected learners and three English teachers in interviews, classroom observations, and document analysis to contextualize and explain the quantitative findings. The findings revealed that students were generally positive in the degree of learner autonomy and technology readiness, but there were still some challenges in reading comprehension, vocabulary, higher order reading processes and confidence in autonomous learning. Qualitative findings further indicated that learners requiring greater support in vocabulary, interpreting texts, and engaging in higher-order reading processes, resulting in continued dependence on teacher guidance. The combined findings generated basic design ideas for an inclusive Mindfulness-Based Flipped Learning model, including pre-class vocabulary preparation, guided reading during class, structured critical-reading activities, gradual release of responsibility, and differentiated scaffolding. The findings provide a context-specific empirical basis for designing an instructional model intended to address identified learner needs across mixed-ability EFL contexts.

Keywords: critical thinking, learning autonomy, mixed-ability classes, mindfulness-based flipped classroom, slow EFL learners

ABSTRAK: Penelitian ini mengkaji kebutuhan terkait membaca dan karakteristik pembelajaran di kelas EFL dengan tingkat kemampuan siswa yang beragam (*mixed-ability*) guna menyediakan landasan empiris bagi pengembangan model *Mindfulness-Based Flipped Learning* yang inklusif. Metode analisis kebutuhan dengan pendekatan campuran sekuensial eksplanatori *Sequential explanatory mixed methods* diterapkan terhadap 94 siswa kelas tujuh di dua sekolah menengah pertama negeri. Data dikumpulkan melalui kuesioner mengenai kebutuhan membaca, otonomi pembelajar, berpikir kritis, dan kesiapan teknologi. Tahap kualitatif melibatkan 16 siswa terpilih dan tiga guru bahasa Inggris dalam kegiatan wawancara, observasi kelas, dan analisis dokumen untuk memberikan konteks serta penjelasan terhadap temuan kuantitatif. Hasil penelitian menunjukkan bahwa siswa umumnya memiliki tingkat otonomi pembelajar dan kesiapan teknologi yang positif, namun masih terdapat tantangan dalam hal pemahaman bacaan, penguasaan kosakata, proses membaca tingkat tinggi, serta kepercayaan diri dalam belajar secara mandiri. Temuan kualitatif lebih lanjut mengindikasikan adanya kebutuhan siswa dengan dukungan lebih besar terkait kosakata, interpretasi teks, dan keterlibatan dalam proses membaca tingkat tinggi, yang berdampak pada masih kuatnya ketergantungan terhadap bimbingan guru. Temuan tersebut menghasilkan gagasan desain dasar untuk model *Mindfulness-Based Flipped Learning* yang inklusif, mencakup persiapan

kosakata sebelum kelas, membaca terbimbing selama di kelas, aktivitas membaca kritis yang terstruktur, pelepasan tanggung jawab secara bertahap, serta scaffolding yang terdiferensiasi. Temuan ini memberikan landasan empiris yang spesifik terhadap konteks untuk merancang model pembelajaran yang bertujuan memenuhi kebutuhan siswa yang telah diidentifikasi dalam berbagai konteks kelas EFL dengan tingkat kemampuan beragam.

Katakunci: *berpikir kritis, flipped classroom berbasis mindfulness, kelas dengan tingkat kemampuan beragam, otonomi belajar, pembelajar EFL yang lambat.*

INTRODUCTION

Reading is commonly regarded as one of the major factors in English as Foreign Language (EFL) learning. This is because learners are exposed to the language information, the depth of knowledge of the subject matter and opposing points of view. Reading helps students to develop vocabulary and grammatical awareness and enables to generate meaning, analyze information and link new concepts to previous knowledge (Metruk & Kováčová, 2025). Contemporary EFL reading is not solely about understanding, but also about the ability to find important information, make inferences, analyze ideas and link information in texts with prior knowledge. The demands are fundamentally linked to the development of critical thinking and learner autonomy. However, these aims might be challenging to achieve in mixed-ability classes because learners are at different levels in terms of language competence, learning speed, confidence, motivation and independence. In such classes, one-size-fits-all education may not be responsive enough to students who need diverse levels and forms of help. Thus, differentiated education focuses on adapting learning experiences to the preparedness, needs, and learning characteristics of learners rather than considering the class as a homogeneous group (Tomlinson, 2017).

The challenge becomes more visible among learners who require greater instructional support in English reading. In this study, the term “slow EFL learners” is used as an operational instructional term rather than as a clinical, psychological, or diagnostic category. The term refers to learners who demonstrate greater difficulty completing English reading tasks within the regular classroom pace and consequently require additional instructional support. It does not refer to learners with intellectual disabilities, specific learning disorders, low intelligence, low achievement, or low English proficiency as fixed characteristics. Instead, the term is used to describe observable learning-support needs within the mixed-ability classroom. These needs may involve difficulties in processing unfamiliar vocabulary, identifying important information, constructing meaning from texts, and completing reading tasks independently. Such difficulties may also influence learners’ participation and their reliance on teacher guidance (Tomlinson, 2014). Therefore, the present study focuses on identifying instructional needs and learning characteristics rather than treating slow EFL learners as a fixed psychological or clinical group. This operational distinction is particularly important because the classification of slow learners has been described differently across educational and psychological literature and remains conceptually debated (Lee & Cheon, 2024).

In a mixed-ability classroom, learners who require more support may require more time and guidance to comprehend English texts, particularly when they encounter unfamiliar vocabulary, have difficulties identifying key information, or need to interpret information beyond the literal meaning. These concerns can affect learners' involvement in reading activities, and can lead to rely more on the teacher's explanations. Teachers additionally have to provide adequate help to these learners, while continuing to provide suitable challenges to students who can proceed on more independently. Differentiated instruction has been identified in previous studies as a method to address student variety and to create equitable opportunities for learning (Karst et al., 2022; Pozas et al., 2021). However, merely offering diverse tasks to students fails to be sufficient to properly design differentiation. Teachers first need to understand what learners are expected to achieve, what they currently find difficult, what forms of support they require, what they prefer, and what contextual conditions may influence their learning. Needs analysis is therefore a key starting point for deciding on effective instructional responses in mixed-ability EFL courses.

Reading competence also means that learners are able to manage their learning and to critically engage with material. Learner autonomy is the learners' responsibility for some parts of their own learning such as goal setting, choosing appropriate techniques, measuring comprehension, and evaluating their progress (Rajib & Jahan, 2025). In reading, learners must apply methods such as predicting the content, identifying the key concept, monitoring comprehension, and revising difficult information autonomously (Rahmasari et al., 2025). These processes are directly linked to critical thinking, as learners must differentiate facts from opinions, investigate evidence, make inferences, assess arguments, and justify interpretations based on textual material. Previous research has shown that learner autonomy and critical thinking are connected with more effective involvement in EFL learning (Indriani et al., 2025; Noorwali & Sabir, 2025). Nevertheless, learners' stated intention to study autonomously does not necessarily suggest that they are able to autonomously carry out demanding reading tasks. For instance, students who require more instructional support may know reading skills but still rely on teachers to help them transfer those strategies to texts which are unfamiliar or cognitively challenging. This indicates the need to examine not only learners' general perceptions of autonomy and critical thinking but also the specific reading processes that remain difficult for them.

Digital technology provides greater opportunities to respond to differences in learning pace and access to educational materials. Learning management systems, online reading materials, educational software, and other digital resources can facilitate learners to have access to learning information in the outside of the regular classroom setting (Tusino et al., 2024). A technique that utilizes this adaptability is flipped learning where the selected instructional information is presented prior to classroom sessions to provide class time for guided practice, discussion, collaboration and higher-order learning activities. Prior research has pointed to the possible advantages of flipped learning for learner engagement, reading achievement, and autonomous learning (Klochko et

al., 2021; Pongpanich et al., 2025). However, the availability of digital materials does not automatically translate into successful independent learning. Furthermore, students need to have adequate digital preparedness and self-regulation along with a willingness to engage with pre-class learning materials. Thus, technological readiness has to be seen as a contextual element in instructional design, not the same as learner autonomy or learning readiness. This is particularly relevant in mixed-ability classrooms, where learners may vary not only in academic ability but also in their ability to use technology independently.

Cognitive needs of the learner may also interact with affective and attentional circumstances during reading. Mindfulness has been defined as the intentional focus on recent occurrences and awareness of thoughts, emotions and behaviors (Skelly & Estrada-Chichon, 2021). Mindfulness-based activities have been connected with attention, self-awareness, emotional control, and participation in typical educational environments. In EFL learning, learners may appear unsure, lack confidence, or be anxious of making mistakes when using English, especially in advanced reading tasks (Fan & Cui, 2024; Jiang & Zhao, 2025). These variables may affect learners' willingness to participate and preparedness to engage in challenging tasks. Nevertheless, mindfulness should not be integrated into an instructional approach simply because it is a contemporary educational strategy. Inclusion shall be based upon actual proof of a relevant instructional need for attention, confidence, emotional management, or learning preparedness. In this study, therefore, mindfulness is considered as a potential instructional response that should be justified by the needs identified through the needs analysis.

While learner autonomy, critical thinking, flipped classrooms, and mindfulness have all been examined in EFL instruction, these areas have often been investigated separately or in relation to particular instructional interventions (Bhandari et al., 2025; Heng et al., 2023). Less attention has been given to how multiple dimensions of learner needs can be examined together before an instructional model is developed, particularly in mixed-ability EFL reading classrooms. Research concerning learners who progress more slowly has also tended to focus on describing their learning difficulties rather than examining how these difficulties and learning-support needs can inform inclusive instructional approaches (Eikeland & Ohna, 2022). Consequently, the specific gap addressed in the present study concerns the limited empirical integration of reading learning needs, learner autonomy, critical thinking, technology readiness, and reading challenges as inputs for developing an instructional model for mixed-ability EFL reading classrooms. The issue is therefore not simply the limited number of studies on any one instructional approach, but the lack of an integrated needs-analysis process that connects learner evidence with model-design requirements.

The present study addresses this gap through a mixed-methods needs analysis that combines quantitative evidence from students in mixed-ability EFL classrooms with qualitative evidence concerning learners who require greater instructional support. A needs analysis can provide systematic information about learners' goals, difficulties, preferences, learning requirements, and contextual

conditions and can therefore serve as a basis for instructional planning and design (Sukarni, 2024; Trendak-Sušlik, n.d.). Rather than testing the effectiveness of an existing instructional intervention, the study begins by identifying learners' reading needs, their demonstrated autonomy and critical-thinking abilities, their readiness for technology-supported learning, and the challenges experienced by slow EFL learners. The qualitative data provide further explanation of the learning characteristics and instructional-support needs identified through the broader quantitative data. The findings are then used to formulate preliminary design principles for an inclusive Mindfulness-Based Flipped Classroom model. The proposed model is intended for use within a mixed-ability classroom rather than through separating learners according to ability. Additional support is therefore conceptualized through differentiated scaffolding, guided learning, and gradual release of responsibility while maintaining meaningful learning opportunities for all learners.

The contribution of the study lies in its needs-analysis-to-model-development pathway. It is not merely the combination of mindfulness, flipped learning, technology, scaffolding, autonomy and critical thinking that is innovative however the empirical connection made between the learner needs identified and specific instructional design selections. This method is consistent with current needs-analysis research that combines learner and context information to inform language learning programs and materials (Sara et al., 2021). In the current study, challenges with vocabulary can inform pre-class vocabulary preparation, difficulties with key ideas and inference can require guided reading, and difficulties with evidence and evaluation might require structured questioning and collaborative critical-reading tasks. Limited autonomous learning can be addressed through gradual shifts in responsibility, mindfulness is merely implemented when findings demonstrate relevant attention, confidence, emotional control or preparedness demands (Wang, 2025). Hence the proposed approach is offered as a context-specific, evidence-informed design proposition, not as a validated intervention.

Recent study, learner needs are understood by adapting (Hutchinson & Waters, 1987) distinction between target needs and learning needs. Target needs concern what learners are expected to achieve and include necessities, lacks, and wants, while learning needs concern what learners require to achieve those goals. The framework is extended by considering contextual constraints, including classroom and technology-related conditions. Accordingly, the needs analysis examines learners' expected reading abilities, current difficulties, required instructional support, learning preferences, and contextual conditions. Questionnaire data provide information on reading needs, autonomy, critical thinking, technology readiness, and reading barriers, while interviews, classroom observations, and document analysis provide complementary qualitative and contextual evidence concerning learners who require greater instructional support.

Based on this rationale, the present study aims to explore the reading learning needs of students in mixed-ability EFL classrooms and to examine how

these needs, together with learner autonomy, critical thinking, technology readiness, and reading-related challenges, can inform the preliminary design of an inclusive Mindfulness-Based Flipped Classroom model. The study does not seek to establish the effectiveness of the proposed model. Instead, it seeks to provide a context-specific empirical basis for identifying instructional requirements that can guide subsequent model development, implementation, and evaluation.

These objectives lead the study to ask the following research questions: 1) What are the reading learning needs of students in mixed-ability EFL classrooms? 2) How do students in mixed-ability EFL classrooms demonstrate learner autonomy in English reading? 3) What critical thinking skills do students demonstrate during English reading in mixed-ability EFL classrooms? 4) What reading-related challenges and instructional-support needs are experienced by slow EFL learners in mixed-ability classrooms? 5) How do the identified learner needs, challenges, and contextual conditions inform the design principles of an inclusive Mindfulness-Based Flipped Classroom model?

METHODs

Research Design

This study employed a mixed-methods needs-analysis design to investigate reading-related needs and learning characteristics in mixed-ability EFL classrooms and to establish an empirical basis for developing a Mindfulness-Based Flipped Learning model. The mixed-methods approach was used because the study required quantitative evidence of students' general learning needs and qualitative evidence to provide a deeper understanding of the learning difficulties and instructional-support needs experienced by selected learners. The quantitative and qualitative strands were conducted within the same needs-analysis phase, with the quantitative data providing a broader picture of the classroom and the qualitative data providing contextual and in-depth explanations of learners who required greater instructional support. The two strands were integrated at the interpretation stage to identify areas of convergence and complementarity and to translate the findings into preliminary design principles. Rather than examining the effectiveness of the proposed model, the study focused on understanding learner needs and transforming the integrated findings into preliminary design requirements for the Mindfulness-Based Flipped Learning model.

Participants

The study was conducted in two public junior high schools in Central Java, Indonesia. The participants consisted of 94 Grade VII students from three mixed-ability EFL classrooms and three English teachers. All 94 students participated in the questionnaire because the study aimed to examine learning needs across the mixed-ability classrooms. The qualitative phase focused on students who were identified as requiring greater instructional support. Three English teachers participated in semi-structured interviews to provide information about students' learning characteristics, reading difficulties, classroom participation, and instructional-support needs.

The identification of slow EFL learners followed a criterion-based, multi-source screening process rather than a numerical cutoff. The process began with an initial interview with the English teachers to identify students perceived to experience greater difficulty in learning English and to determine their main learning difficulties. The teacher interview also explored whether the students had previously received particular attention or intervention and when their difficulties were most evident in classroom activities.

Students identified during the initial teacher interview were subsequently examined using a structured observation checklist. The checklist covered nine indicators: (1) difficulty understanding instructions and materials, (2) need for repeated explanations, (3) difficulty remembering vocabulary, (4) difficulty reading and understanding simple words or sentences, (5) difficulty writing or constructing simple sentences, (6) difficulty interpreting meaning, (7) slow task completion, (8) high dependence on teacher assistance, and (9) low confidence and classroom participation. These indicators were used to examine whether the difficulties reported by teachers were observable during classroom learning.

Document analysis was then used as complementary evidence. The documents considered included student grades or daily assessment results, written assignments, teacher anecdotal records, student portfolios, diagnostic test results were available, and homework. The analysis considered students' performance and patterns of difficulty in relevant English learning tasks, including reading comprehension, writing, and translation activities.

Evidence from the teacher interviews, classroom observations, and documents was subsequently compared through a triangulation matrix. Students were classified as confirmed slow EFL learners when the interview and observation evidence supported recurring instructional-support needs. Cases in which teacher reports indicated difficulties but observational evidence was insufficient were considered for re-observation, whereas cases that were not supported by observation were not confirmed. This decision process was used to distinguish recurring instructional-support needs from isolated or insufficiently supported difficulties. Through this process, 16 students were identified as slow EFL learners and coded SL1–SL16 for the qualitative phase.

Data Collection Techniques

Four main data-collection techniques were used: questionnaire, classroom observation, semi-structured interviews, and document analysis. All students completed a questionnaire addressing reading learning needs, learning autonomy, critical thinking, technology integration/readiness, and reading challenges. The questionnaire was adapted from previously developed instruments reported in the literature, including (Mohammadi et al., 2023), (Salam, 2017), (Schmidt et al., 2009) and (Shirzad & Ebadi, 1999). The adapted questionnaire was reviewed for relevance and clarity before administration. Its internal consistency was subsequently examined using Cronbach's alpha for each construct.

An identification instrument for slow EFL learners was developed by the researchers based on a synthesis of literature concerning slower learning

processes and reading difficulties in EFL contexts. The instrument was reviewed by two experts in English language teaching and educational psychology for content relevance and clarity. The identification process did not rely on a single questionnaire score. Instead, potential learners were examined through questionnaire responses, teacher interviews, classroom observations, and relevant academic records. After the questionnaire was administered, slow EFL learners were identified by combining the questionnaire responses, teacher interviews, classroom observations and document analysis using data triangulation (Creswell & Creswell, 2018; Miles et al., 2018). The triangulation process considered recurring indicators such as difficulty understanding instructions, unfamiliar vocabulary, difficulty understanding English texts, difficulty completing reading tasks independently, and limited participation during reading activities. These indicators were interpreted as instructional-support needs rather than diagnostic characteristics.

Classroom observations were conducted to examine learners' reading behaviours, participation, learning interactions, and responses to instructional support in authentic classroom contexts. The observations complemented the interview data and provided contextual evidence concerning learners' reading difficulties and dependence on teacher guidance (Tisdell et al., 2025). Semi-structured interviews were conducted with the selected slow EFL learners and three English teachers to obtain detailed information about learners' experiences, reading difficulties, learning strategies, and instructional-support needs. Academic records and classroom assignment documents were also examined to support participant identification and triangulation of the qualitative evidence.

Table 1. Data Collection Instruments

Instrument	Participants	Purpose
Questionnaire	94 students	Assess reading needs, autonomy, critical thinking, technology readiness, and reading challenges
Classroom observation	Selected slow learners	Examine reading behaviours, participation, and instructional-support needs
Student interview	Selected slow learners	Explore reading difficulties, learning experiences, and support needs
Teacher interview	Three English teachers	Provide contextual evidence and confirm learner characteristics
Document analysis	Academic records	Support participant identification and triangulation

Data Analysis Techniques

The quantitative data were analyzed using IBM SPSS Statistics. Descriptive statistics, including frequency, percentage, mean, and standard deviation, were used to summarize students' responses. The analysis focused on four major constructs: reading learning needs, learning autonomy, critical thinking, and technology integration/readiness. Descriptive analysis was considered appropriate because the purpose of the quantitative strand was to describe the distribution and pattern of learners' reported needs and characteristics rather than to test the effectiveness of an intervention. Mean scores were interpreted in relation to the response scale and the distribution of responses rather than as validated psychological categories.

Qualitative data from classroom observations, student interviews, teacher interviews, and document analysis were analyzed using thematic analysis following Braun and Clarke (2021). The analysis involved familiarization with the data, initial coding, grouping related codes, developing candidate themes, reviewing the themes against the dataset, and defining and naming the final themes. The coding was primarily focused on learners' reading difficulties, learning characteristics, instructional challenges, and forms of support required. Evidence from different data sources was compared to identify recurring patterns and divergent cases. The resulting themes were then interpreted in relation to the quantitative findings and the instructional requirements identified for the proposed model.

To enhance the trustworthiness of the qualitative findings, emerging trends were compared across multiple data sources, including classroom observations, teacher interviews, and document analysis. Similar patterns, identified from these sources, were used to confirm the students' reported experiences and to minimise possible bias. This procedure added to the credibility of the thematic analysis before the integration of the findings with the quantitative results.

The quantitative and qualitative findings were integrated at the interpretation stage. Quantitative patterns were first examined to identify the general characteristics and needs of students in the mixed-ability classrooms. These findings were then compared with qualitative evidence from selected slow EFL learners, teachers, observations, and documents. The integration focused on convergence, complementarity, and divergence across the datasets. Convergent findings were used to strengthen the interpretation of particular needs, while qualitative findings that provided additional explanations were used to clarify patterns that were less visible in the quantitative results. Where the datasets differed, the differences were retained and interpreted as evidence of variation within the mixed-ability classroom rather than treated as methodological error. The integrated findings were subsequently translated into preliminary instructional design principles.

Trustworthiness

Trustworthiness of the qualitative findings was addressed through several procedures. Credibility was supported by triangulation across teacher interviews,

student interviews, classroom observations, and document analysis. Dependability was supported by applying a systematic procedure for data collection, coding, categorization, and cross-source comparison. Confirmability was strengthened by comparing interpretations across different data sources rather than relying on a single source. Transferability was supported by providing contextual descriptions of the participants, classroom setting, learner characteristics, and instructional conditions so that readers can assess the relevance of the findings to other mixed-ability EFL contexts.

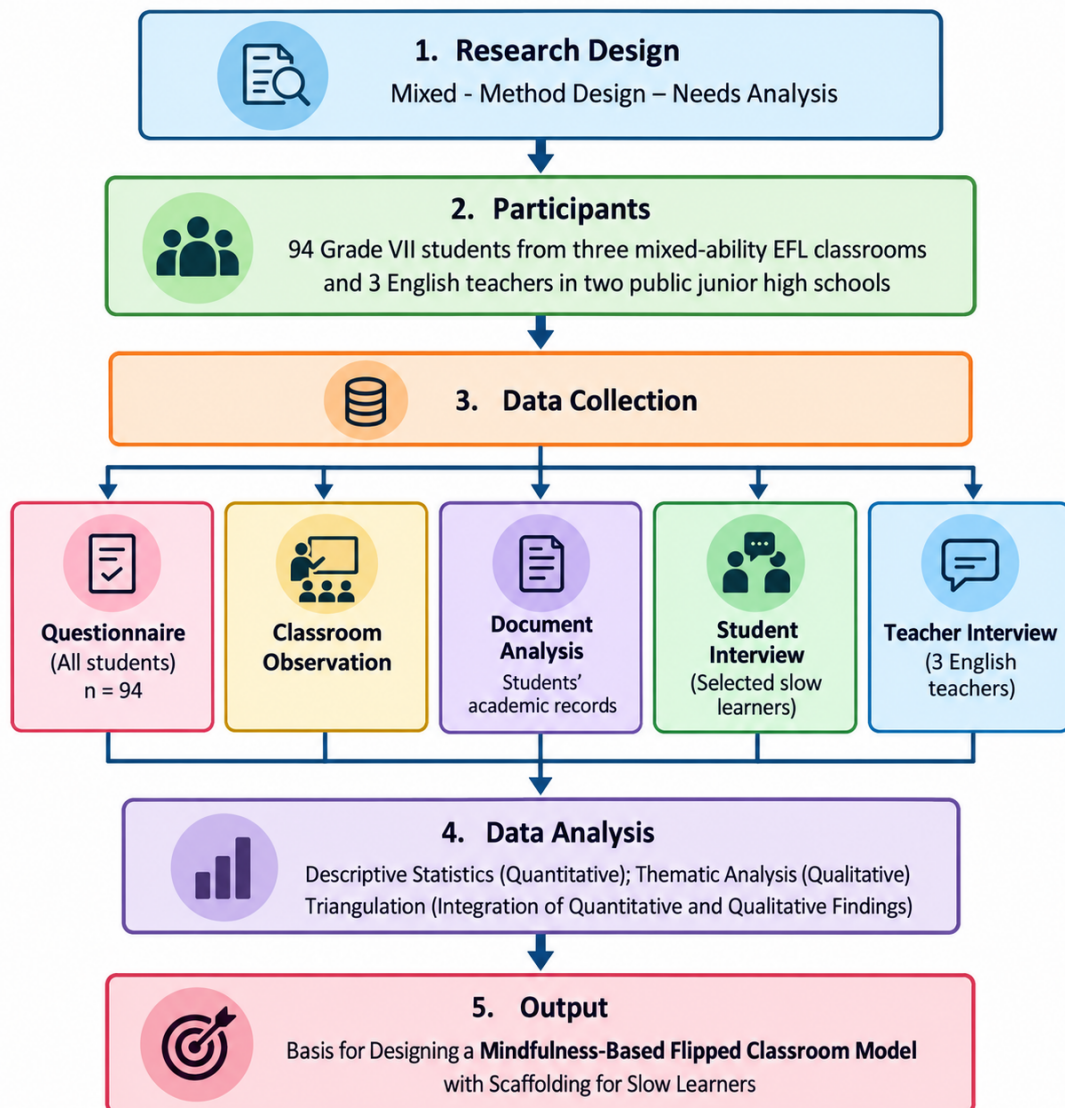


Figure 1. Overall Research Design

Figure 1 presents an overview of the research procedures undertaken in this study, from data collection and analysis to the development of the proposed instructional model.

RESULT AND DISCUSSION

Reliability of the Questionnaire

The internal consistency of the questionnaire was examined using Cronbach's alpha for each construct. The results showed coefficients ranging from 0.827 to 0.906, indicating satisfactory to high internal consistency across the four constructs. The reliability results are presented in Table 2.

Table 2. Questionnaire Reliability

Construct	Items	Cronbach's Alpha	Interpretation
Reading Needs	16	0.898	Good
Learning Autonomy	15	0.827	Good
Critical Thinking	11	0.906	Excellent
Digital Integration	20	0.894	Good

The reliability results indicate that the items within each construct demonstrated acceptable internal consistency for the descriptive needs-analysis purpose of the study.

Reading Learning Needs in Mixed-Ability Classrooms

In order to address the initial research question, a 16-item questionnaire was administered to students, which encompassed four dimensions: reading materials, reading strategies, reading learning activities, and reading assessment. The questionnaire demonstrated good internal consistency, with a Cronbach's alpha coefficient of 0.898.

Table 3. Descriptive Statistics of Students' Reading Learning Needs (N = 94)

Dimension	Number of Items	Mean	SD
Reading Materials	4	4.06	0.79
Reading Strategies	4	3.96	0.92
Reading Learning Activities	4	3.90	0.93
Reading Assessment	4	3.96	0.80

The four dimensions showed relatively high mean scores, ranging from 3.90 to 4.06. Reading materials received the highest mean score ($M = 4.06$), followed by reading strategies and reading assessment (both $M = 3.96$), while reading learning activities had the lowest mean score ($M = 3.90$). The standard deviations ranged from 0.79 to 0.93, indicating some variation in students' responses. At the item level, the highest mean was found for reading texts with vocabulary suited to students' proficiency ($M = 4.26$), whereas pair or group reading activities received the lowest mean ($M = 3.70$). These results indicate that students particularly valued accessible reading materials and explicit support for reading processes, rather than suggesting that all students had identical needs.

Student Autonomy in Learning

Students' Autonomy in Learning English reading was examined by students having a very good level of learning autonomy. Figure 2 shows the mean scores of the components metacognitive ($M = 4.16$), cognitive ($M = 4.10$), social ($M = 4.03$) and action-oriented ($M = 3.92$). The lowest mean score $M = 3.68$ was obtained in the affective component, however it is still at a very good level.

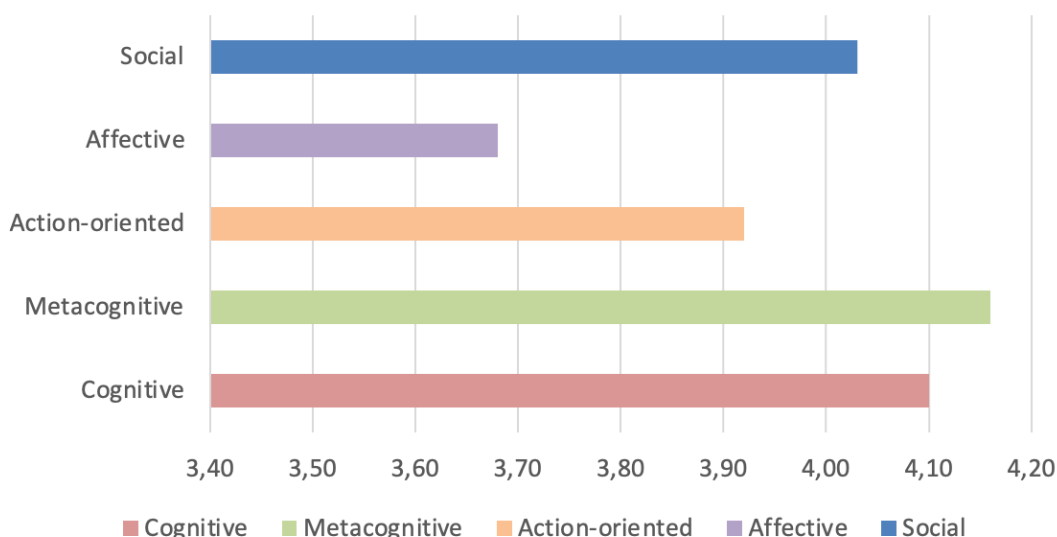


Figure 2. Mean Scores of Learning Autonomy Dimensions

The students reported relatively strong autonomy across the measured dimensions. The highest mean scores were found in the metacognitive ($M = 4.16$), cognitive ($M = 4.10$), social ($M = 4.03$), and action-oriented ($M = 3.92$) dimensions, while the affective dimension had the lowest mean ($M = 3.68$). At the item level, more than 80% of students reported using appropriate reading strategies, identifying difficult parts of texts, trying alternative strategies, monitoring comprehension, maintaining motivation, seeking help, and discussing reading materials with peers. However, lower agreement was found for confidence in reading English texts, anxiety when reading aloud, group learning, and post-reading note-taking. These differences suggest that autonomy was not uniform across its dimensions: students reported stronger strategic and metacognitive behaviours than affective confidence and some reflective or collaborative practices.

Students' Critical Thinking

Students demonstrated variation across the measured critical-thinking processes. Prediction from the title or subtitle ($M = 3.88$) and distinguishing facts from opinions ($M = 3.87$) were among the more frequently reported abilities. In contrast, determining the main message and supporting details ($M = 3.59$) and checking the accuracy of information ($M = 3.57$) received the lowest mean scores. Other processes, including deriving implicit meanings, inferring word meanings from context, identifying cause-effect relationships, evaluating arguments, comparing information across texts, providing textual evidence, and giving reasons for answers, fell within the intermediate range. These patterns suggest

that students were relatively more comfortable with prediction and recognition of explicit distinctions, whereas processes requiring deeper interpretation, evaluation, and evidence-based justification remained more demanding.

For simplified interpretation, the eleven indicators were grouped into three performance categories, based on their mean values; higher, moderate and lower. This classification provides a clearer picture of which critical thinking abilities were most frequently shown and which require additional instructional support.

Table 4. Summary of critical thinking skills of students based on Mean Score

Higher Mean Scores (M ≥ 3.80)
Making prediction of text content from title (M = 3.88)
Distinguishing reality (fact) from opinion (M = 3.87)
Moderate Mean Scores (M = 3.60–3.79)
Deriving implicit meanings (M = 3.74)
Inferring meaning of words from context (M = 3.74)
Identifying cause–effect correlations M = 3.74
Evaluating of arguments (M = 3.74)
Comparing information between texts (M = 3.74)
Giving textual evidence (M = 3.65)
Giving reasons for answers (M = 3.61)
Relatively Lower Mean Scores (M < 3.60)
Determining main message and supporting details of a text (M = 3.59).
Checking the accuracy of information (M = 3.57)

As shown in Table 4, students most frequently demonstrated the ability to predict the content of a text from its title or subtitle (M = 3.88) and distinguish facts from opinions (M = 3.87). Most of the remaining critical thinking skills fell within the moderate mean score range (3.60–3.79), indicating that students generally perceived themselves as capable of making inferences, analysing textual relationships, evaluating arguments, comparing information from different texts, and providing explanations supported by textual evidence.

Meanwhile, identifying main and supporting ideas (M = 3.59) and evaluating the accuracy of information (M = 3.57) obtained relatively lower mean scores. Although these skills were demonstrated less frequently than the others, the results suggest that students have developed a generally positive foundation of critical thinking during English reading, while more advanced analytical and evaluative skills remain areas for further improvement.

Technology Integration

The results of the questionnaire showed that the students experienced a high level of technology integration in English reading in general. This finding implies that most students were familiar with the use of digital tools to help their learning activities.

Table 5. Mean Scores of Technology Integration Dimensions

Dimension	Mean	Interpretation
Digital Access	4.19	High
Digital Literacy and Skills	4.12	High
Technology Integration in Reading	4.21	High
Perceived Benefits and Challenges	3.64	Moderate
Overall	4.04	High

The overall mean for technology integration was 4.04, with the highest score observed for technology integration in reading ($M = 4.21$), followed by digital access ($M = 4.19$) and digital literacy and skills ($M = 4.12$). Perceived benefits and challenges received the lowest mean ($M = 3.64$). These results suggest that students generally reported access to and familiarity with digital resources for English reading. However, the lower score for perceived benefits and challenges indicates that technological readiness did not eliminate practical barriers, particularly those related to connectivity and technical issues. Therefore, digital readiness should be considered a facilitating condition rather than evidence that all learners can independently engage in technology-supported learning.

Reading Challenges of the Slow EFL Learner

Through data triangulation involving questionnaire responses, teacher interviews, classroom observations, and document analysis, sixteen students were identified as slow EFL learners using the identification process stated in the Method section. Students were coded as SL1–SL16 (Slow Learner) to maintain the privacy of the participants and the teachers were referred to as T1–T3.

Subsequently, the selected students were given semi-structured interviews to further investigate their reading challenges. To increase the credibility of the findings, the interview data were triangulated with classroom observations and document analysis in order to deeper understand the learners' reading experiences. Qualitative data were analyzed by coding, categorization, and grouping according to the similarity of meaning. The analysis resulted in four primary themes characterizing the reading difficulties slow EFL learners had as illustrated in Table 6.

Tabel 6. Thematic Analysis of Slow EFL Learners' Reading Challenges

Question	Theme	Code
What difficulties do you face when reading English texts independently?	Limited vocabulary knowledge	- unfamiliar vocabulary - difficulty translating sentences - limited word knowledge - reading word by word - frequently using a dictionary - forgetting vocabulary - difficulty understanding paragraphs

	Difficulty understanding English texts	- difficulty understanding the main idea - confusion with long sentences - difficulty understanding the overall meaning - difficulty answering comprehension questions - losing the meaning while reading
What makes it difficult for you to answer reading comprehension or critical thinking questions?	Difficulty Answering Higher-Order Reading Questions	- difficulty identifying the main idea - difficulty drawing conclusions - difficulty making inferences - difficulty finding supporting evidence - relying on literal meaning - difficulty explaining answers - focusing only on translation
What kind of support do you need from your English teacher?	Need for teacher guidance and scaffolding	- detailed explanation - vocabulary instruction - reading strategies - guided practice - repeated explanation - step-by-step instruction - teacher feedback - simpler reading materials - examples before independent practice

Limited Vocabulary Knowledge

The most frequently reported challenge among slow EFL learners was a limited vocabulary. Most of the students said that unknown words affected them from understanding English texts by themselves. *"I find it difficult to translate two or three paragraphs of an English text,"* said one of the students. (SL1). Another student said, *"I don't know what many English words mean."* "The biggest problem is that I find many new words whose meaning I don't know," another said. (SL2) (SL12). This was confirmed by an English teacher who said, *"Students normally stop reading if they come across an unfamiliar word and ask straight away what it means, rather than try to guess from the context."* (T1)

Furthermore, classroom observations revealed that the children paused frequently during reading, often asked about words they didn't know, and relied on dictionaries or asked the teacher for assistance before continuing with the reading activity. Document analysis also demonstrated consistently worse performance on reading assessments of vocabulary and comprehension.

Difficulty Understanding English Texts

Beyond vocabulary limitations, many slow EFL learners struggled to understand the overall meaning of English texts, especially longer passages. One student commented, *"The most difficult part is translating two or three paragraphs of an English text"* (SL4). Another student stated, *"I cannot understand the text because I do not know what the text means"* (SL9). Teachers similarly observed that many slow learners easily gave up when they encountered English reading passages. As one teacher explained, *"When they see an English text, they tend to give up before they even start reading because they assume it is too difficult"* (T2).

Classroom observations supported this finding, showing that several students hesitated to begin reading, paused frequently, and waited for teacher guidance before continuing. This was also reflected in the reading assignments of the students, who often had concerns as to the main idea and the correct answers to the questions on the text.

Difficulty Answering Higher-Order Reading Questions

Some students recognized explicit information in the text, however many had struggled with answering questions that required analysis, inference and reasoning. One student stated, *"I find it difficult to answer questions that ask me to explain or conclude the text"* (SL10). Another student commented, *"I am confused when the answer is not directly written in the passage"* (SL11). Teachers additionally reported that slow learners looked for specific sentences in the text rather than understanding the content. The classroom observations suggested that students tended to be less eager to answer inferential questions unless they were instructed, and the document analysis indicated that the least scores obtained by them were consistently in the areas that required higher-order thinking instead of factual recall.

The Need for Teacher Guidance and Scaffolding

Most slow EFL learners emphasized the need for greater instructional support during reading activities. One student said, *"The teacher should explain the material more clearly so it is easier to understand"* (SL14). Another student stated that *"I understand the text better when the teacher explains the difficult words before we start reading"* (SL8). The finding was supported by the teacher interview. As one teacher observed, *"These students need continuous guidance because they lose confidence when they are reading by themselves"* (T2).

Classroom observations proved that students regularly waited for instructor help to complete reading activities, and actively requested clarification for unfamiliar vocabulary or comprehension difficulties. The document analysis further demonstrated that the performance of the students was better when reading activities were supported with systematic guidance, vocabulary support and step by step instruction.

Taken together, the four themes indicate an interconnected pattern rather than four isolated difficulties. Limited vocabulary restricted learners' access to sentence- and paragraph-level meaning, which contributed to difficulty understanding texts as a whole. When comprehension was limited, learners also

experienced greater difficulty identifying main ideas, making inferences, drawing conclusions, and providing textual evidence. These difficulties were accompanied by increased reliance on teacher explanations and step-by-step guidance. The pattern therefore suggests a progressive relationship in which vocabulary access supports text comprehension, which in turn facilitates higher-order reading and gradually promotes independent performance. This interpretation provides a basis for sequencing instructional support rather than treating vocabulary, comprehension, critical reading, and autonomy as unrelated problems.

Integrated Findings

The quantitative and qualitative findings were integrated to identify areas of convergence, complementarity, and instructional significance. The quantitative results provided an overview of learning needs across the mixed-ability classrooms, while the qualitative findings provided further explanation of the difficulties and instructional-support needs experienced by learners who required greater support. The integrated findings are presented in the following joint display.

Tabel 7. Thematic Mixed-Methods Joint Display of Learner Needs and Instructional Implications

Quantitative Finding	Qualitative Finding	Integrated Need	Design Implication
Vocabulary: M = 4.26	Difficulty remembering vocabulary	Need for accessible input	Pre-class vocabulary
Autonomy generally positive	High teacher dependence	Independence needs support	Gradual scaffolding
Main idea: M = 3.59; accuracy: M = 3.57	Difficulty with higher-order questions	Need for guided critical reading	Guided questioning
Technology: M = 4.04	Technical/support difficulties	Readiness ≠ independence	Guided digital learning
Confidence/group learning relatively lower	Low confidence and participation	Affective support may be needed	Mindfulness when indicated

Discussion

The findings indicate that students in the mixed-ability EFL classrooms valued reading materials appropriate to their proficiency, explicit reading strategies, engaging activities, and relevant assessment. The particularly high need for vocabulary-appropriate texts (M = 4.26) is consistent with the qualitative finding that slow EFL learners experienced difficulty remembering vocabulary and understanding words, sentences, and paragraphs. These difficulties appeared to affect their subsequent ability to identify main ideas, make inferences, and respond to comprehension questions. This pattern supports the importance of accessible input and guided reading support in EFL classrooms (Abdolmaleki &

Saeedi, 2024; Song & Reynolds, 2022). It also suggests that differentiation should focus not on separating learners, but on varying the level of support provided within shared learning goals (Sholeh et al., 2025).

Although students reported relatively positive learning autonomy, particularly in the use of reading strategies and monitoring comprehension, the qualitative findings showed that slow EFL learners remained dependent on teacher explanations, repetition, and step-by-step guidance. This difference suggests that overall classroom-level autonomy may not fully reflect the needs of learners requiring greater instructional support. Learner autonomy is therefore better understood as a gradual development of responsibility rather than complete independence from teacher support (Tusino & Dewi, 2025; Xu, 2024). Similarly, students showed stronger performance in prediction and distinguishing facts from opinions than in identifying main ideas, checking information, making inferences, and providing evidence. These findings indicate that higher-order reading processes require explicit guidance through questioning, discussion, and reflective activities, as also emphasized in previous EFL research (Anaktototy & Lesnussa, 2022; Faizaturrohman et al., 2022; Lestari et al., 2023).

Students also reported relatively high technology readiness ($M = 4.04$), suggesting that digital resources can provide additional access to English reading materials. This finding is consistent with research highlighting the potential of digital learning and flipped learning to provide flexible access to learning resources and increase opportunities for classroom interaction and guided practice (Klochko et al., 2021; Pongpanich et al., 2025; Tusino et al., 2024). However, the qualitative findings indicate that technology readiness does not necessarily mean that learners can learn independently. Digital materials therefore need to be accompanied by appropriate guidance and flexible access, including PDF or printed materials where necessary. Taken together, the findings suggest an interconnected instructional sequence in which vocabulary access supports text comprehension, comprehension supports higher-order reading, and structured support gradually facilitates greater learner independence.

These integrated findings provide a context-specific empirical basis for preliminary design principles for the proposed Mindfulness-Based Flipped Classroom model. Pre-class activities may provide accessible materials and vocabulary preparation, while classroom activities may emphasize guided reading, structured questioning, collaborative discussion, and differentiated scaffolding. Post-class activities may gradually encourage reflection, self-assessment, and independent practice. Mindfulness should be incorporated only when learners' attentional, confidence, or emotional-readiness needs are supported by the findings, rather than being assumed to be effective a priori (Shen, 2022). Thus, the contribution of the study lies in the needs-analysis-to-model-development pathway, connecting identified learner needs with instructional design decisions. The proposed model should be regarded as an evidence-informed, context-specific design proposition, not as a validated intervention; its effectiveness requires subsequent implementation and empirical evaluation.

CONCLUSION

This study explored the learning needs of students in mixed-ability EFL classrooms as a basis for formulating a Mindfulness-Based Flipped Classroom model. The quantitative findings indicated relatively strong learner autonomy, variation in critical-thinking processes, and relatively high reported readiness for technology integration. However, qualitative evidence from learners who required greater instructional support revealed interconnected difficulties involving vocabulary knowledge, text comprehension, higher-order reading, and dependence on teacher guidance. These findings demonstrate the value of combining broader quantitative evidence with qualitative evidence to identify learner needs that may be less visible in overall classroom patterns.

The integrated findings provide a context-specific empirical basis for preliminary instructional design principles involving vocabulary preparation, explicit reading support, differentiated scaffolding, guided critical-reading activities, gradual development of learner independence, and technology-supported learning. Mindfulness may be incorporated as a readiness-support component where learners' attentional or affective needs warrant its inclusion. The proposed model is designed for implementation within mixed-ability classrooms and does not seek to separate learners according to their learning pace.

The study should nevertheless be understood within its methodological and contextual limitations. The qualitative findings were based on purposive selection within two schools, while the quantitative data relied primarily on student self-report. The identification of slow EFL learners also depended partly on a researcher-developed screening process and descriptive analysis was used rather than inferential or intervention-based analysis. Most importantly, the proposed model was not implemented or tested in this study. Therefore, the findings support preliminary design requirements rather than claims of instructional effectiveness. Future research should implement and evaluate the model through pilot testing and, where appropriate, quasi-experimental or mixed-methods designs, while also examining implementation fidelity and outcomes across different learner groups.

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