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TOPIC SELECTION IN THEME-BASED LEARNING: EFL STUDENTS' MOTIVATION AND READING COMPREHENSION

Wilda[1], Oxtapianus Tawarik[2]
Universitas Katolik Santo Agustinus Hippo, Ngabang, Indonesia[1,2]

o.tawarik@sanagustin.ac.id

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Abstract
Reading comprehension and learning motivation remain persistent challenges for EFL students at the Senior High School level, particularly when assigned reading topics fail to connect with learners' personal interests and daily experiences. This study investigated the impact of topic selection in theme-based learning on the learning motivation and reading comprehension of Grade 10 students at SMAN 1 Anjongan, Mempawah Regency, West KalimantanThis study utilized a pre-experimental one-group pretest-post-test design, involving 32 students who were chosen through purposive sampling. The independent variable was topic selection in theme-based reading instruction, operationalized through Generation Z-relevant topics including technology, social media, pop culture, and global current affairs. Learning motivation was measured using a 30-item questionnaire covering six contextual dimensions, while reading comprehension was measured using a 20-item multiple-choice test. Both instruments were validated through expert judgment, Pearson Product Moment correlation, and Cronbach's alpha reliability coefficient. Data were examined using Paired Samples t-test and Cohen's d. The results revealed statistically significant improvements in both learning motivation ($t = 59.727$, $p = .000$, $d = 2.92$) and reading comprehension ($t = 54.647$, $p = .000$, $d = 2.40$), with both effect sizes classified as huge. These findings suggested that aligning reading topics with students' generational interests was associated with simultaneous improvements in motivational engagement and cognitive performance. This study contributes novel empirical evidence on the dual cognitive and affective impact of topic selection in theme-based reading instruction within the Indonesian Senior High School context, particularly in rural settings where such evidence remains scarce.

Keywords— EFL reading instruction, Generation Z, learning motivation, reading comprehension, Senior High School students, theme-based learning, topic selection

Introduction

Reading comprehension is broadly acknowledged as a fundamental skill in English as a Foreign Language (EFL) education, allowing learners to access information, build meaning, and develop linguistic competence across various domains of life (Lustyantie & Kasan, 2021). Despite its importance, reading comprehension remains a persistent challenge for EFL students at the Senior High School level, who frequently struggle to move beyond word recognition toward meaningful text interpretation. These difficulties are compounded by limited vocabulary, insufficient prior knowledge, and the inability to distinguish main ideas from supporting details. Background Knowledge Theory explains that comprehension is substantially enhanced when readers possess prior knowledge relevant to the topic being read; when students encounter unfamiliar content, cognitive load increases and comprehension diminishes (Alzubi & Nazim, 2024). Topic selection therefore carries direct pedagogical consequences for cognitive performance.

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Closely linked to this is the role of learning motivation, which shapes the depth and persistence of engagement with reading material. Learning motivation involves both intrinsic factors, such as genuine curiosity and personal interest, and extrinsic factors, such as grades and social recognition (Kashefian-Naeeini et al., 2024). Inocian et al. (2019) identified six contextual dimensions that shape Senior High School students' motivation: Faith, Family, Economic Status, Friends, Goals, and Education. When reading topics fail to connect with these personal dimensions, students tend to engage in compliance-driven participation, completing tasks solely to satisfy grade requirements rather than out of genuine curiosity, creating a fragile motivational structure that collapses without external pressure. Theme-Based Learning (TBL) is particularly suited to address this dual challenge because it simultaneously targets the cognitive dimension by activating prior knowledge through familiar themes and the affective dimension by aligning instructional content with students' personal motivational dimensions.

Pre-research conducted from October 6 to 8, 2025, at SMAN 1 Anjongan, Mempawah Regency, West Kalimantan, confirmed the urgency of this issue in practice. Observations of 29 Grade 10 students during a lesson on "Athletes and Sports Figures" revealed widespread disengagement: students showed no curiosity, abandoned difficult vocabulary without attempting inference, and participated only when directly prompted. The class average was 57.7, well below the minimum competency threshold (KKTP = 75), and only 5 out of 29 students (17.2%) met the passing standard. Informal interviews confirmed that the sports theme felt irrelevant to students' daily lives as Generation Z learners, while topics related to technology, social media, and current trends were perceived as far more engaging (Chardonnens, 2023). This condition reflects a broader urgency under the Merdeka Curriculum, which mandates student-centered, theme-based instruction under Phase E yet offers limited empirical guidance on topic selection for Generation Z learners in rural schools (Putu & Suharta, 2024).

Although existing studies have examined related aspects of this topic, critical gaps remain. Zhang et al. (2025) confirmed that TBL improves reading proficiency but examined university students only and did not investigate how topic selection affects motivation. Sulaiman & Al Shuaili (2025) demonstrated improvements in comprehension through collaborative instruction but overlooked whether topic content independently drives engagement. Alzubi & Nazim (2024) found that topic-based interest enhances intrinsic motivation in EFL writing, yet confined their work to productive skills and university-level learners in Saudi Arabia. None of these studies examined the simultaneous impact of topic selection on both learning motivation and reading comprehension within the Indonesian Senior High School context, leaving unresolved whether topic selection can activate cognitive and affective dimensions simultaneously, and this gap constitutes the novelty of the present study. The urgency of addressing this gap is reinforced by the Merdeka Curriculum's Phase E mandate, which requires student-centered, topic-relevant reading instruction yet provides teachers with no evidence-based guidance on which topic categories best serve Generation Z learners in rural Indonesian schools. The present study therefore offers an integrated analysis of topic selection outcomes within the Indonesian Senior High School context. This study examined the effect of topic selection in theme-based learning on the learning motivation and reading comprehension of Grade 10 students at SMAN 1 Anjongan, directed by the following research question: Does topic selection in theme-based learning significantly affect students' learning motivation and reading comprehension among Grade 10 students at the Senior High School level, and what is the effect size?

Literature Review

Reading Comprehension

Reading comprehension in EFL contexts is fundamentally influenced by both cognitive and affective dimensions of learning. From the cognitive perspective, Background Knowledge Theory suggests that comprehension is considerably improved when readers have prior knowledge related to the topic being read (Alzubi & Nazim, 2024). When students encounter texts connected to their existing knowledge schemata and personal experiences, they are better equipped to predict meaning, identify key ideas, and draw inferences. Conversely, students exposed to topics unrelated to their lived experiences face higher cognitive load and reduced

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understanding, as they must simultaneously process unfamiliar content and unfamiliar language. The theory therefore establishes topic selection as a direct cognitive variable, with concrete implications for how much mental effort students can devote to meaning-making rather than to content decoding.

From the affective perspective, learning motivation determines the depth and persistence with which students engage with reading material. Inocian et al. (2019) identified six contextual dimensions that shape Senior High School students' motivation: Faith, Family, Economic Status, Friends, Goals, and Education. These dimensions reflect the personal, social, and aspirational factors that drive students to engage with or disengage from learning activities. When reading topics connect meaningfully with one or more of these dimensions, students are more likely to invest sustained effort in comprehension; when topics remain disconnected from these dimensions, motivation diminishes and engagement becomes superficial. Kashefian-Naeeini et al. (2024) further verified that both intrinsic factors, such as genuine curiosity and personal interest, and extrinsic factors, such as grades and recognition, interact dynamically to influence the quality of student engagement in EFL reading contexts. Taken together, Background Knowledge Theory and the motivational framework of Inocian et al. (2019) converge on a single pedagogical implication: topic selection is not a peripheral curricular decision but a critical determinant of both cognitive performance and motivational engagement.

Thematic Topic-Based Learning

Theme-Based Learning (TBL) operationalizes this implication by organizing language instruction around meaningful and contextually relevant themes, allowing learners to encounter language in an authentic and purpose-driven way (Zhang et al., 2024). Unlike isolated grammar or vocabulary exercises, TBL integrates language and content learning, enabling students to develop communicative competence and fluency through repeated exposure to theme-driven material, consistent with the traditions of content-based and communicative language teaching (Ismael et al., 2025). The critical factor in TBL, however, is not the use of themes per se, but the degree to which the selected themes resonate with learners' personal interests, developmental stages, and cultural backgrounds. Srivoranart et al. (2022) demonstrated this clearly, showing that theme-based instruction built around learners' genuine interest in beauty pageants significantly improved intrinsic motivation, attitudes toward the target language, and Spanish proficiency among Thai university students. Firdaus et al. (2018) similarly found meaningful gains in both learning motivation and academic achievement among primary school students following theme-based blended learning, indicating that TBL's motivational benefits apply across educational levels when themes are chosen in accordance with learners' interests and needs.

Learning Motivation

The characteristics of Generation Z learners make this theme alignment particularly consequential in contemporary EFL classrooms. Generation Z students, who have grown up immersed in digital environments, tend to be most engaged by topics related to technology, social media, music, online entertainment, and viral current events (Chardonnens, 2023). Tirocchi (2024) further noted that Generation Z learners prefer interactive, visual, and popular culture-related content, reflecting deeper patterns of cognitive and affective engagement rooted in generational experience. These characteristics directly inform topic selection in TBL: when instructional themes align with students' generational identities and digital literacy practices, the schema activation predicted by Background Knowledge Theory becomes more accessible, and the motivational dimensions identified by Inocian et al. (2019), particularly Goals and Education, are more readily activated. In the Indonesian EFL context, Putra & Sekewael (2025) empirically verified this relationship, revealing that theme-based learning yielded substantial gains in both reading comprehension and writing proficiency among non-English major students, supporting the argument that topically relevant instruction produces meaningful improvements in language skills within Indonesian educational settings.

This alignment between learner characteristics and topic selection is also institutionally supported within the Indonesian curriculum framework. Theme-Based Learning is embedded in the Merdeka Curriculum, which provides space for schools to design instruction based on

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thematic connections across subjects (Putu & Suharta, 2024). For Grade 10 students of SMA/MA under Phase E, the English curriculum adopts a genre-focus approach in which students engage with diverse text types through various media, as mandated by the Head of BSKAP Decree No. 032/H/KR/2024. Phase E learning outcomes explicitly require students to discuss themes connected to their daily lives and current issues appropriate for their developmental stage, strongly implying that topic selection should be treated as a deliberate, student-centered instructional decision. Taken together, the theoretical support from Background Knowledge Theory and the motivational framework of Inocian et al. (2019), the empirical evidence from TBL research, the generational characteristics of contemporary learners, and the curricular mandate of the Merdeka Curriculum collectively establish topic selection in theme-based reading instruction as a pedagogically significant variable warranting systematic investigation, particularly in rural Indonesian Senior High School settings where learner engagement remains a persistent challenge.

The theoretical and empirical literature reviewed above converges on a unified conceptual premise that underpins the present study. Background Knowledge Theory establishes topic selection as a cognitive variable, asserting that comprehension is substantially enhanced when readers can activate prior knowledge relevant to the content of the text (Alzubi & Nazim, 2024). When students encounter reading materials connected to their existing knowledge schemata, cognitive load is reduced and meaning-making becomes more accessible. Conversely, exposure to topics disconnected from students' lived experiences elevates cognitive demands and diminishes comprehension outcomes. Topic selection therefore operates as a direct determinant of reading performance, with concrete pedagogical implications for how much mental effort students can devote to understanding rather than to content decoding.

From the affective dimension, the motivational framework proposed by Inocian et al. (2019) identifies six contextual dimensions, namely Faith, Family, Economic Status, Friends, Goals, and Education, that influence Senior High School students' motivation to participate in learning activities. These dimensions reflect the personal, social, and aspirational factors that drive students toward or away from sustained engagement. When reading topics connect meaningfully with one or more of these dimensions, students are more likely to invest effortful cognitive processing in the reading task. When topics remain disconnected from these dimensions, motivation diminishes and engagement becomes compliance-driven rather than genuinely curiosity-based. Kashefian-Naeeini et al. (2024) further verified that intrinsic and extrinsic motivational factors interact dynamically to influence the quality of student engagement in EFL reading, supporting the argument that the affective dimension of topic selection has direct consequences for learning outcomes.

Taken together, these two theoretical perspectives establish topic selection as a dual-dimensional variable that simultaneously shapes both the cognitive and affective conditions necessary for meaningful EFL reading. Theme-Based Learning operationalizes this dual function by organizing reading instruction around topics that are contextually relevant to learners, thereby activating prior knowledge schemata and fulfilling the motivational dimensions identified by Inocian et al. (2019) within a single instructional act (Zhang et al., 2024; Ismael et al., 2025). The current study therefore examines both learning motivation and reading comprehension as theoretically inseparable outcomes of topic selection in theme-based reading instruction, rather than as independent variables to be studied in isolation. This integrated perspective constitutes the conceptual novelty of the study and directly addresses the gap identified in prior research, none of which has examined the simultaneous affective and cognitive impact of topic selection within the Indonesian Senior High School context (Putu & Suharta, 2024).

Research Method

Research Type

This research utilized a pre-experimental one-group pretest-post-test design, in which one intact class served as both the subject and the experimental group (Farisyah et al., 2025). This design was selected because the study aimed to measure within-group changes resulting from the intervention rather than to compare outcomes across different groups (Gebremariam & Weldeyohannes, 2025). The population comprised all Grade 10 students of SMAN 1 Anjongan,

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Mempawah Regency, West Kalimantan, in the academic year 2025/2026. Through purposive sampling, one class of 32 students was selected based on their demonstrated low motivation and reading comprehension scores in the pre-research phase, as well as the accessibility of the class and the willingness of both the teacher and students to participate.

Research Instrument

This research investigated one independent variable and two dependent variables. The independent variable was topic selection in theme-based reading instruction, operationalized through the diversity and contextual appropriateness of reading topics aligned with Generation Z interests, including technology, social media, entertainment, and youth culture. The first dependent variable was learning motivation, measured using a 30-item questionnaire covering six dimensions: Faith, Family, Economic Status, Friends, Goals, and Education (Inocian et al., 2019). These six dimensions reflect the personal, social, and aspirational motivational factors that are contextually grounded in the Indonesian Senior High School setting. The second dependent variable was reading comprehension, assessed through a 20-item multiple-choice test covering literal comprehension, inferential comprehension, and critical evaluation.

Prior to data collection, both instruments underwent a rigorous validation process. Instrument validity was first established through expert judgment by a panel of three judges, after which a pilot study was conducted with a comparable group of Grade 10 students. Item validity was then confirmed statistically using Pearson Product Moment correlation, with all items from both instruments yielding r-count values exceeding the r-table threshold of 0.338 ($N = 32$, $\alpha = 0.05$). Reliability was subsequently assessed using Cronbach's alpha, producing coefficients of 0.894 for the motivation questionnaire and 0.984 for the reading comprehension test, confirming that both instruments were sufficiently reliable for use in the main study.

Data Collection Procedure

Data collection proceeded through four sequential stages: preparation, pretest, intervention, and post-test. In the preparation stage, reading materials and instruments were finalized and the classroom schedule was coordinated with the school. The pretest was then administered to establish baseline scores for both dependent variables before the intervention began. The intervention was conducted over four weeks, during which students participated in theme-based reading sessions using Generation Z-relevant topics, including technology, social media, pop culture, and global current affairs. Each session followed a consistent three-phase procedure: pre-reading, in which vocabulary was pre-taught and topic background was activated; while-reading, in which students completed guided comprehension tasks; and post-reading, in which class discussion and vocabulary reinforcement took place. Throughout the intervention period, the researcher served as the instructor for all sessions, having obtained prior permission from the class English teacher. To ensure instructional consistency across sessions, a detailed lesson plan was prepared for each meeting, specifying learning objectives, selected reading texts, vocabulary pre-teaching procedures, guided comprehension tasks, and post-reading discussion activities. The classroom English teacher was present as an observer during the sessions, monitoring the implementation process and providing an additional layer of quality assurance. This observational arrangement ensured that the intervention was implemented as planned and that procedural consistency was maintained across all four weeks of instruction. Following the final session, the post-test was administered under the same conditions as the pretest to measure post-intervention outcomes. To supplement the quantitative data, brief structured interviews were conducted with two purposively selected students, namely the student with the highest post-test scores and the student with the greatest score gain, to gather qualitative impressions of their experiences with the theme-based reading approach.

Data Analysis Procedure

The collected data were processed using SPSS Version 25 through a series of sequential statistical procedures. Descriptive statistics were first calculated to summarize the distribution of pretest and post-test scores. The Shapiro-Wilk normality test was then conducted to confirm that the data met the assumptions of parametric testing. The Paired Samples t-test was subsequently

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used to determine whether the difference between pretest and post-test scores was statistically significant, and Cohen's d was calculated to quantify the practical effect size of the intervention. The null hypothesis was rejected if the obtained t-value exceeded the critical t-table value of 2.042 (df = 31, α = .05, two-tailed). The combination of these procedures ensured that the findings could be evaluated both in terms of statistical significance and practical educational meaningfulness.

Results and Discussion

This section presents the findings of this study, which investigated the impact of topic selection in theme-based learning on learning motivation (Y1) and reading comprehension (Y2) of Grade 10 EFL students at SMAN 1 Anjongan, Mempawah Regency, West Kalimantan. The findings are presented in the following order: (1) validity test results for the learning motivation questionnaire (Table 1) and reading comprehension test (Table 2), (2) descriptive statistics for learning motivation (Table 3), (3) descriptive statistics for reading comprehension (Table 4), (4) normality test results (Table 5), (5) combined Paired Samples t-test results for both variables (Table 6), (6) effect size results (Table 7), and (7) interview findings from two selected students regarding their impressions of theme-based learning.

Validity Test Results

Before the main data collection, a validity test was carried out using Pearson Product Moment correlation. All items from both the Learning Motivation Questionnaire (30 items) and the Reading Comprehension Test (20 items) were tested against the r-table value of 0.338 (N = 32, α = 0.05). Items with r-count > r-table were declared valid. As presented in Table 1 and Table 2 below, all items from both instruments exceeded the r-table threshold, confirming that all items were valid and suitable for use in the main study.

Table 1. Item Validity of Learning Motivation Questionnaire

Component	N Items	r-count Range	r-table	Status
Faith	5	0.368–0.619	0.338	Valid
Family	5	0.370–0.674	0.338	Valid
Economic Status	5	0.368–0.588	0.338	Valid
Friends	5	0.361–0.645	0.338	Valid
Goals	5	0.414–0.697	0.338	Valid
Education	5	0.392–0.658	0.338	Valid
Total	30	0.361–0.697	0.338	Valid

Table 2. Item Validity of Reading Comprehension Test

Dimension	N Items	r-count Range	r-table	Status
Main Idea	4	0.548–0.703	0.338	Valid
Detailed Information	4	0.493–0.652	0.338	Valid
Vocabulary in Context	4	0.375–0.663	0.338	Valid
Inference	4	0.387–0.461	0.338	Valid
Reference	4	0.395–0.583	0.338	Valid
Total	20	0.375–0.703	0.338	Valid

First Findings: The Impact of Topic Selection on Learning Motivation (Y1)

Prior to the intervention, students showed a pretest motivation mean of 55.77 (SD = 9.80) out of a maximum possible score of 100. Based on the score categorization framework proposed by Inocian et al. (2019), in which scores between 40 and 59 are categorized as low motivation, 60

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to 79 as moderate motivation, and 80 to 100 as high motivation, the pretest mean falls within the low motivation category. This finding indicates that prior to the intervention, students' motivation to engage with English reading materials was notably limited, likely as a result of the perceived irrelevance of previously assigned reading topics to their personal interests and daily lives as Generation Z learners. Following the four-week theme-based reading intervention incorporating topics relevant to Generation Z students such as technology, social media, pop culture, and global current affairs, the post-test mean rose substantially to 83.31 (SD = 9.06), placing students firmly within the high motivation category. This substantial shift across two motivation categories suggests that topic alignment with learner interests is a powerful driver of motivational engagement, consistent with the motivational framework of Inocian et al. (2019). The descriptive statistics for learning motivation are displayed in Table 3.

Table 3. Descriptive Statistics for Learning Motivation (Y1)

	N	Mean	SD	Range
Pre-Test Motivation	32	55.77	9.80	38–76
Post-Test Motivation	32	83.31	9.06	67.33–100
Mean Gain		+27.54	2.61	

Table 4 presents the descriptive statistics for reading comprehension (Y2). Before the intervention, students' reading comprehension scores were notably low, with a pretest mean of 52.50 (SD = 8.42) out of 100, well below the school's Learning Objective Achievement Criteria (KKTP) threshold of 75. Following the intervention, the post-test mean increased substantially to 73.75 (SD = 9.25), nearly reaching the KKTP threshold of 75. The mean gain of +21.25 points represents a meaningful shift in students' reading comprehension performance.

Table 4. Descriptive Statistics for Reading Comprehension (Y2)

	N	Mean	SD	Range
Pre-Test Reading	32	52.50	8.42	35–70
Post-Test Reading	32	73.75	9.25	55–90
Mean Gain		+21.25		

Normality Test Results

Before hypothesis testing, a normality test was carried out using the Shapiro-Wilk test to confirm that the assumptions of the parametric Paired Samples t-test were fulfilled. The results, displayed in Table 5, revealed that all four variables, namely Pre-Test Motivation, Post-Test Motivation, Pre-Test Reading, and Post-Test Reading, were normally distributed (Sig. > .05). The assumption of normality was therefore satisfied, and the Paired Samples t-test was utilized as the appropriate parametric statistical test for hypothesis testing.

Table 5. Tests of Normality (Shapiro-Wilk)

Variable	N	Statistic	df	Sig.
Pre-Test Motivation	32	.978	31	.737
Post-Test Motivation	32	.976	31	.667
Pre-Test Reading	32	.969	31	.478
Post-Test Reading	32	.962	31	.308

Table 6 presents the combined Paired Samples t-test results for both learning motivation (Y1) and reading comprehension (Y2). For learning motivation, the analysis revealed a statistically significant difference between pretest and post-test scores (t = 59.727, df = 31, Sig. (2-tailed) =

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.000), well below the significance threshold of α = .05. The correlation between pretest and post-test motivation scores was r = .965 (p = .000), indicating a very strong positive relationship. For reading comprehension, the analysis yielded t = 54.647 with df = 31 and Sig. (2-tailed) = .000, confirming a highly significant improvement. The correlation between pretest and post-test reading scores was r = .973 (p = .000), reflecting an extremely strong positive relationship. Both t-values (59.727 and 54.647) substantially exceeded the critical t-table value of 2.042 (df = 31, α = .05, two-tailed), leading to the rejection of both null hypotheses (H_{01} and H_{02}).

Table 6. Combined Paired Samples t-Test Results for Learning Motivation (Y1) and Reading Comprehension (Y2)

	N	t	Sig. (2-tailed)	Cohen's d
Post Motivation – Pre Motivation	32	59.727	.000	2.92
Post Reading – Pre Reading	32	54.647	.000	2.40

Table 7 presents the effect size results calculated using Cohen's d for both dependent variables. According to Sawilowsky (2009), who extended Cohen et al. (1990) original benchmarks for effect size interpretation, a Cohen's d value of 2.0 or greater is classified as a "huge" effect size. Prior to Sawilowsky (2009) expanded classification, Cohen et al. (1990) identified d ≥ 0.8 as a "large" effect. Sawilowsky (2009) further extended this framework to include "very large" (d ≥ 1.2) and "huge" (d ≥ 2.0) categories to accommodate effect sizes observed in educational and behavioral intervention research. For learning motivation, Cohen's d = 2.92, which falls within the "huge" category (d ≥ 2.0) as defined by Sawilowsky (2009). For reading comprehension, Cohen's d = 2.40, likewise categorized as a "huge" effect size. These exceptionally large effect sizes confirm that the theme-based reading intervention produced not only statistically significant but also practically powerful and educationally meaningful gains in both dependent variables. Both alternative hypotheses (Ha1 and Ha2) are therefore accepted: topic selection in theme-based learning has a significant impact on both the learning motivation and reading comprehension of Grade 10 students at SMAN 1 Anjongan.

Table 7. Effect Size Results (Cohen's d)

Variable	Cohen's d	Interpretation	Reference
Learning Motivation (Y1)	2.92	Huge	Sawilowsky (2009)
Reading Comprehension (Y2)	2.40	Huge	Sawilowsky (2009)

Interview Findings: Students' Impressions of Theme-Based Learning

Following the post-test, brief structured interviews were conducted with two purposively selected students to gather qualitative impressions of their experiences with theme-based learning. Student A was selected based on the highest post-test scores (Reading = 90, Motivation = 100), while Student B was selected based on the greatest score gain (Reading +35 points, Motivation +44.67 points).

Both students reported a strong positive impression of the Generation Z-relevant topics used throughout the intervention, consistently describing the instructional materials as more personally meaningful than those typically encountered in their regular classroom settings. Student A expressed that the topics felt deeply connected to daily life, stating, *"I really enjoyed the topics because they were about things I actually use every day, like social media and technology. It felt like reading something from my own life."* Student B similarly described the themes as far more relatable than previous classroom materials, noting, *"The topics were much more relatable than what we usually read in class. I could connect with the content right away without feeling lost."* This perceived relevance appeared to reduce the psychological distance between the learner and the text, enabling students to approach reading with greater confidence. These responses are consistent with Background Knowledge Theory, which predicts that topic familiarity reduces cognitive load and enables more efficient meaning-making during reading tasks (Alzubi & Nazim,

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2024).

Both students also reported a meaningful increase in reading motivation during the intervention, describing a qualitative shift in their orientation toward reading tasks that extended well beyond mere task completion. Student A noted a genuine sense of curiosity about the content, stating, *"Yes, definitely. I wanted to read more carefully because I was genuinely curious about what the text was saying. I did not want to miss anything."* Student B described a behavioral change driven by intrinsic interest rather than obligation, saying, *"I found myself reading the same paragraph two or three times because I actually wanted to understand it, not just finish the task."* When reflecting on their reading experiences before the intervention, Student A recalled, *"Before, the topics felt far from my life. I read because I had to, not because I wanted to. It was hard to stay focused,"* while Student B added, *"I used to get distracted easily during reading lessons because the topics did not feel relevant to me at all. I often just gave up when it got difficult."* This contrast between pre- and post-intervention engagement aligns closely with the motivational dimensions identified by Inocian et al. (2019), particularly Goals and Education, which are activated when instructional content connects meaningfully with students' personal aspirations and daily experiences.

Both students further affirmed that topic familiarity directly supported their reading comprehension during the intervention, providing qualitative evidence of the cognitive mechanism proposed by Background Knowledge Theory. Student A explained, *"Yes, because I already knew something about the topic, so it was easier to guess the meaning of new words and understand the main idea faster."* Student B echoed this, stating, *"When the topic was familiar, I did not have to struggle with the content and the language at the same time. I could focus more on understanding the meaning."* Both students also described a marked increase in reading persistence, with Student A saying, *"I kept reading even when I found difficult words because I really wanted to know the full story. The topic made me push through instead of giving up,"* and Student B concluding, *"Because I was curious about the topic, I tried harder to understand every part of the text. I even looked up words I did not know, which I never did before."* As Chardonnens (2023) noted, Generation Z learners respond most meaningfully to instructional content that mirrors their lived digital and social experiences, and these accounts suggest that the alignment between topic and learner identity was a key driver of both the motivational engagement and comprehension improvements observed in this study.

These qualitative findings, while illustrative rather than representative of the full sample, offer student-level perspectives that are consistent with the quantitative results, suggesting that topic relevance played a meaningful role in fostering motivation and reading engagement for at least some participants in this study.

Discussion

The results of this study reveal that topic selection in theme-based learning yielded substantial improvements in both reading comprehension and learning motivation among Grade 10 EFL students at SMAN 1 Anjongan. The descriptive results revealed a mean gain of +21.25 points in reading comprehension, with the pretest mean of 52.50 rising to a post-test mean of 73.75, which, while representing a substantial improvement, marginally fell short of the school's minimum competency threshold (KKTP = 75). This gap of 1.25 points below the KKTP warrants critical attention, as it suggests that although topic-relevant instruction produced meaningful cognitive gains, a four-week intervention period may be insufficient to bring students with initially low comprehension scores to the level of full curricular competency. This finding implies that topic selection in TBL is a necessary but potentially not sufficient condition for achieving KKTP-level mastery, and that sustained, longitudinal implementation may be required to close the remaining gap. Prior to the intervention, students struggled to process and interpret English texts when exposed to topics disconnected from their prior knowledge and daily experiences. Following the theme-based reading intervention using Generation Z-relevant topics, their comprehension improved meaningfully. This improvement aligns with Background Knowledge Theory, which asserts that comprehension is substantially enhanced when readers can activate relevant prior knowledge in relation to the topic of the text (Alzubi & Nazim, 2024). When students engaged with themes drawn from their generational experience, such as technology and

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social media, they brought a richer schema to the reading process, enabling them to predict meaning, identify key ideas, and make inferences with reduced cognitive effort. Putra & Sekewael (2025) similarly found that theme-based learning produced substantial gains in reading comprehension among non-English major students in an Indonesian polytechnic setting, confirming that topically relevant instruction generates meaningful cognitive improvements within Indonesian educational contexts Zhang et al. (2024) further confirmed that TBL improves reading proficiency by providing students with familiar content scaffolding that reduces the cognitive burden of simultaneous content and language processing. These findings collectively establish that the reading comprehension gains observed in this study reflect a theoretically grounded and empirically supported mechanism through which topic relevance enhances cognitive performance in EFL reading. In the Indonesian Senior High School context specifically, where students in rural settings frequently encounter reading materials disconnected from their generational experiences and local realities, these findings carry direct practical implications for how English teachers approach text and topic selection within the Merdeka Curriculum's Phase E framework.

A comparable pattern of improvement was observed for learning motivation, with the pretest mean of 55.77 rising to a post-test mean of 83.31, representing a mean gain of +27.54 points and a shift from the low motivation category to the high motivation category based on the framework of Inocian et al. (2019). Prior to the intervention, students' motivational engagement was notably limited, consistent with pre-research observations showing compliance-driven participation rather than genuine curiosity. Following the intervention, students moved firmly into the high motivation category, suggesting that the Generation Z-relevant topics successfully activated the personal, social, and aspirational dimensions of motivation identified by Inocian et al. (2019), particularly the Goals and Education dimensions, which are closely tied to students' sense of relevance and future orientation. Srivoranart et al. (2022) demonstrated a comparable pattern, finding that theme-based instruction organized around learners' genuine interests significantly improved intrinsic motivation and positive attitudes toward the target language among university students in Thailand. Firdaus et al. (2018) similarly reported meaningful gains in learning motivation following theme-based blended learning across primary school students, confirming that TBL's motivational benefits extend across educational levels when themes are selected in alignment with learners' interests and needs. These findings confirm that when reading topics resonate with learners' personal and generational dimensions of motivation, sustained and meaningful motivational engagement follows.

These improvements in both variables were further supported by the Paired Samples t-test results, which produced $t = 59.727$ ($df = 31$, $p = .000$, $r = .965$) for learning motivation and $t = 54.647$ ($df = 31$, $p = .000$, $r = .973$) for reading comprehension. Both t-values substantially exceeded the critical t-table value of 2.042 ($df = 31$, $\alpha = .05$, two-tailed), leading to the rejection of both null hypotheses and the acceptance of both alternative hypotheses. The very high pre-to-post correlations ($r = .965$ and $r = .973$) reflect a strong rank-order stability among participants across the two measurement points, indicating that students who performed relatively higher at pretest also tended to achieve relatively higher scores at post-test. While such correlations do not themselves constitute evidence of treatment effectiveness, they confirm that the pattern of individual differences remained consistent throughout the intervention period, and that the statistically significant mean differences observed are attributable to systematic within-person change rather than to random fluctuation or the influence of extreme scores. Gebremariam & Weldeyohannes (2025) found statistically significant gains in both reading comprehension and motivation following a structured reading strategy intervention in EFL classrooms, reinforcing that instructional approaches directed at affective and cognitive dimensions of reading simultaneously produce measurable statistical gains. Ismael et al. (2025) further demonstrated that theme-based blended learning produced statistically significant improvements among EFL university students in Egypt, confirming that TBL-based interventions consistently yield statistically reliable improvements across diverse EFL contexts. The statistical significance of the findings in the present study therefore reflects a broader pattern of empirical support for the effectiveness of theme-based instructional approaches in EFL settings.

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Beyond statistical significance, the effect size analysis revealed that both dependent variables yielded effect sizes classified as "huge" according to Sawilowsky (2009): Cohen's d = 2.92 for learning motivation and Cohen's d = 2.40 for reading comprehension. These values substantially exceed the "large" threshold ($d \geq 0.8$) established by Cohen et al. (1990) and the "very large" threshold ($d \geq 1.2$) defined by Sawilowsky (2009), placing both findings in the highest classification available in educational effect size research. The exceptional magnitude of these effect sizes confirms that the theme-based reading intervention produced not only statistically detectable but also practically powerful and educationally meaningful gains in both dependent variables. Srivoranart et al. (2022) reported large effect sizes for motivation outcomes in theme-based language instruction, supporting the finding that topic-aligned TBL consistently produces strong practical effects on learner motivation. Putra and Sekewael (2025) similarly documented substantial effect magnitudes for comprehension outcomes in TBL-based reading instruction within the Indonesian EFL context, providing direct comparative support for the huge effect sizes obtained in the present study. The convergence of huge effect sizes across both affective and cognitive dimensions within a single intervention suggests that topic selection in theme-based learning produced not merely marginal improvements but practically powerful gains in students' engagement with and comprehension of EFL reading materials, a pattern that warrants further investigation across larger and more diverse learner populations. The exceptionally large effect sizes observed in this study merit critical reflection. Pre-experimental one-group designs without control groups are known to produce inflated effect size estimates, as the absence of a comparison condition means that all observed change is attributed entirely to the intervention, including variance that might otherwise be explained by maturation, repeated testing, or regression to the mean. Furthermore, the baseline scores of participants were notably low, with pretest means of 55.77 for motivation and 52.50 for reading comprehension, creating a substantial ceiling for improvement that naturally amplifies the magnitude of any observed gain. The combination of a low baseline, a highly structured intervention using topics entirely new to participants, and the absence of a control group collectively creates conditions in which large effect sizes are statistically likely regardless of the true magnitude of the treatment effect. These effect sizes should therefore be interpreted as indicative of the practical significance of topic-relevant instruction within this specific context rather than as absolute benchmarks applicable to EFL intervention research more broadly. Future studies employing control group designs and more diverse baseline populations would provide a more precise estimate of the true effect of topic selection in theme-based learning. Several limitations of this study should be acknowledged. The study involved 32 students from a single school in a rural setting, which restricts the generalizability of the results to broader EFL populations. The absence of a control group means that improvements cannot be attributed solely to topic selection, as several alternative explanations warrant consideration. First, the novelty of the instructional approach itself may have temporarily elevated student engagement regardless of topic content, as students frequently respond positively to any departure from routine classroom activities. Second, the increased presence and attention of the researcher as instructor may have introduced a Hawthorne-like effect, in which students performed better simply because they were aware of being observed. Third, the pre-experimental repeated testing design, in which students completed both a pretest and a post-test using parallel instruments, may have produced some degree of familiarity with the test format that contributed to score gains independent of the intervention. Fourth, the intensity of the four-week intervention, involving structured and consistently scaffolded sessions, may itself have driven improvements beyond what topic selection alone could produce. These alternative explanations do not invalidate the findings but underscore the importance of interpreting them with appropriate caution. Future research is encouraged to employ experimental or quasi-experimental designs with control groups, to examine the sustained effects of topic-relevant TBL over longer intervention periods, and to investigate which specific topic categories generate the greatest gains across diverse learner populations and educational contexts.

Conclusion

This study provided evidence that topic selection in theme-based learning was associated

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with substantial improvements in both learning motivation and reading comprehension among Grade 10 EFL students at SMAN 1 Anjongan, Mempawah Regency, West Kalimantan, with effect sizes classified as huge (Cohen's d = 2.92 for learning motivation and Cohen's d = 2.40 for reading comprehension). Given the pre-experimental design employed, these findings are interpreted as indicative of a strong association between topic-relevant instruction and improved outcomes rather than as evidence of direct causation. These findings directly answer the research question: there is a significant impact of topic selection in theme-based learning on both learning motivation and reading comprehension among Grade 10 students at the Senior High School level, with a huge effect size for both variables. The results confirm that aligning readin topics with the personal, social, and aspirational motivational dimensions identified by Inocian et al. (2019), particularly Goals and Education, simultaneously enhances students' motivational engagement and cognitive reading performance. To the best of the researchers' knowledge, no prior study has examined both outcomes simultaneously within the Indonesian Senior High School context, particularly in a rural setting, making the present findings a novel empirical contribution to the field. Practically, this study provides evidence-based guidance for EFL teachers to design learner-centered, topic-relevant reading instruction within the Merdeka Curriculum's Phase E framework, particularly in rural Senior High School settings where such empirical guidance remains limited. Theoretically, this study extends the application of Background Knowledge Theory and the motivational framework of Inocian et al. (2019) to the Indonesian Senior High School context by demonstrating that topic selection operates simultaneously on cognitive and affective dimensions of learning. Practically, these findings suggest that EFL teachers should treat topic selection as a core pedagogical decision rather than a peripheral curricular matter, and that curriculum designers should provide more explicit guidance on topic categories that best serve Generation Z learners in rural settings. The results of this study should be interpreted within the boundaries of its specific context, as the sample consisted of 32 students from a single rural Senior High School in Mempawah Regency, West Kalimantan. Generalization to broader EFL populations, urban settings, or other regional contexts therefore requires additional empirical verification. Future research is encouraged to utilize a control group design, involve larger and more diverse student populations across multiple school settings, and investigate the long-term effects of topic selection across diverse EFL learner populations and language skills.

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