

Learning Preferences and Self-Directed Practices among Female EFL Learners in an Indonesian Residential School

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Received: 18 June 2026 | Revised: 05 August 2026 | Accepted: 11 August 2026

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Abstract

The learning preferences of female English as a foreign language (EFL) learners in economically disadvantaged and culturally diverse secondary-school settings remain underexamined, particularly in relation to self-directed learning. This study investigated the predominant learning-style modality among female students and examined how their preferred learning activities supported self-directed learning. Employing a quantitative descriptive design, the study involved 30 female students purposively selected from a Christian residential secondary school in East Nusa Tenggara, Indonesia. Data were collected using a 23-item questionnaire covering visual, auditory, and kinesthetic learning activities alongside self-directed practices and rated on a five-point frequency scale. Descriptive percentage analysis showed that kinesthetic activities received the highest combined proportion of “always” and “often” responses (53%), followed by visual (48%) and auditory activities (47%). Particularly strong endorsement was recorded for preparing drafts before completing tasks (83.3% always/often), learning through experimentation and using task examples (70.0% each), revising and evaluating completed work (66.7%), elaborating learning materials at home (66.7%), and maintaining a home-study schedule (63.3%). These practices indicate that active engagement was intertwined with planning, task execution, monitoring, and evaluation—core processes of self-directed learning. Nevertheless, the distributions across all three modalities reveal a multimodal rather than exclusively kinesthetic profile. The findings therefore support instructional designs that combine visual resources and oral explanation with substantial opportunities for practice, experimentation, planning, and reflection.

Keywords: female EFL learners; learning preferences; self-directed learning; kinesthetic engagement; multimodal instruction

1. Introduction

In EFL contexts, formal instruction alone offers limited time, authentic input, and communicative practice; sustained, meaning-focused engagement beyond the classroom therefore complements teaching and is associated with stronger language outcomes (Lai et al., 2015; Lee & Dressman, 2018; Reinders & Benson, 2017; Richards, 2015). This need is especially pronounced in residential schools, where academic and personal life unfold within institutionally regulated environments. Although residential arrangements can concentrate learning opportunities, curricular demands, school rules, technological restrictions, and religious-cultural expectations shape students’ time, activity choices, and access to resources (Farid & Lamb, 2020; Habibi et al., 2018; Madkur et al., 2024; Zhong et al., 2024). Sustained development under these conditions consequently depends partly on learners’ capacity to set goals, manage their time and learning environment, select resources and strategies, initiate practice, monitor performance, and evaluate progress (Lai, 2019; Panadero, 2017; Teng & Zhang, 2016; Theobald, 2021). In language learning and writing, this agency becomes visible through planning and drafting, seeking models or information, testing and adjusting strategies, elaborating classroom input, processing feedback, and revising completed work (Teng & Huang, 2019; Teng et al., 2022; Teng & Zhang, 2016; Teng & Zhang, 2020). The coexistence of structured opportunities and constrained choice therefore makes residential schools important settings for examining how learners manage their English learning.

To examine such agency, however, learning preferences must be distinguished from fixed learning-style categories. Visual, auditory, and kinesthetic labels can describe learners’ reported inclinations toward particular representations or activities, but treating these labels as enduring learner types rests on a



“meshing” hypothesis for which experimental studies and reviews have found little or no instructional benefit (Clinton-Lisell & Litzinger, 2024; Cuevas, 2015; Hattie & O’Leary, 2025; Rogowsky et al., 2015). Fixed classification also misrepresents language learning, in which written, visual, aural, spoken, gestural, and action-based resources are routinely coordinated within the same task (Hafner & Ho, 2020; Jiang & Luk, 2016; Lim et al., 2022; Yi & Angay-Crowder, 2016). Because the modes learners favor or deploy vary with task goals, prior knowledge, available resources, and institutional context, preferences are more defensibly understood as flexible and potentially multimodal tendencies than as cognitive prescriptions for instruction (Aslaksen et al., 2020; Hattie & O’Leary, 2025; Lai et al., 2018; Rogowsky et al., 2020). Crucially, preferring a mode does not establish the capacity to learn independently: modality matching does not reliably improve learning, whereas self-direction concerns strategic control of goals, resources, behavior, and evaluation (Hattie & O’Leary, 2025; Lai, 2019; Rogowsky et al., 2015; Teng & Zhang, 2016). The analytical question thus shifts from identifying a fixed learner type to explaining how learners coordinate modes and resources through planning, enactment, monitoring, adjustment, and evaluation (Panadero, 2017; Teng & Huang, 2019; Teng & Zhang, 2020; Zare et al., 2024).

Within this framework, self-directed learning refers to learners’ purposeful responsibility for initiating, planning, implementing, monitoring, and evaluating their language learning (Abdelhalim, 2025; García Botero et al., 2019; Yang et al., 2023; Zhang & Pérez-Paredes, 2021). It does not require learning alone or without teacher support; instead, learners make informed decisions about what, how, and when to learn while drawing strategically on instructional, social, digital, and material resources (García Botero et al., 2019; Ma, 2017; Wigglesworth & Harvor, 2018; Zhang & Pérez-Paredes, 2021). Planning includes setting priorities and task goals, organizing study time, and preparing or outlining drafts (Abdelhalim, 2025; Csizér & Tankó, 2017; Guo et al., 2021; Sun & Wang, 2020). Implementation involves trying alternative approaches, consulting models and other resources, practising language skills, and extending classroom materials through self-initiated study (García Botero et al., 2019; Ma, 2017; Wigglesworth & Harvor, 2018; Zhang & Pérez-Paredes, 2021). Monitoring requires learners to check comprehension and production, track progress, identify difficulties, and adjust strategies or effort (Abdelhalim, 2025; Bai, 2018; Chen et al., 2023; Guo et al., 2021), whereas evaluation entails judging performance, revising work, reflecting on strategy effectiveness, and using identified strengths and weaknesses to guide subsequent decisions (An et al., 2020; Chen & Zhang, 2019; Chung et al., 2021; Yang et al., 2022). These processes are especially consequential in EFL settings because out-of-class exposure and engagement contribute measurably to vocabulary knowledge and broader proficiency (Cole & Vanderplank, 2016; De Wilde et al., 2020; Peters, 2018; Sundqvist & Wikström, 2015). Operationalizing self-direction through these situated actions, rather than as a broad personal trait, captures differences in how learners regulate tasks and environments (Abdelhalim, 2025; Bai, 2018; Chen et al., 2023; García Botero et al., 2019) and how strategic control of goals, resources, behavior, and feedback supports continuing learner agency (An et al., 2021; Bai & Wang, 2021; Guo et al., 2021; Yang et al., 2022).

Learning preferences and self-directed learning therefore intersect only when favored modes of engagement are translated into strategic action. Although perceptual preferences are associated with strategy selection, learners’ actual use of materials and activities is shaped by task demands, technological affordances, proficiency, time and space, and the wider context (Dugartsyrenova & Sardegna, 2017; Lai & Zheng, 2018; Sahragard et al., 2016; Sun, 2018). Reported visual, auditory, or kinesthetic preferences can consequently inform learners’ selection of written or graphic models, audio or video input, discussion, rehearsal, and direct production, yet learners commonly combine these modes rather than remain within one sensory channel (Dugartsyrenova & Sardegna, 2017; Liu et al., 2018; Oskoz & Elola, 2016; Yu & Zadorozhnyy, 2022). Nevertheless, access to or preference for a modality is not evidence of self-direction: matching materials to declared preferences does not reliably improve learning (Lyle et al., 2023; Moser & Zumbach, 2018; Papadatou-Pastou et al., 2018; Zhang & Zou, 2024). Self-direction becomes observable instead through goal setting, activity planning, strategic adaptation, performance monitoring, support and feedback use, and outcome evaluation (Morshedien et al., 2017; Rose et al., 2018; Zhang & Zhang, 2025; Zhang & Zou, 2024). Studies of digitally mediated language learning likewise reveal substantial variation in

how learners exploit multimodal affordances and how much scaffolding they require (Dugartsyrenova & Sardegna, 2017; Lai & Zheng, 2018; Liu et al., 2018; Sun, 2018). The two dimensions converge when learners strategically examine models, discuss interpretations, prepare or rehearse production, test responses, extend classroom input, process feedback, revise work, and establish follow-up goals (Chen, 2020; Dugartsyrenova & Sardegna, 2017; Sari & Han, 2024; Yang et al., 2023). Self-directed language learning is thus typically multimodal and resource-rich rather than governed by one declared preference (Lai & Zheng, 2018; Liu et al., 2018; Oskoz & Elola, 2016; Yu & Zadorozhnyy, 2022).

Recent reviews and context-specific studies reinforce this distinction while exposing an important empirical gap. Across 17 meta-analyses, Hattie and O'Leary (2025) found negligible benefits from matching instruction to fixed visual, auditory, or kinesthetic categories, while Lim et al.'s (2022) systematic review characterizes English learning as inherently multimodal. Complementing these findings, Lai et al.'s (2022) scoping review identifies cognitive, metacognitive, social, and affective strategies in self-directed language learning but notes that few studies examine the full sequence of forethought, implementation, and reflection. Contextual studies further show that preferences and access do not automatically become sustained practice. Lai and Zheng (2018) found that mobile-resource use depended on task characteristics, affordances, habitual practices, and temporal-spatial conditions, whereas García Botero et al. (2019) reported a gap between favorable perceptions of a language-learning application and limited use resulting from weak sustained motivation, self-management, and self-monitoring. In Indonesian residential education, Farid and Lamb (2020) showed that religious identity and institution-specific experiences shaped motivation across three pesantren, but aspirations did not consistently produce sustained effort. More specifically, Cahyo et al. (2024) found that six high-achieving female learners in an Islamic boarding school used goal setting, self-monitoring, compensation strategies, and English-language media within a supportive community. Their narrow focus on high achievers, however, leaves the practices of female learners with varied preference profiles insufficiently understood.

Against this background, the literature leaves learning preferences, self-directed practices, and residential-school conditions insufficiently integrated. Preference studies have commonly assigned learners to visual, auditory, or kinesthetic categories without examining how modes are combined or adapted in actual tasks, whereas self-directed-learning research has often emphasized general dispositions or isolated strategies rather than connected practices of planning, implementation, monitoring, and evaluation. Consequently, little is known about when female EFL learners' reported preferences remain inclinations and when they are strategically enacted under the opportunities and constraints of residential-school life. The novelty of this study lies in connecting visual, auditory, and kinesthetic preference patterns with situated self-directed practices while treating preferences as flexible resources rather than fixed learner types. Accordingly, the study aims to identify the learning-preference patterns reported by female EFL learners, determine the most prevalent preference, and explore how these preferences are enacted and coordinated in an Indonesian residential school. It addresses two questions: (1) What learning-preference patterns are reported by female EFL learners, and which preference is most prevalent? and (2) How are these preferences enacted and coordinated within learners' self-directed practices of planning, implementation, monitoring, and evaluation?

2. Method

2.1 Research Design and Setting

This study employed a quantitative descriptive survey design to examine the learning preferences and self-directed learning practices reported by female EFL learners at SMA Pandhega Jaya, a Christian residential high school in Kupang Regency, East Nusa Tenggara, Indonesia. A descriptive survey design is appropriate when a study aims to systematically describe the characteristics, responses, or behavioral patterns of a particular population in relation to predetermined research questions (Vogt, 2008). In this study, the design was used to describe the distribution of visual, auditory, and kinesthetic learning preferences and identify the self-directed learning practices frequently reported by the participants.

Modality-related responses were interpreted as patterns of engagement with different learning materials and activities. The study also examined how these preferences coexisted with self-directed practices involving planning, task implementation, monitoring, and evaluation.

2.2 Participants and Sampling

At the time of the study, SMA Pandhega Jaya enrolled 88 students, comprising 35 male and 53 female students. Because the study focused specifically on female EFL learners, the 53 female students constituted the target population. From this population, 30 students were selected through purposive sampling. Purposive sampling enables researchers to select participants whose characteristics correspond directly with the focus and objectives of a study (Ahmad & Wilkins, 2025). Accordingly, the participating students were selected because they belonged to the population relevant to the research questions and could provide information concerning their learning preferences and self-directed learning practices. The 30 participants represented approximately 56.6% of the female-student population at the school.

2.3 Research Instrument

Data were collected using a study-specific closed-ended questionnaire comprising 23 items. The questionnaire covered five predetermined domains: visual learning preferences, auditory learning preferences, kinesthetic learning preferences, and self-directed learning practices. Establishing clearly defined domains and aligning questionnaire items with the intended constructs are important stages of systematic instrument development (Lambert & Newman, 2023). The visual-preference items examined students' engagement with written texts, pictures, diagrams, and other visually presented materials. The auditory-preference items addressed activities involving oral explanations, listening, verbal interaction, and discussion. The kinesthetic-preference items examined engagement with practice-based, experiential, and physically active learning activities. The self-directed-learning items focused on practices related to planning and managing learning, including establishing study schedules, preparing drafts, consulting task examples, experimenting with alternative approaches, independently elaborating classroom materials, monitoring task completion, and revising or evaluating completed work.

The questionnaire was developed by adapting conceptually relevant items from the Index of Learning Styles, activity classifications associated with the VAK framework, and researcher-developed statements aligned with the objectives of the study. Because the items were selected, adapted, and combined from different sources, the instrument was treated as a study-specific questionnaire. This approach allowed the questionnaire content to be aligned with the particular constructs and educational context investigated in the study (Flake & Fried, 2020; Lambert & Newman, 2023). Each questionnaire item was answered using a five-point frequency scale: 1 (*never*), 2 (*rarely*), 3 (*sometimes*), 4 (*often*), and 5 (*always*). A consistent response scale was used to enable participants to indicate how frequently they engaged in each learning activity or practice (DeCastellarnau, 2018). Items from the four domains were presented in mixed order during questionnaire administration. Before data analysis, each item was assigned to its predetermined domain. The resulting scores represented the frequency with which students reported engaging in modality-related activities and self-directed learning practices.

2.4 Data Collection and Analysis

The 23-item questionnaire was administered to the 30 participating students. After the questionnaires had been completed, the responses were coded and tabulated according to the four predetermined domains. Descriptive statistics consisting of frequencies and percentages were calculated for every questionnaire item and response category. These statistics were used to present the distribution of participants' responses and identify the learning activities and self-directed practices reported most frequently. To compare the three learning-preference domains, responses in the *often* and *always* categories were combined to represent high-frequency endorsement. The endorsement percentage for each modality was calculated by dividing the total number of *often* and *always* responses across the items within that domain by the total number of valid responses to those items and multiplying the result by 100. The modality with the highest combined

percentage was identified as the most frequently endorsed learning preference among the participating students. The self-directed-learning items were analyzed separately according to practices associated with planning, implementation, monitoring, and evaluation. The frequencies and percentages were compared to determine which practices were most commonly reported by the students. The findings were subsequently presented in modality-specific tables and figures to provide a clear comparison of learning-preference patterns and self-directed learning practices.

3. Findings

The questionnaire responses revealed a multimodal but uneven pattern of engagement across visual, auditory, and kinesthetic activities. The findings are presented as group-level preference patterns rather than evidence that individual students belonged to fixed learning-style categories. Responses categorized as *always* and *often* were combined to identify the activities most frequently reported by the participants.

3.1 Visual Learning Preferences

To examine students' reported engagement in visual learning activities, seven questionnaire items representing different forms of visual learning practices were analysed. These activities included the use of written materials, visual representations, instructional resources, and online learning sources. The distribution of students' responses is presented in Table 1.

Table 1

Female students' responses to visual learning activities (N = 30)

No.	Visual learning activity	Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Always/Often (%)
1	Rereading notes at home to recall the teacher's explanation	3.3	26.7	30.0	26.7	13.3	30.0
2	Reading information in textbooks, on the board, and in assigned passages	13.3	23.3	36.7	26.7	0.0	36.7
3	Obtaining information from posters, graphs, and charts	26.7	50.0	16.7	6.7	0.0	76.7
4	Obtaining information by reading newspapers and online media	16.7	26.7	46.7	10.0	0.0	43.3
5	Understanding grammar and vocabulary through instructional books	3.3	26.7	60.0	10.0	0.0	30.0
6	Using online sources related to classroom materials	16.7	26.7	26.7	30.0	0.0	43.3
7	Understanding lessons by following textbook instructions	26.7	0.0	40.0	3.3	30.0	26.7

The visual responses varied considerably across activities. The most frequently endorsed activity was obtaining information from posters, graphs, and charts, reported as *always* or *often* by 76.7% of the participants. Reading newspapers and online media and using online sources related to classroom materials each received a combined endorsement of 43.3%. Reading information from textbooks, the board, and assigned passages was reported as frequent by 36.7% of the students. Rereading notes at home and using instructional books to understand grammar and vocabulary each received 30.0% combined endorsement, while following textbook instructions was the least frequently endorsed visual activity at 26.7%. Across the visual items, *sometimes* was the most common single response category, accounting for 36.7% of all responses. These findings indicate that visual engagement was present but depended strongly on the type of visual resource, with posters, graphs, and charts receiving substantially stronger endorsement than text-based activities.

3.2 Auditory Learning Preferences

To examine students' reported engagement in auditory learning practices, seven questionnaire items representing listening-based learning activities were analysed. These activities included learning through teacher explanations, classroom discussions, audio recordings, and oral instructions. The distribution of students' responses across the seven auditory learning practices is presented in Table 2.

Table 2

Female students' responses to auditory learning activities (N = 30)

No.	Auditory learning activity	Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Always/Often (%)
1	Remembering lessons by listening to lectures, teacher explanations, and discussions	13.3	66.7	16.7	3.3	0.0	80.0
2	Preferring audio recordings as a source of information	13.3	40.0	43.3	3.3	0.0	53.3
3	Requiring teacher explanations to understand diagrams, graphs, or other visual aids	43.3	23.3	20.0	13.3	0.0	66.7
4	Preferring lectures or recorded explanations to reading the same materials	10.0	16.7	16.7	23.3	33.3	26.7
5	Remembering information by listening to the teacher's explanation	0.0	13.3	20.0	23.3	43.3	13.3
6	Playing instructional recordings at home to recover missed information	0.0	13.3	20.0	23.3	43.3	13.3
7	Understanding oral instructions better than written instructions	13.3	40.0	43.3	3.3	0.0	53.3

Auditory engagement also differed substantially according to the activity. Listening to lectures, teacher explanations, and discussions was the most frequently endorsed auditory practice, with 80.0% of students selecting *always* or *often*. A further 66.7% frequently required oral explanations when working with diagrams, graphs, or other visual materials. Preference for audio recordings and greater understanding of oral than written instructions were each reported by 53.3% of the participants. In contrast, only 26.7% frequently preferred lectures or recordings to reading the same content, while listening again to instructional recordings at home received 13.3% combined endorsement. The variation across these items indicates that auditory engagement was context-dependent. Students frequently valued spoken interaction and immediate teacher explanation, but they were less inclined to replace written materials with recorded content or independently replay recordings at home.

3.3 Kinesthetic and Activity-Based Learning Preferences

To examine students' reported engagement in kinesthetic and activity-based learning practices, nine questionnaire items representing active learning behaviours were analysed. These activities included task completion, experimentation, drafting, revision, vocabulary practice, consultation of examples, and independent study routines. The distribution of students' responses across the nine activity-based learning practices is presented in Table 3.

Table 3

Female students' responses to kinesthetic and activity-based learning practices (N = 30)

No.	Kinesthetic or activity-based practice	Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Always/Often (%)
1	Completing teacher-assigned tasks to reinforce lesson content	36.7	26.7	26.7	6.7	3.3	63.3
2	Preparing written reports using information from newspapers or online media	33.3	33.3	13.3	13.3	6.7	66.7

No.	Kinesthetic or activity-based practice	Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Always/Often (%)
3	Practising vocabulary through repetition rather than writing it in a book	30.0	23.3	3.3	26.7	16.7	53.3
4	Learning through experimentation	46.7	23.3	20.0	10.0	0.0	70.0
5	Preparing drafts before completing tasks with groups or peers	50.0	33.3	6.7	10.0	0.0	83.3
6	Revising, checking, and evaluating work before submission	33.3	33.3	13.3	13.3	6.7	66.7
7	Consulting an example before completing a task	46.7	23.3	20.0	10.0	0.0	70.0
8	Maintaining a study schedule at home	36.7	26.7	26.7	6.7	3.3	63.3
9	Elaborating classroom materials at home	33.3	33.3	13.3	13.3	6.7	66.7

Activity-based practices received consistently strong endorsement. Every item was reported as *always* or *often* by more than half of the participants. Preparing drafts before completing tasks was the most frequently reported practice, with a combined endorsement of 83.3%. Learning through experimentation and consulting examples before beginning a task each received 70.0%. Preparing written reports, revising and evaluating work, and elaborating classroom materials at home were each frequently reported by 66.7% of the students. Completing teacher-assigned tasks and maintaining a home-study schedule each received 63.3%, while vocabulary practice through repetition received the lowest combined endorsement within this domain at 53.3%. The results demonstrate a strong group-level tendency toward active task engagement, preparation, practice, and revision.

3.4 Overall Preference Pattern

To provide an overall comparison of students' reported learning practices across the three learning domains, the responses were aggregated into visual, auditory, and kinesthetic/activity-based categories. The aggregated distribution of responses is presented in Table 4, allowing comparison of the relative frequency of engagement across the three domains.

Table 4

Aggregate response distribution across the three learning-preference domains

Preference domain	Always (%)	Often (%)	Sometimes (%)	Rarely (%)	Never (%)	Always/Often (%)
Visual	15.2	25.7	36.7	16.2	6.2	41.0
Auditory	13.3	30.5	25.7	13.3	17.1	43.8
Kinesthetic/activity-based	38.5	28.5	15.9	12.2	4.8	67.0

The aggregate results identify kinesthetic and activity-based engagement as the most frequently endorsed preference domain, with 67.0% of responses falling in the *always* or *often* categories. Auditory activities received 43.8% combined endorsement, followed closely by visual activities at 41.0%. Nevertheless, responses were distributed across all three domains, demonstrating a multimodal pattern rather than an exclusive preference for a single mode. The activity-based responses also revealed practices associated with different phases of self-directed learning. Planning was reflected in preparing drafts before tasks (83.3%) and maintaining a home-study schedule (63.3%). Task implementation involved experimentation (70.0%), consulting examples (70.0%), preparing reports (66.7%), elaborating classroom materials at home (66.7%), completing assigned tasks (63.3%), and practising vocabulary through repetition (53.3%). Monitoring and evaluation were evident in revising, checking, and evaluating work before submission (66.7%). These patterns show that active engagement coexisted with planning, strategic resource use, independent

elaboration, and evaluation. However, the descriptive findings indicate reported frequencies only and do not establish that a particular learning preference caused or improved students' self-directed learning.

4. Discussion

The findings reveal a multimodal but uneven pattern of engagement among the participating female EFL learners. Kinesthetic and activity-based practices received the strongest overall endorsement at 67.0%, while auditory and visual activities accounted for 43.8% and 41.0% of responses, respectively. The presence of substantial engagement across all three domains is consistent with evidence that learners frequently report multimodal rather than exclusively modality-specific preferences (Aslaksen et al., 2020). It also reflects the multimodal nature of English language learning, in which linguistic, visual, auditory, gestural, and spatial resources operate together rather than independently (Lim et al., 2022). Accordingly, the stronger activity-based pattern should not be interpreted as evidence that the participants constituted a fixed group of kinesthetic learners. It instead represents a group-level preference for particular ways of engaging with learning tasks. This distinction is important because recent scholarship differentiates flexible preferences and strategies from fixed learning styles and warns that these constructs are frequently conflated (Hattie & O'Leary, 2025).

The prominence of the activity-based domain becomes clearer at the item level. Preparing drafts before undertaking tasks received the highest combined endorsement at 83.3%, while learning through experimentation and consulting task examples each received 70.0%. Preparing written reports, elaborating classroom materials at home, and revising work before submission were also frequently reported. These activities extend beyond physical movement, which is typically associated with a narrow understanding of kinesthetic learning. Drafting, consulting examples, producing reports, experimenting, and revising involve organizing, applying, testing, and transforming information through purposeful action. The dominant pattern is therefore more accurately characterized as active and task-oriented engagement than as a purely kinesthetic learning style. This interpretation is consistent with the argument that many activities classified as indicators of learning styles actually represent adaptable learning strategies selected in response to particular tasks and goals (Hattie & O'Leary, 2025). It also corresponds with evidence that strategic action is closely associated with EFL learners' engagement in learning tasks (Zare et al., 2024).

The activity-based responses further reveal an intersection between learning preferences and self-directed learning. Preparing drafts and maintaining study schedules represented planning, whereas completing assignments, experimenting, consulting examples, producing reports, practising vocabulary, and elaborating classroom materials represented task implementation. Revision, checking, and evaluation before submission reflected monitoring and evaluation. These practices correspond with the multidimensional understanding of self-regulated learning as the coordination of cognitive, metacognitive, behavioral, motivational, and contextual processes across different phases of learning (Panadero, 2017; Rose et al., 2018; Zhang & Zou, 2024). Research on self-regulated EFL writing similarly identifies planning, strategy selection, monitoring, revision, and evaluation as interconnected components of learners' strategic repertoires rather than isolated activities (Bai, 2018; Csizér & Tankó, 2017; Teng & Zhang, 2016). The present findings therefore suggest that the students' strongest activity preferences provided contexts in which different forms of self-regulation were exercised. Nevertheless, their coexistence does not establish that activity-based preferences caused the development of self-directed learning.

The auditory findings provide further evidence that preferences varied according to the nature and setting of the activity. Listening to lectures, teacher explanations, and discussions was frequently reported by 80.0% of the participants, and 66.7% frequently required oral explanations when interpreting diagrams, graphs, or other visual materials. By contrast, only 13.3% frequently replayed instructional recordings at home, and only 26.7% preferred lectures or recordings to reading equivalent material. Auditory engagement was therefore concentrated in immediate explanation, discussion, and clarification rather than in all forms of audio input. Spoken communication appeared to support the interpretation of information, particularly when students encountered visual materials requiring further explanation. This complementary use of

spoken and visual resources is consistent with multimodal perspectives that understand learning as the purposeful orchestration of several meaning-making modes (Jiang & Luk, 2016; Lim et al., 2022; Yu & Zadorozhnyy, 2022). Thus, the auditory results indicate a socially and contextually situated preference rather than a generalized dependence on sound.

A similarly selective pattern appeared in the visual domain. Posters, graphs, and charts received the highest endorsement, with 76.7% of the participants reporting that they used these resources *always* or *often*. In comparison, rereading notes, consulting instructional books for grammar and vocabulary, and following textbook instructions received considerably lower endorsement. The students therefore did not respond equally strongly to all materials presented through sight. Concise and structured visual representations were more frequently endorsed than text-heavy or instruction-based resources. Moreover, the strong reported need for teacher explanations when interpreting diagrams and graphs demonstrates that visual and auditory modes often operated together. Visual resources supplied organized representations, while spoken explanation supported their interpretation. This interdependence reinforces the argument that multimodal resources acquire instructional value through their combination and purposeful use within particular tasks rather than through correspondence with an assumed fixed learner type (Hafner & Ho, 2020; Lim et al., 2022).

Within the residential-school setting, self-directed learning appeared to develop within institutional structures rather than outside them. Maintaining a study schedule, preparing drafts, elaborating classroom materials at home, and consulting examples indicate that students exercised some control over their study time, resources, and task procedures. At the same time, their strong reliance on teacher explanations, assigned activities, and task models shows that self-direction remained connected to classroom instruction. This relationship reflects the broader understanding that successful language learning involves an interaction between classroom learning and learning beyond the classroom rather than a strict separation between the two (Lai, 2019; Reinders & Benson, 2017). Research on self-directed language learning outside formal lessons similarly demonstrates that learners exercise agency by selecting resources, determining how technologies are used, and connecting independent activities with formal learning goals (Lai & Zheng, 2018; Lai et al., 2018; Zhang & Pérez-Paredes, 2021).

The residential context adds further significance to this interaction. Evidence from an Indonesian Islamic boarding school has identified goal setting, self-monitoring, time management, engagement with English media, and access to supportive teachers as important features of successful language learning in that setting (Cahyo et al., 2024). Although that study involved high-achieving students in a different type of residential institution, it provides a relevant contextual comparison by demonstrating how learner strategies operate within structured communal environments. Research on English instruction in Indonesian boarding schools also emphasizes that teaching practices need to respond to learners' institutional, sociocultural, and resource conditions (Madkur et al., 2024). In the present study, self-direction consequently did not mean learning without external support. It involved using the schedules, explanations, materials, examples, and opportunities provided by the institution to organize and extend personal engagement with learning.

These findings have important pedagogical implications. Teachers should not assign students to fixed visual, auditory, or kinesthetic categories or attempt to match instruction exclusively to a presumed learning style. Experimental studies and research syntheses have repeatedly shown that matching instructional format to reported learning-style preferences does not reliably improve learning and can even disadvantage learners under some conditions (Cuevas, 2015; Lyle et al., 2023; Rogowsky et al., 2015, 2020). A more defensible approach is to provide several ways of accessing and working with information according to the requirements of the content and task. For example, instruction can integrate concise visual representations, oral explanation and discussion, and opportunities to apply information through drafting, experimentation, task completion, and revision. Such integration is consistent with multimodal pedagogy, which emphasizes the coordinated use of different resources to support engagement and meaning construction (Jiang & Luk, 2016; Lim et al., 2022).

The results also support the deliberate integration of self-regulated learning processes into classroom and independent-study activities. Because students strongly endorsed drafting, consulting examples, scheduling study, elaborating materials, and revising work, teachers can organize tasks around explicit cycles of planning, implementation, monitoring, and evaluation. Models and examples can provide initial guidance, while planning tools, progress checks, and self-evaluation prompts can help students assume greater responsibility for completing tasks. Previous EFL research shows that process-based and self-regulated learning strategy instruction can strengthen learners' strategic engagement with writing activities (Guo et al., 2021; Teng & Zhang, 2020). Reviews of self-regulated second-language learning similarly emphasize the importance of teacher support in helping learners understand, select, and adapt strategies to different learning demands (Zhang & Zou, 2024). Institutional study periods in residential schools can therefore function not only as scheduled study time but also as structured opportunities for learners to practise increasingly purposeful management of their learning.

5. Conclusion

This study revealed a multimodal but uneven pattern of engagement among 30 female EFL learners. Activity-based practices received the strongest endorsement (67.0%), followed by auditory (43.8%) and visual activities (41.0%). Rather than indicating a fixed kinesthetic learning style, the findings show that students flexibly combined different modes according to task demands. Their frequent use of drafting, experimentation, examples, revision, and study schedules also reflected planning, task implementation, monitoring, and evaluation as dimensions of self-directed learning. These findings support EFL instruction that integrates visual resources, oral explanation, discussion, and active task engagement without categorizing students into fixed learning styles. However, because the study involved a small group at one school and relied on self-reported data, the findings cannot establish causality or be generalized broadly. Future research should incorporate observations, interviews, and performance data across different educational settings.

6. Acknowledgement

The authors would like to express their sincere gratitude to the rector and the research institute at Artha Wacana Christian University for their generous support in funding this research.

7. Declaration of AI Use

The authors declare that artificial intelligence (AI) tools were used solely to support the preparation of the manuscript. ChatGPT (OpenAI) was used to assist with language refinement, sentence restructuring, and improving the clarity and readability of the text. Grammarly was used for grammar checking, spelling correction, punctuation review, and writing enhancement. These AI tools were not used to generate research ideas, formulate research questions, design the study, collect data, analyze data, interpret findings, draw conclusions, or make scientific decisions. All aspects of the research, including the conception of the study, methodology, data collection, data analysis, interpretation of results, conclusions, and final manuscript approval, were conducted and validated by the authors. The authors carefully reviewed and edited all AI-assisted outputs and accepted full responsibility for the accuracy, originality, integrity, and content of the manuscript.

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