



The Influence of the Availability of English Book Collections on Learning Motivation and Reading Interest Among Students of the Fixed-Wing Aviation Study Program at the Indonesian Aviation Academy Banyuwangi

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Abstract. English-language aviation references are essential for cadet pilots because flight manuals, operational procedures, and international communication standards are predominantly presented in English. This study examines the effect of the availability of English book collections on learning motivation and reading interest among Fixed-Wing Pilot Study Program students at the Indonesian Aviation Academy of Banyuwangi. A quantitative correlational design was applied to 48 complete responses collected through a 35-item, four-point Likert questionnaire, observation, and documentation. The instrument measured collection availability, learning motivation, and reading interest. Item-total correlations exceeded the critical value of 0.284, while Cronbach's alpha coefficients were 0.985, 0.968, and 0.972. Simple linear regression on the composite outcome produced $Y = 2.513 + 1.283X$, with a standardized coefficient of 0.963, $t = 24.221$, and $p < 0.001$. The correlation of 0.963 indicates a very strong positive association; its squared value suggests that approximately 92.7% of the variance in the composite outcome is associated with perceived collection availability. The findings indicate that relevant, current, complete, and accessible English collections can serve as an academic stimulus in a vocational aviation context. Collection renewal, digital access, and curriculum-integrated reading assignments are recommended, while separate models for motivation and reading interest should be tested in future research.

Keywords: Aviation English; Book Collection; Learning Motivation; Reading Interest; Vocational Education.

1. INTRODUCTION

English proficiency for pilot cadets is more than an outcome of a general education course. Aircraft manuals, checklists, aeronautical information publications, abnormal procedures, and cross-border communication use terminology that demands accurate comprehension. The availability of field-specific reading materials can increase cadets' exposure to technical vocabulary while strengthening the connection between language learning and professional practice. Research involving Indonesian aviation cadets indicates that motivation, anxiety, and self-efficacy are strongly associated with Aviation English learning performance; learning support that closely reflects professional needs should thus form part of the aviation education ecosystem (Rochmawati et al., 2023).

Academic libraries function as infrastructure that brings together knowledge resources, study spaces, information services, and student interaction. Their influence is determined not only by the number of books but also by subject relevance, edition currency, accessibility, spatial quality, and the ability of services to connect collections with learning activities. Cross-university evidence shows that the library environment is associated with student learning engagement through both direct effects and the interactions occurring within that environment (Zheng et al., 2024). Student satisfaction with academic spaces likewise emerges from the

combined quality of the environment, facilities, functions, and user experience (Peng et al., 2022).

The Indonesian Aviation Academy of Banyuwangi holds more than 3,500 items covering aviation, communication, management, motivation, and general reading. Its library received an A accreditation in 2025, yet the service data reported in the research progress document indicate that visits and circulation among Diploma III Fixed-Wing Pilot Study Program students remain low. This contrast between collection capacity and intensity of use suggests that the presence of a collection does not automatically generate reading behavior. Collection-development literature emphasizes student participation so that acquired materials reflect actual needs and foster a sense of ownership toward the library (Heisserer-Miller & McAlister, 2023).

Previous studies have largely examined relationships between library environments and learning engagement, changing format preferences, or reading motivation in school and general university populations. Research specifically linking the perceived availability of English aviation books with learning motivation and reading interest among pilot cadets remains limited. Aviation education has distinctive features, including disciplined schedules, intensive practical work, the need to understand technical documents, and professional consequences arising from linguistic accuracy. This gap positions the library collection not merely as an administrative facility but as a potential learning input for academic and professional readiness.

This study analyzes the statistical relationship and effect of English book collection availability on a composite score of learning motivation and reading interest among students of the Diploma III Fixed-Wing Pilot Study Program at the Indonesian Aviation Academy of Banyuwangi. Its contribution lies in empirical testing within a vocational aviation setting and in formulating collection-development implications connected to instruction. The findings are interpreted cautiously because the available analytical output combines two dependent variables into a single composite score; the measurement consequences are addressed in the method, results, and limitations sections.

2. THEORETICAL REVIEW

Availability of English Book Collections

Collection availability refers to the readiness of information resources to be discovered, accessed, and used according to patrons' needs. The concept integrates quantitative and qualitative dimensions. The number of titles and copies shapes access opportunities, while relevance, currency, physical or digital quality, and completeness of coverage determine

academic value. Digital library development at the university level also requires infrastructure, staff competence, access policies, and sustainable resources rather than the mere conversion of materials into electronic formats (Kato et al., 2021).

In aviation education, collection relevance is evident in the connection between books and the competencies being studied: aeronautical communication, meteorology, navigation, principles of flight, safety, human factors, and aircraft operations. General English books provide a linguistic foundation, whereas Aviation English books and technical manuals offer contexts closer to professional goals. Explicitly taught second-language reading strategies have been shown to improve university students' academic reading comprehension, particularly among learners entering higher education through vocational pathways (Yapp et al., 2023). An appropriate collection enables these strategies to be practiced with authentic and meaningful texts.

Learning Motivation

Learning motivation is the process that activates, directs, and sustains behavior toward learning goals. Self-determination theory explains motivational quality along a continuum from external regulation to intrinsic motivation; support for autonomy, competence, and relatedness helps students internalize their learning goals (Ryan & Deci, 2020; Ferrer et al., 2022). In aviation, the utility of English is relatively clear because the ability to understand information and communicate is tied to professional readiness. The challenge is to convert this utility into consistent learning engagement within a demanding schedule.

Research on Aviation English among Indonesian cadets found high motivation and self-efficacy alongside substantial anxiety (Rochmawati et al., 2023). This finding matters because stronger motivation does not necessarily remove learning pressure. A structured collection can provide opportunities for self-directed study at a more manageable pace, although instructors must still help cadets select appropriate reading levels, interpret terminology, and verify comprehension. The library's role becomes stronger when its collection is integrated into instructional design rather than treated as a separate supplementary facility.

Reading Interest

Reading interest is an affective and behavioral tendency to attend to reading materials, experience interest or enjoyment, understand their benefits, and repeat reading activities. Interest may be situational when triggered by a particular topic or condition and may develop into a more stable disposition through repeated experience. Retelsdorf et al. (2024) demonstrated that situational and habitual reading motivation are strongly correlated but not identical. Literacy environments and social support also shape reading experiences and

opportunities for reader engagement (Cremin & Scholes, 2024; Webber et al., 2023). Attractive books may therefore initiate engagement, while habituation and instructional support are needed to sustain it.

A relationship between reading interest and comprehension has been identified among university students, although its strength is not always large and is influenced by prior ability and reading strategies (Alfatihah & Tyas, 2022). English-language texts add linguistic demands, making it necessary to match text selection to proficiency levels. Assessments of academic reading among incoming university students also highlight the importance of processing information, constructing inferences, and evaluating arguments rather than merely recognizing words (Cabrera-Pommiez et al., 2021). A strong collection should provide graduated levels of difficulty and multiple genres, ranging from introductory materials to technical documents.

Conceptual Relationship and Hypothesis

Collection availability is positioned as a learning-environment stimulus. Relevance and currency increase utility, completeness expands choice, quality sustains trust in sources, and accessibility lowers the effort required to use them. These pathways are expected to strengthen learning motivation and the tendency to read. The research hypothesis states that the availability of English book collections has a positive and significant effect on the composite score of pilot cadets' learning motivation and reading interest. The composite formulation follows the analytical output in the research progress report; separate tests of effects on Y1 and Y2 are reserved for further analysis.

3. RESEARCH METHOD

The study employed a quantitative cross-sectional correlational design at the Indonesian Aviation Academy of Banyuwangi, a vocational higher education institution under the Transportation Human Resources Development Agency. The unit of analysis was students in the Diploma III Fixed-Wing Pilot Study Program. The database reported in the research progress document contained 48 complete responses for instrument testing and regression analysis. This number is used consistently because it matches the case count in the correlation output and the reported critical validity value.

Data were collected through an online questionnaire, participatory observation in the library and learning activities, and documentation. The closed-ended questionnaire used a four-point Likert scale ranging from 1 (strongly disagree) to 4 (strongly agree). Four response categories were used to reduce neutral-point selection and encourage respondents to indicate

the direction of their judgment. The instrument was distributed through Google Forms while accounting for demanding ground-school, duty, and flight-training schedules.

The instrument comprised 35 items. English book collection availability (X) was measured with 15 items covering relevance, quantity, quality, completeness, and currency. Learning motivation (Y1) was measured using eight items representing intrinsic and extrinsic motivation. Reading interest (Y2) was measured with 12 items representing awareness, enjoyment, attraction, and frequency. The measurement structure is summarized in Table 1.

Table 1. Operationalization of Research Variables

Variable	Indicator	Number of Items	Scale
English book collection availability (X)	Relevance; quantity; quality; completeness; currency	15	Likert 1-4
Learning motivation (Y1)	Intrinsic motivation; extrinsic motivation	8	Likert 1-4
Reading interest (Y2)	Awareness; enjoyment; attraction; frequency	12	Likert 1-4

Source: Processed research data (2025).

Item validity was tested using Pearson correlations between item scores and total scores at the 5% level. An item was considered valid when its observed r exceeded the critical r of 0.284. Internal consistency was evaluated using Cronbach's alpha. Alpha was not treated as sole evidence of unidimensionality but as an index of internal item relatedness; its interpretation should be considered alongside construct definitions and indicator composition (Taber, 2018).

The main analysis used Pearson correlation, simple linear regression, and a t test of the regression coefficient in SPSS version 21. The model available in the report used the composite score of learning motivation and reading interest as dependent variable Y , producing the equation $Y = a + bX$. Contribution was estimated using the coefficient of determination (R^2). In simple regression with an intercept, R^2 equals the squared Pearson correlation between X and Y ; $r = 0.963$ yields an R^2 of approximately 0.927. Statistical decisions used a significance level of 0.05.

4. RESULTS AND DISCUSSION

Instrument Quality and Data Adequacy

The validity results show that all 35 items had observed r values above 0.284 and significance values below 0.05. Each item therefore moved in the same direction as the total score of its variable in the test sample. The progress report does not provide item-level correlation coefficients, so this article reports only the summarized validity decisions and does not reconstruct unavailable figures.

The internal consistency of all three scales was very high. Cronbach's alpha was 0.985 for collection availability, 0.968 for learning motivation, and 0.972 for reading interest. Values approaching one indicate strong response homogeneity but may also suggest similarities in item wording. Item redundancy and factor structure should be examined in subsequent instrument development to preserve broad construct coverage. The reliability results are summarized in Table 2.

Table 2. Instrument Reliability Results

Variable	Number of Items	Cronbach's Alpha
English book collection availability	15	0.985
Learning motivation	8	0.968
Reading interest	12	0.972

Source: Processed research data (2025).

The Levene test reported in the source document produced $F = 1.431$ and $p = 0.250$. A p value above 0.05 indicates no evidence of variance differences between groups in that test. Homogeneity of variance, however, is not the only assumption of linear regression. Outputs for residual normality, linearity, independence, and heteroscedasticity were not provided, so causal conclusions and generalization should be limited.

Statistical Relationship and Effect of Collection Availability

Simple linear regression produced a constant of 2.513 and an unstandardized coefficient of 1.283. The model equation was $Y = 2.513 + 1.283X$, with Y representing the composite score of learning motivation and reading interest. The positive coefficient indicates that a one-unit increase in perceived collection availability was associated with a 1.283-unit increase in the composite score, according to the aggregate units used in the source data. The constant represents predicted Y when X equals zero; because the practical perception scale may not include zero, the constant mainly serves as a mathematical component of the model.

The standardized coefficient was 0.963, with $t = 24.221$ and $p < 0.001$. The regression coefficient therefore differed significantly from zero in the sample. The Pearson correlation between collection availability and the composite score was also 0.963, indicating a very strong positive relationship. The coefficients are summarized in Table 3.

Table 3. Simple Linear Regression Coefficients

Predictor	B	SE	Beta	t	p
Constant	2.513	2.676	-	0.939	0.353
Collection availability	1.283	0.053	0.963	24.221	<0.001

Source: Processed research data (2025).

Squaring the correlation of 0.963 produces $R^2 = 0.927369$, or approximately 92.7%. This figure indicates that 92.7% of the variance in composite Y within the sample was statistically associated with variation in perceived collection availability in the one-predictor model. The

remaining 7.3% was related to other variation and unexplained error. This calculation corrects the initial interpretation in the report, which equated $r = 0.963$ with a contribution of 96.3%; a correlation coefficient must be squared before it is expressed as the proportion of explained variance.

Table 4. Summary of Hypothesis Testing

Tested Relationship	r	R ²	Decision
Collection availability -> composite learning motivation and reading interest	0.963	0.927	Hypothesis supported ($p < 0.001$)

Source: Processed research data; R² calculated from r² (2025).

Discussion of Collection Availability and Learning Motivation

The very strong relationship indicates that cadets' perceptions of English book availability moved in the same direction as the learning motivation and reading interest combined in the composite score. In vocational education, the proximity of resources to professional tasks can clarify the utility of learning. Books addressing flight procedures, cockpit terminology, radio communication, navigation, and safety provide concrete contexts for the language being studied. This mechanism is consistent with self-determination theory: materials that help students feel competent and understand the purpose of an activity can support the internalization of motivation (Ryan & Deci, 2020).

The finding is also consistent with Rochmawati et al. (2023), who identified the roles of motivation and self-efficacy in Aviation English learning among Indonesian cadets. An adequate collection may provide opportunities for additional practice outside the classroom, particularly when cadets need repeated exposure to terminology or alternative explanations. Material availability should not, however, be interpreted as a substitute for instructors. Pedagogical support remains necessary to select readings, establish reading purposes, connect texts with flight scenarios, and help cadets identify misunderstandings.

The model does not establish that adding books directly causes an increase in motivation. Cadets who were already highly motivated may have paid more attention to the collection, recognized available titles, and evaluated the library more positively. Such reciprocal relationships cannot be separated in a cross-sectional design. Targeted acquisition experiments, pre-post circulation data, or longitudinal studies could provide stronger evidence concerning the direction of the relationship.

Discussion of Collection Availability and Reading Interest

Reading interest grows when individuals encounter material that is relevant, comprehensible, and positively experienced. English-language aviation collections provide both topic-based appeal and career utility. Retelsdorf et al. (2024) distinguish situational

motivation arising during engagement with a particular text from more habitual reading motivation. Libraries can stimulate situational motivation through thematic curation, instructor recommendations, and collection displays, and then cultivate habits through consistent access and repeated reading activities.

Digital reading behavior is influenced by ease of use, habit, price value, and perceived risk (Chang et al., 2023). Cross-national evidence also suggests that academic format choices are contextual, while service quality and user capability affect the acceptance of electronic resources (Mizrachi et al., 2021; Mizrachi & Salaz, 2022; Parhamnia, 2022; Sun et al., 2021). Slow digital access, complicated authentication, poor metadata, or mobile-unfriendly interfaces can leave a collection technically available but practically unused. Availability should therefore be assessed by whether cadets can successfully find and use resources, not merely by the number of licenses. Search training, Aviation English subject guides, and reading links embedded in the learning system can reduce these barriers.

Implications for Collection Development and Instruction

The first implication is the need for acquisition based on the curriculum and user needs. Each course can maintain a map of core readings, supporting readings, and enrichment resources. Librarians and instructors should jointly identify gaps in titles, editions, and formats and prioritize areas most closely aligned with competency outcomes. Participatory curation strengthens both relevance and student engagement in collection development (Heisserer-Miller & McAlister, 2023).

The second implication is the integration of collections into learning activities. A book list alone does not guarantee use; instructors should design assignments requiring cadets to compare procedures, explain terms, summarize chapters, or test information against scenarios. Explicit reading strategies are important for second-language readers because academic and technical texts require vocabulary knowledge, comprehension monitoring, inference, and information evaluation (Cabrera-Pommiez et al., 2021; Magyar et al., 2022; Yapp et al., 2023).

Research Limitations

The study has several limitations. First, the sample came from one study program at one institution, so the results do not directly represent all aviation cadets. Second, the cross-sectional design and self-report questionnaire restrict causal explanation and are vulnerable to common-method bias. Third, the available analytical output combines learning motivation and reading interest into one composite score even though the constructs have different definitions and indicators. Specific coefficients for the effect of X on Y1 and X on Y2 cannot yet be reported.

Fourth, the report does not provide complete descriptive statistics, item-level validity coefficients, factor analysis, or regression residual diagnostics. Fifth, circulation, visit frequency, reading duration, and Aviation English achievement were not linked at the respondent level. Future research should use larger samples, two-outcome models or structural equation modeling, actual behavioral measures, and longitudinal designs. The present findings remain useful as preliminary evidence identifying collection availability as an institutional factor that deserves more rigorous examination.

5. CONCLUSIONS AND RECOMMENDATIONS

The availability of English book collections had a very strong, positive, and significant relationship with the composite score of learning motivation and reading interest among students in the Diploma III Fixed-Wing Pilot Study Program at the Indonesian Aviation Academy of Banyuwangi. The model produced $Y = 2.513 + 1.283X$, a standardized coefficient of 0.963, $t = 24.221$, and $p < 0.001$. The correlation of 0.963 yielded an R^2 of approximately 0.927, indicating that about 92.7% of the variance in the composite score within the sample was associated with variation in perceived collection availability. The instrument met item-validity criteria and demonstrated very high internal consistency.

The findings support strengthening collections that are curriculum-relevant, current, complete, high quality, and readily accessible in print and digital formats. Library managers should involve instructors and cadets in material selection, develop Aviation English subject guides, and evaluate collection use. Instructors are encouraged to integrate library readings into assignments, case discussions, and terminology exercises so that access to books becomes a meaningful learning experience.

The conclusions should be read within the limits of a correlational design and a composite outcome. Further analysis should test learning motivation and reading interest separately, complete regression diagnostics, use actual usage indicators, and compare conditions before and after collection interventions. Such approaches can clarify whether collection renewal produces sustained changes in reading behavior, motivation, and Aviation English achievement.

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