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A Structural Equation Modeling Approach to Developing an Academic Administration Model for Enhancing English Literacy in Higher Vocational Colleges in China

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ABSTRACT

This study aimed to develop a comprehensive academic administration model to enhance English literacy among higher vocational college students. A mixed-methods approach was employed, combining quantitative data from a questionnaire and qualitative insights from a focus group discussion. The questionnaire (N=381) demonstrated high reliability, with Cronbach's alpha coefficients exceeding 0.8 for each dimension. Descriptive statistics, Exploratory Factor Analysis (EFA), Confirmatory Factor Analysis (CFA), Correlation Analysis, and Structural Equation Modeling (SEM) were used to identify the factors influencing academic administration and to explore causal relationships. Mediation analysis was conducted using the bootstrap method to assess indirect effects. The results revealed significant relationships between various academic administration dimensions—including curriculum design, teaching strategies, evaluation, teacher professional development, technology integration, and student support services—and students' English literacy and overall satisfaction. Mediation effects further highlighted the complex interactions among these factors. Qualitative data from the focus group were analyzed through thematic coding, which contributed to the refinement of the academic administration model. The revised model offers a practical framework for improving English literacy in higher vocational colleges.

Key words: Academic Administration, English Literacy, Structural Equation Modelling, Higher Vocational Education

INTRODUCTION

In the globalized education, English literacy has emerged as a vital skill for facilitating communication and cooperation across diverse cultural and linguistic backgrounds, particularly in non-English-speaking countries (Orfan et al., 2021; Takehara et al., 2016). It addresses lifelong needs spanning social, occupational, and educational domains (Kukulska-Hulme et al., 2017). Recognizing its significance, the Ministry of Education of the People's Republic of China issued the English Curriculum Standards for Higher Vocational Education (2021 Edition), introducing English literacy as a key objective for vocational students. This literacy includes communicative ability, multicultural awareness, critical thinking, and independent learning. As English literacy is officially recognized as ultimate outcome for academic and professional success, higher vocational colleges are under growing pressure to integrate effective language training programs into their curricula. In this regard, academic administration is instrumental in designing, implementing, and evaluating educational frameworks that support the enhancement of students' English literacy.

Despite the growing recognition of the importance of English language proficiency, many vocational colleges still struggle to provide effective and integrated language instruction. A key obstacle is the absence of a comprehensive academic administration model that aligns curriculum, teaching methods, assessment strategies, and other essential components with the goal of improving students' English literacy (Wang et al., 2017; Wang, 2024; Zou et al., 2022). Particularly, vocational education often faces a mismatch between students' language learning needs and the traditional academic frameworks used in many institutions. This misalignment manifests in several ways. Traditional curricula often prioritize general academic English, which may not equip students with the specialized language skills required in their respective fields. Additionally, instructional methods tend to focus on grammar and literature-based approaches rather than communicative and task-oriented strategies that

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are more relevant to workplace communication. Assessment practices also frequently rely on standardized exams, which may not accurately reflect students' ability to use English in professional contexts. These challenges underscore the need for an academic administration model that bridges the gap between vocational students' practical language requirements and institutional teaching practices. In addition to policy advancements, outdated teaching methods, limited interdisciplinary approaches, and resource constraints continue to hinder the effectiveness of English instruction in vocational education (Guo, 2024; Ke, 2019). Addressing these gaps through a structured and systematic academic administration model—one that integrates targeted curriculum design, optimized resource allocation, and innovative teaching strategies—can better equip vocational students with the English proficiency needed for success in the global workforce.

Academic administration serves as a pivotal process for achieving educational objectives through the efficient utilization of human, financial, and material resources (Thungu et al., 2008). It provides leadership, management, and support for various academic functions and activities within higher education institutions (Baldwin, 2009). Unlike general administration, which focuses on the day-to-day operations, academic administration emphasizes fostering learning through the professional development of educators, continuous assessment, and alignment with educational objectives (Koko, 2011). The effectiveness of academic administration is directly linked to the quality of education, as the collaboration between administrators and teachers ensures the fulfilment of institutional missions and educational outcomes (Aemorn & Chakkaphan, 2021).

In recent years, the forces of globalization and internationalization have driven many higher education institutions to reform their curriculum policies (Barrot, 2018; Li et al., 2018). These reforms aim to better prepare students for the demands of the world's job market (Moller & Crick, 2018; Rashid et al., 2016). The curriculum is central to shaping what, why, and how students learn a language, and the success of language teaching and learning largely depends on how curriculum policies are designed and implemented to meet the language learning needs of students (Handoyo, 2016; Ulla et al., 2022). In this context, academic administration plays a pivotal role in ensuring the effective and consistent implementation of these policies, thereby fostering a positive and efficient learning environment.

This research proposed a comprehensive academic administration model aimed at enhancing the English literacy of students in vocational colleges. By exploring the relationship between academic administration and students' English literacy, this study seeks to identify and address the structural and pedagogical barriers that hinder effective language education. The research argued that the adoption of this model can better align educational strategies with the evolving needs of the global job market, equipping vocational students with the necessary language skills to succeed in their future careers.

RESEARCH OBJECTIVES

This study aimed:

1. To examine students' perceptions of current academic administration practices in English course teaching at higher vocational colleges.
2. To identify key factors influencing academic administration for enhancing students' English literacy.
3. To analyze the interrelationships among academic administration components and their impact on students' English literacy using statistical modeling.
4. To develop a comprehensive academic administration model designed to enhance English literacy in higher vocational colleges.

LITERATURE REVIEW

English Literacy

Developing English literacy is a cornerstone of vocational education in China, equipping students with the skills needed to succeed in an increasingly globalized workforce. The *English Curriculum Standards for Higher Vocational Education* (2021 Edition) defines English literacy for vocational students across four key areas: communication skills in foreign-related workplaces, multicultural awareness, critical thinking, and independent learning. This definition emphasizes the necessity for vocational students to develop not only linguistic competence but also the ability to operate effectively within diverse cultural and professional environments.

In this study, English literacy was assessed using a structured questionnaire that measured students' competencies in these four areas. The questionnaire utilized a Likert scale to evaluate students' self-perceived proficiency in workplace communication, their awareness of multicultural interactions, their ability to engage in critical thinking, and their capacity for independent learning. The responses were analyzed quantitatively to assess the extent to which students had developed these competencies. By employing this approach, the study ensured that English literacy was measured in alignment with the defined key areas, providing empirical insights into students' language development. Also, this questionnaire contain students' perceptions on other components of academic administration,

Existing research on English education at the vocational level has primarily focused on macro-level issues, such as language literacy conceptualization and classroom teaching strategies. For instance, Liu (2021) and Ma (2023) explore effective English teaching practices, while Zhao (2024) emphasizes the need for institutional support to address the increasing demand for English-proficient professionals. However, the role of academic administration in systematically enhancing English literacy remains underexplored.

Academic Administration

Academic administration is central to the effective functioning of educational institutions, involving all activities

directly related to teachers and students. It plays a decisive role in ensuring that the institution meets quality standards, and its success depends on the collaborative efforts of administrators and faculty to achieve the educational mission of the institution (Aemorn & Chakkaphan, 2021). As Baldridge and Veiga (2001) argue, academic administration is crucial for supporting and developing faculty members, who are at the heart of an institution's educational mission. Teachers are universally regarded as the most essential members of the academic community, as without effective teaching, learning cannot take place. Koko (2011) further emphasizes that academic administrators and faculty at all levels must engage in continuous professional development to ensure high-quality education. In China, the *Implementation Plan of National Vocational Education Reform* (2019) identifies three key areas for reform in vocational education: teacher competencies, teaching materials, and instructional methods. This policy underscores the necessity of strengthening teacher effectiveness, improving curricular resources, and refining pedagogical techniques to cultivate highly skilled professionals who can meet industry and societal demands. Consequently, academic administration must facilitate the successful implementation of these reforms to enhance the quality of vocational education.

Academic administration comprises multiple dimensions essential for institutional management. Campbell et al. (1993) categorizes five core aspects: course-related services, teaching and learning management, teaching aid services, supervision of instruction, and evaluation and assessment services. Building upon this foundation, Da Wan and Morshidi (2018) extend the framework to include curriculum development, faculty professional development, student affairs, budgeting, strategic planning, institutional governance, and compliance with regulatory standards. Anusara et al. (2023) further refine this classification by identifying seven aspects, adding research for quality education improvement, internal quality assurance, and educational supervision. Kaenchan et al. (2017) expand upon these models by incorporating educational technology and the transfer of learning outcomes as integral components of academic administration. Pornthep (2013) reveals six areas of academic administration, namely, curriculum, learning and teaching, promotion and control of academics, academic services, measurement and evaluation, supervision, and personnel development.

Despite the broad recognition of these academic administration dimensions, existing research often focuses on isolated components rather than examining how they interact within institutional frameworks. Additionally, variations in institutional policies, educational levels, and cultural contexts complicate the generalization of findings across different vocational education settings. While theoretical frameworks have been extensively proposed, there remains a lack of empirical studies demonstrating the real-world application of these frameworks, further highlighting the need for research on academic administration's role in English literacy development.

Integration of Academic Administration and English Literacy Development

The integration of academic administration and English literacy development is critical for enhancing language learning outcomes in vocational education. English literacy focuses on students' communication, critical thinking, and adaptability in professional and multicultural environments, whereas academic administration provides the structural and institutional support necessary to achieve these educational goals. Understanding how academic administration influences English literacy outcomes is essential for designing effective language education policies and practices.

Academic administration encompasses a broad spectrum of institutional policies and practices that shape curriculum design, teaching methodologies, resource allocation, and student support services, all of which directly impact language learning (Da Wan & Morshidi, 2018; Campbell et al., 1993; Anusara et al., 2023). Wijngaards-de Meij and Merx (2019) argue that well-structured academic administration models enhance language education by ensuring that curriculum design, instructional strategies, and assessment methods are aligned with students' learning needs. Within vocational education, this alignment necessitates the integration of career-oriented English training into institutional policies and instructional frameworks to support students' professional development.

This study synthesizes key components of academic administration that are particularly relevant to English language teaching in vocational colleges, including curriculum design, teaching strategies, assessment, faculty professional development, technology integration, and student support services (Da Wan & Morshidi, 2018; Campbell et al., 1993; Vehachart, 2010; Anusara et al., 2023; Kaenchan et al., 2017; Pornthep, 2013; Xu et al., 2022; Zhang, 2021; Ke, 2019). The integration of these elements establishes a framework for developing an academic administration model that enhances English literacy in vocational education. By examining the relationship between academic administration and English literacy outcomes, this study aims to bridge the gap between vocational students' language learning needs and existing institutional practices, ultimately fostering improved educational and employment prospects for students.

RESEARCH METHODOLOGY

Population and Sample

The target population for this study comprised 8,000 students enrolled at Jiangsu College of Finance & Accounting, spanning six academic disciplines: Accounting, Finance, Business, Taxation, Computer Science, and New Media. A stratified random sampling technique was utilized to ensure proportional representation from each discipline. Using Yamane's formula (1973), a total of 381 students were selected as the sample. To assess the reliability and validity of the research instrument, a pilot study was conducted with 30 students. These students were not included in the final sample of 381 participants to avoid response bias.

Research Instrument

1. Questionnaire Survey

The questionnaire comprised four sections: 1) Demographic Information (e.g., gender, major, year of study, English proficiency level). 2) Academic Administration Dimensions – 63 five-point Likert scale items measuring student perceptions across eight key dimensions: Curriculum Design (CD), Teaching Strategies (TS), Evaluation (EV), Teacher Professional Development (TPD), Technology Integration (TI), Student Support Services (SSS), Overall Satisfaction (OS). Each item was rated on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree). 3) English Literacy Measurement – The study assessed English literacy based on four key dimensions: Workplace Communication Skills, Multicultural Awareness, Critical Thinking, and Independent Learning. Each of these dimensions was measured using self-perceived proficiency ratings on a five-point Likert scale. Although satisfaction with English courses was measured, it was not used as a direct proxy for English literacy. Instead, self-reported literacy aligned with the definition in the literature review were analyzed. 4) Open-ended Question – Participants could provide additional comments or suggestions regarding English course instruction.

The questionnaire's content validity was assessed using the Index of Item-Objective Congruence (IOC) method, reviewed by five specialists. The instrument demonstrated strong internal consistency (Cronbach's Alpha values > 0.7 across all dimensions).

2. Focus Group Discussion

A focus group discussion was conducted with 10 experts to refine the academic administration model. These experts include 5 English language instructors with experience in vocational education, 2 academic administrators responsible for institutional management, and 3 curriculum development specialists. The discussion followed a structured set of questions designed to elicit insights on the relationship between academic administration and English literacy development. These questions were designed to align with the eight academic administration dimensions identified in the study, ensuring that expert feedback contributed to model development.

Data Analysis

The collected data were analyzed using SPSS 27.0 and AMOS 26.0. The analysis followed these steps:

Descriptive Statistics – Mean, standard deviation, and percentage distributions were calculated.

Exploratory Factor Analysis (EFA) – Used to identify the latent constructs of academic administration dimensions.

Confirmatory Factor Analysis (CFA) – Used to validate the factor structure of academic administration dimensions.

Correlation Analysis – Examined relationships between English literacy and academic administration factors.

Structural Equation Modeling (SEM) – Explored causal relationships between academic administration and English literacy development.

Bootstrap Resampling – Tested mediation effects to ensure the robustness of findings.

For the focus group discussion, thematic analysis was applied. Responses were transcribed and coded into key themes corresponding to academic administration dimensions. This ensured that expert insights contributed to refining the academic administration model.

RESULTS AND DISCUSSION

Descriptive Statistics

1. Demographic Information

A total of 381 student questionnaires were distributed, and 381 were received. Of these, 381 were valid. The questionnaires were distributed through an online platform named Wenjuanxing. Reliability and Validity of the Questionnaire were checked to ensure the results of the questionnaire were repeatable.

As shown in Figure 1, the majority of student respondents were female, comprising 80.31%, while males accounted for 19.69%. This is because the students were from a college of accounting, where female students are in the majority. The distribution of students by year of study showed that 29.13% (111 participants) were freshmen (first-year students), 34.38% (131 participants) were sophomores (second-year students), and 36.49% (139 participants) were juniors (third-year students). Respondents came from a variety of academic majors. The largest group is from New Media, accounting for 19.68% (75 participants), followed closely by Computer Science students at 19.42% (74 participants). Other majors included Accounting (16.80%, 64 participants), Taxation (16.54%, 63 participants), Finance (14.44%, 55 participants), and Business (13.12%, 50 participants). In terms of English proficiency level, the majority of students had achieved PRETCO-B (Practical English Test for Colleges, Level B), representing 40.42%. This was followed by 29.92% (114 participants) who hold a CET-4 (College English Test, Band 4) level. Additionally, 27.30% (104 participants) had the PRETCO-A (Practical English Test for Colleges, Level A, which is higher than Level B) certificate, and a small percentage (2.36%, 9 participants) had achieved the highest level, CET-6 (College English Test, Band 6, which is higher than Band 4).

Descriptive Statistics of Key Variables

This section presented the descriptive statistics for the key academic administration dimensions, including curriculum design, teaching strategies, evaluation, teacher professional development, technology integration, student support services, English literacy, and overall satisfaction. These descriptive statistics summarized the central tendencies (mean) and variability (standard deviation), offering an initial insight into how respondents perceive different aspects of the existing academic administration practice.

The results presented in Table 1 indicate that all dimensions of academic administration were perceived at a moderate level by students, with a total mean score of 2.912 and a standard deviation (*SD*) of 0.865. This suggests that while students recognize the presence and function of

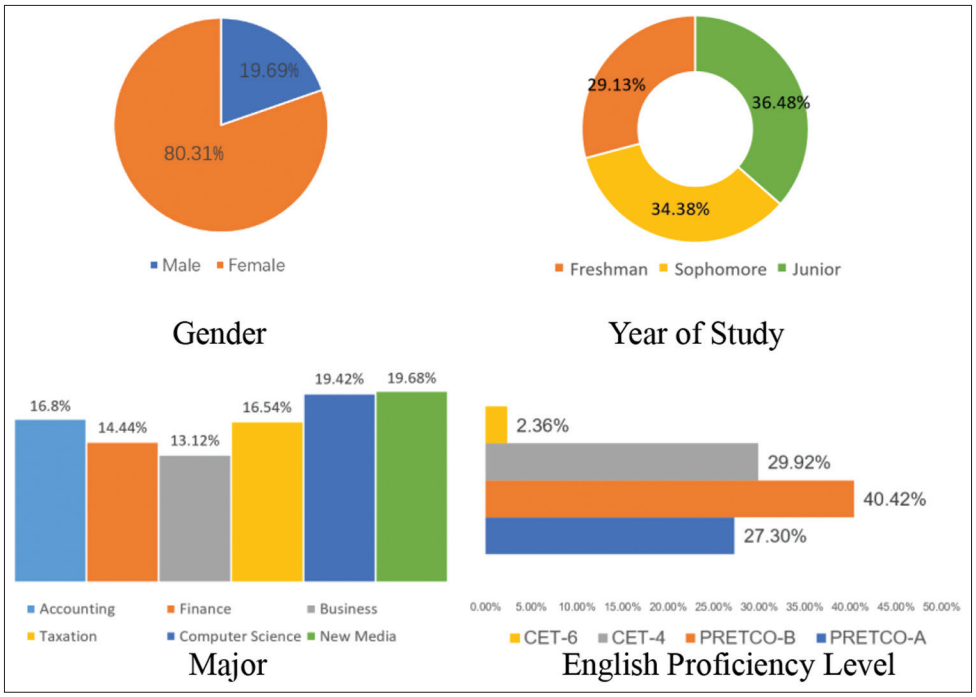

Figure 1. Demographic information of respondents

Table 1. Descriptive statistics for student samples (N=381)

Variables	*M*	*SD*	Level
Curriculum Design	2.955	0.897	Moderate
Teaching Strategies	3.087	0.925	Moderate
Evaluation	2.942	0.842	Moderate
Teacher Professional Development	2.945	0.888	Moderate
Technology Integration	2.811	0.862	Moderate
Student Support Service	2.761	0.848	Moderate
English Literacy	2.849	0.822	Moderate
Overall Satisfaction	2.948	0.836	Moderate
Total	2.912	0.865	Moderate

these components, there is still room for improvement to enhance their effectiveness in supporting English literacy development.

Among the assessed dimensions, teaching strategies received the highest mean score (M=3.087, SD= 0.925), suggesting that instructional methods are relatively well-perceived by participants. Covertly, student support services had the lowest mean score (M=2.761, SD=0.848), indicating relatively lower levels of perceived effectiveness in providing adequate support for students' English learning needs.

Technology integration (M=2.811, SD=0.862) and English literacy (M=2.849, SD=0.822) exhibited similar moderate ratings. While technology is incorporated into English instruction, its impact remains limited. The moderate rating for English literacy reflects that students acknowledge some improvements in their language skills, but significant enhancement is still needed.

Likewise, curriculum design (M=2.955, SD=0.897), evaluation (M=2.942, SD=0.842), and teacher professional development (M= 2.945, SD=0.888) were all rated at a similar moderate level. While students find the curriculum relevant, there may be areas where it could be better aligned with their learning needs and career aspirations. Students rated evaluation practices at a moderate level, indicating that existing evaluation methods are neither highly effective nor entirely ineffective. There may be a need for more diversified or competency-based assessments to improve student engagement and learning outcomes. Professional development initiatives for English teachers are recognized, but additional training opportunities and methodological support may be required to enhance teaching effectiveness further. Overall satisfaction (M=2.948, SD=0.836) suggests that while students recognize the efforts made in academic administration, there is still room for improvement in aligning strategies with their needs.

Overall, the results highlight the need for improvements in technology integration, student support services, and curriculum design to strengthen their contribution to English literacy development. The moderate ratings across all variables suggest that academic administration practices are functional but not optimal, highlighting the need for targeted improvements.

Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis (EFA) was conducted to identify the underlying latent constructs within the academic administration model and to group related variables into meaningful dimensions. Given the complexity of academic administration practices and their diverse impact on students' English literacy, EFA was necessary to uncover the fundamental structure among multiple observed variables.

As shown in Table 2, the KMO value was 0.921, which was greater than 0.6, meeting the prerequisite for factor

Table 2. KMO and bartlett's test of sphericity

KMO		**0.921**
Bartlett's Test of Sphericity	χ^2	15601.426
	df	1953
	p	0.000

analysis, indicating that the collected data was appropriate for factor analysis research. The p-value of Bartlett's test of sphericity was less than 0.05, further confirming that the collected questionnaire data can undergo factor analysis.

As shown in Table 3, a total of eight factors were extracted through factor analysis, each with an eigenvalue greater than 1. The variance explained by these eight factors after rotation was 10.174%, 8.643%, 7.901%,7.474%, 7.286%, 7.239%, 7.125%, 6.975% respectively, with a cumulative variance explained of 62.818% after rotation. In other words, the number of factors extracted from the data matches the number of dimensions covered in the questionnaire, indicating a certain degree of consistency between the questionnaire design structure and the data results. However, it was still unclear whether each item corresponds to the correct factor. To verify whether each item aligns with the correct factor, the method of maximum variance rotation was applied, and the results are shown in Table 4.

After extracting factors, factor rotation was performed to simplify and clarify the factor structure, ensuring that each extracted factor represented a distinct dimension. In this study, Varimax rotation was applied to enhance the interpretability of the factor structure. The communalities for all research items were above 0.4, indicating that the extracted factors effectively captured the shared variance among variables. By ensuring high communalities and well-defined factor-item correspondences, the factor rotation process strengthened the theoretical foundation of the extracted factors, supporting their use in subsequent Confirmatory Factor Analysis (CFA) and Structural Equation Modeling (SEM).

Table 3. Factor extraction

Factor Number	**Eigenvalue**			**Variance Explained Before Rotation**			**Variance Explained After Rotation**		
	Eigenvalue	**Variance Explained (%)**	**Cumulative (%)**	**Eigenvalue**	**Variance Explained (%)**	**Cumulative (%)**	**Eigenvalue**	**Variance Explained (%)**	**Cumulative (%)**
1	15.337	24.345	24.345	15.337	24.345	24.345	6.410	10.174	10.174
2	4.511	7.161	31.506	4.511	7.161	31.506	5.445	8.643	18.817
3	4.229	6.713	38.219	4.229	6.713	38.219	4.978	7.901	26.718
4	3.475	5.516	43.735	3.475	5.516	43.735	4.709	7.474	34.193
5	3.237	5.138	48.873	3.237	5.138	48.873	4.590	7.286	41.479
6	3.087	4.899	53.772	3.087	4.899	53.772	4.560	7.239	48.718
7	2.929	4.650	58.422	2.929	4.650	58.422	4.489	7.125	55.843
8	2.769	4.395	62.818	2.769	4.395	62.818	4.394	6.975	62.818

Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) was run to evaluate the measurement model with the significance of each item's factor loading and acceptable values showed the goodness of fit (Timothy, 2006). The Confirmatory Factor Analysis (CFA) estimation model (see Figure 2) represents the measurement model used to validate the relationships between latent constructs (academic administration components) and their observed variables (survey items). The CFA model is an essential step before proceeding to Structural Equation Modeling (SEM), ensuring that the factor structure is statistically valid and reliable.

In this model, eight latent constructs (factors) are measured by multiple observed variables (survey items). These latent constructs are represented by oval shapes, while the observed variables are represented by rectangles. The factor loadings (numbers next to arrows) indicate how strongly each observed variable contributes to its corresponding latent factor. These latent constructs (factors) include:

Table 4. Rotated factor loadings

Item	Factor Loadings								Communalities (Common Factor Variance)
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	
a1	0.120	0.097	0.095	0.041	**0.897**	0.045	0.122	0.069	0.861
a2	0.125	0.075	0.074	0.083	**0.742**	0.041	0.127	0.063	0.606
a3	0.119	0.085	0.126	0.031	**0.768**	0.083	0.105	0.019	0.647
a4	0.127	0.119	0.082	0.078	**0.739**	0.091	0.104	0.056	0.611
a5	0.127	0.196	0.098	0.045	**0.715**	0.137	0.079	0.023	0.604
a6	0.134	0.073	0.131	0.030	**0.729**	0.003	0.159	0.057	0.602
a7	0.117	0.121	0.094	0.054	**0.755**	0.097	0.057	0.049	0.624
b1	0.157	0.109	0.052	**0.900**	0.008	0.048	0.028	0.105	0.864
b2	0.193	0.098	0.049	**0.766**	0.040	0.047	0.025	0.094	0.649
b3	0.176	0.165	0.000	**0.757**	0.083	-0.012	0.026	0.108	0.651
b4	0.173	0.113	0.108	**0.755**	0.034	0.052	0.076	0.072	0.639
b5	0.155	0.108	0.136	**0.760**	0.025	0.039	0.023	0.060	0.637
b6	0.131	0.053	0.119	**0.776**	0.089	0.015	0.132	0.043	0.664
b7	0.148	0.117	0.044	**0.720**	0.087	0.039	0.023	0.160	0.591
c1	0.143	0.073	**0.901**	0.079	0.052	0.026	0.075	0.043	0.855
c2	0.121	0.128	**0.706**	0.008	0.159	0.092	0.107	0.060	0.578
c3	0.068	0.069	**0.775**	0.069	0.070	0.095	0.046	0.010	0.630
c4	0.118	0.092	**0.697**	0.055	0.061	0.057	0.119	0.119	0.547
c5	0.147	0.118	**0.713**	0.162	0.058	0.080	0.062	0.105	0.595
c6	0.189	0.182	**0.714**	-0.009	0.081	0.007	0.083	0.088	0.600
c7	0.173	0.141	**0.666**	0.088	0.129	0.072	0.096	0.044	0.534
c8	0.114	0.061	**0.750**	0.079	0.119	0.063	0.071	0.039	0.610
d1	0.140	0.092	0.086	0.037	0.106	0.075	**0.908**	0.044	0.881
d2	0.182	0.142	0.053	0.024	0.093	0.125	**0.723**	0.048	0.606
d3	0.077	0.147	0.074	0.038	0.127	0.085	**0.706**	0.069	0.561
d4	0.177	0.128	0.106	0.057	0.062	0.068	**0.718**	0.112	0.599
d5	0.144	0.081	0.099	0.070	0.161	0.116	**0.733**	-0.003	0.619
d6	0.125	0.155	0.122	0.067	0.091	0.092	**0.720**	0.112	0.606
d7	0.191	0.067	0.110	0.044	0.130	-0.013	**0.747**	0.071	0.635
e1	0.099	-0.008	0.044	0.030	0.041	**0.915**	0.057	0.134	0.873
e2	0.119	0.071	-0.045	0.025	0.000	**0.751**	0.118	0.136	0.619
e3	0.068	0.003	0.080	0.072	0.019	**0.758**	0.103	0.036	0.603
e4	0.057	0.052	0.090	0.024	0.097	**0.742**	0.080	0.121	0.597
e5	0.165	0.071	0.032	-0.021	0.075	**0.742**	0.082	0.175	0.626
e6	0.145	0.018	0.130	0.043	0.172	**0.747**	0.048	0.105	0.641
e7	0.067	0.042	0.138	0.043	0.088	**0.756**	0.024	0.081	0.613
f1	0.175	0.043	0.030	0.083	0.011	0.125	0.049	**0.899**	0.867
f2	0.119	0.094	0.093	0.083	0.042	0.102	0.061	**0.708**	0.556
f3	0.107	0.046	0.094	0.161	0.026	0.050	0.062	**0.718**	0.571
f4	0.126	0.035	0.019	0.087	0.037	0.090	0.094	**0.741**	0.593
f5	0.061	-0.003	0.079	0.088	0.052	0.162	0.045	**0.710**	0.553
f6	0.065	0.121	0.041	0.033	0.080	0.123	0.079	**0.755**	0.619
f7	0.151	0.078	0.102	0.068	0.069	0.111	0.028	**0.717**	0.576
g1	0.169	**0.894**	0.077	0.087	0.067	0.029	0.082	0.051	0.856

(Contd...)

Table 4. *(Continued)*

Item	Factor Loadings								Communalities (Common Factor Variance)
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Factor 8	
g2	0.119	**0.743**	0.127	0.045	0.073	0.084	0.098	0.076	0.613
g3	0.118	**0.673**	0.101	0.066	0.112	-0.027	0.152	0.001	0.518
g4	0.155	**0.721**	0.105	0.003	0.113	0.045	0.036	0.016	0.572
g5	0.220	**0.701**	0.090	0.079	0.122	0.011	0.085	0.030	0.578
g6	0.133	**0.697**	0.101	0.143	0.096	0.005	0.138	0.080	0.569
g7	0.162	**0.693**	0.102	0.137	0.061	0.054	0.020	0.096	0.552
g8	0.082	**0.703**	0.152	0.192	0.087	0.053	0.139	0.078	0.597
g9	0.117	**0.715**	0.032	0.085	0.077	0.032	0.112	0.051	0.556
h1	**0.907**	0.125	0.122	0.130	0.092	0.086	0.112	0.090	0.907
h2	**0.640**	0.113	0.196	0.166	0.127	0.059	0.165	0.147	0.556
h3	**0.713**	0.176	0.113	0.077	0.037	0.077	0.163	0.028	0.593
h4	**0.611**	0.148	0.087	0.155	0.139	0.032	0.125	0.148	0.484
h5	**0.686**	0.141	0.135	0.100	0.178	0.075	0.153	0.106	0.590
h6	**0.722**	0.116	0.146	0.128	0.043	0.062	0.135	0.092	0.605
h7	**0.667**	0.124	0.081	0.069	0.129	0.095	0.070	0.148	0.525
h8	**0.669**	0.190	0.127	0.128	0.129	0.030	0.146	0.142	0.575
h9	**0.709**	0.117	0.051	0.196	0.126	0.118	0.108	0.019	0.599
h10	**0.683**	0.157	0.101	0.158	0.027	0.128	0.042	0.084	0.552
h11	**0.672**	0.105	0.176	0.131	0.124	0.168	0.085	0.088	0.569

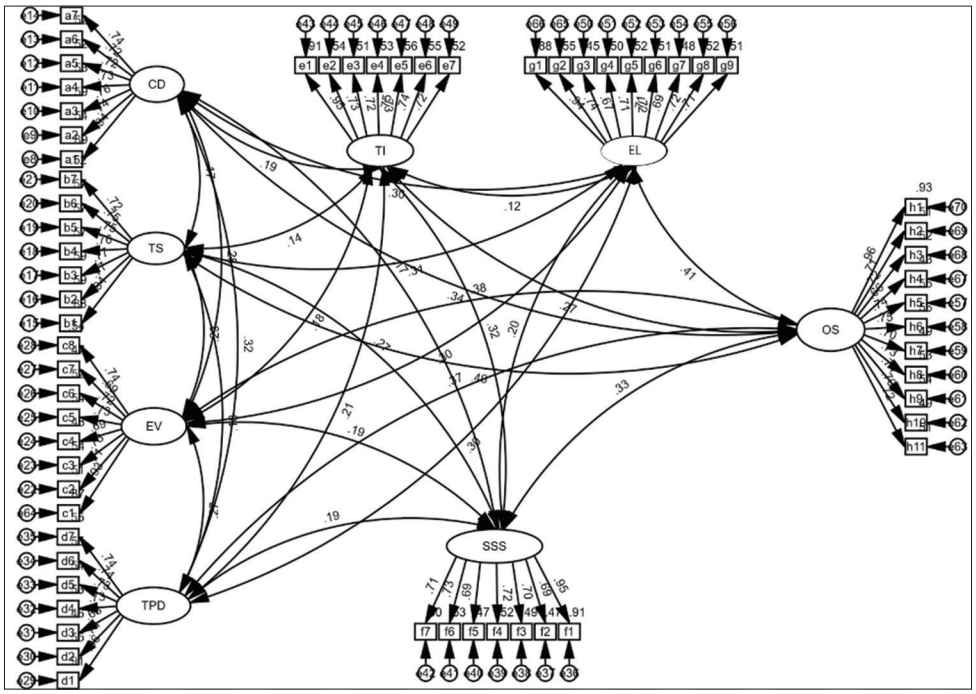

Figure 2. Confirmatory factor analysis model

CD (Curriculum Design)
TS (Teaching Strategies)
EV (Evaluation)
TPD (Teacher Professional Development)
TI (Technology Integration)
SSS (Student Support Services)
EL (English Literacy)
OS (Overall Satisfaction)

Each latent construct is measured by multiple survey items (e.g., a1, a2, b1, b2, etc.), indicated by arrows pointing from the factor to the observed variables. The model shows that all constructs are positively correlated, indicating

interconnected relationships among academic administration components. After validating the constructs, absolute fit indices (Chi-square, RMSEA, etc.) and incremental fit indices (CFI, TLI) were checked (Table 5).

Fit Indices provide insight into the model's adequacy. Specifically, the Absolute Fit Indices, including the CMIN/DF, indicate an exceptional fit with a post-adjustment value of 1.236, well beneath the accepted threshold of 3.00 (Hair et al., 2010). Meanwhile, the GFI and AGFI values were 0.844 and 0.832, respectively, both well above the accepted threshold of 0.8. Additionally, the model boasts a favorable RMSEA value of 0.025, substantially below the recommended 0.05 limit (Browne & Cudeck, 1993). As for the Incremental Fit Indices, the CFI stands at an impressive 0.970, which was over the exceptional threshold of 0.90 (Hair et al., 2010); while the IFI, at 0.970, which is well above the threshold 0.9, and TLI, at 0.968, further accentuates that the model fits well, and the questionnaire demonstrates good structural validity.

Table 5. Fit indices

χ^2/df	RMSEA	GFI	AGFI	CFI	IFI	TLI
1.236	0.025	0.844	0.832	0.970	0.970	0.968

In Table 6, The Average Variance Extracted (AVE) for each latent variable ranges from 0.546 to 0.613, which is greater than 0.5; and the Composite Reliability (CR) ranges from 0.896 to 0.930, which is greater than 0.8, suggesting that the validity and reliability are ideal.

Zait and Bertea (2014) emphasized that discriminant validity ensures measurements within a construct correlate more strongly with each other than with measures of other constructs. The diagonal of the discriminant value summary contains the square roots of each variable's Average Variance Extracted (AVE). A latent variable's AVE square root should notably surpass its correlation with other constructs (Fornell & Larcker, 1981). Ideally, the AVE threshold should be above 0.500. Schmitt & Stults (1986) posited an AVE root value equivalent to two, with deviations below 1.000. Given the data presented in Table 7, this study successfully established its discriminant validity.

From Table 7, the following results were observed: For overall satisfaction, the square root of AVE is 0.741, which is greater than the maximum absolute value of the inter-factor

Table 6. Convergent Validity

Construct	No. of Item	Standardized Loadings	p	CR	AVE
Curriculum Design	7	0.722-0.944	***	0.910	0.593
Teaching Strategies	7	0.721-0.938	***	0.917	0.613
Evaluation	8	0.688-0.933	***	0.909	0.559
Teacher Professional Development	7	0.681-0.956	***	0.907	0.585
Technology Integration	7	0.717-0.953	***	0.908	0.589
Student Support Service	7	0.686-0.953	***	0.896	0.556
English Literacy	9	0.633-0.936	***	0.915	0.546
Overall Satisfaction	11	0.656-0.962	***	0.930	0.549

Table 7. Discriminant validity

Correlation	Overall Satisfaction	English Literacy	Technology Integration	Student Support Service	Teacher Professional Development	Evaluation	Teaching Strategies	Curriculum Design
Overall Satisfaction	0.741							
English Literacy	0.409**	0.739						
Technology Integration	0.270**	0.122**	0.767					
Student Support Service	0.333**	0.195**	0.315**	0.746				
Teacher Professional Development	0.372**	0.303**	0.211**	0.194**	0.765			
Evaluation	0.377**	0.303**	0.183**	0.190**	0.274**	0.748		
Teaching Strategies	0.400**	0.306**	0.135**	0.269**	0.175**	0.234**	0.783	
Curriculum Design	0.336**	0.296**	0.192**	0.166**	0.324**	0.282**	0.173*	0.770

* indicates P< 0.05,** indicates P< 0.01

correlation coefficient, 0.409, indicating good discriminant validity. For English literacy, the square root of AVE is 0.739, exceeding the maximum absolute value of the inter-factor correlation coefficient, 0.306, suggesting good discriminant validity. For technology integration, the square root of AVE is 0.767, greater than the maximum absolute value of the inter-factor correlation coefficient, 0.315, indicating good discriminant validity. For student support services, the square root of AVE is 0.746, which is higher than the maximum absolute value of the inter-factor correlation coefficient, 0.269, signifying good discriminant validity. For teacher professional development, the square root of AVE is 0.765, exceeding the maximum absolute value of the inter-factor correlation coefficient, 0.324, indicating good discriminant validity. For evaluation, the square root of AVE is 0.748, which is greater than the maximum absolute value of the inter-factor correlation coefficient, 0.282, suggesting good discriminant validity. For teaching strategies, the square root of AVE is 0.783, which exceeds the maximum absolute value of the inter-factor correlation coefficient, 0.173, indicating good discriminant validity.

In summary, the CFA results confirm that the factor structure identified in the previous analysis is consistent with the theoretical expectations and helps ensure the questionnaire's structural validity, laying a firm foundation for subsequent research.

Correlation Analysis

To explore the strength and direction of the relationships between various dimensions of academic administration and students' overall satisfaction, correlation analysis was conducted. Prior to the analysis, the mean values of all items within each dimension were calculated and used as indicators for that dimension. These indicators were placed in the variable box for analysis, which were shown in Table 8.

Significant positive correlations between overall satisfaction and seven key aspects of academic administration were revealed: course design (r = 0.362), teaching strategies (r = 0.417), evaluation (r = 0.396), teacher professional development (r = 0.408), technology integration (r = 0.294), student support services (r = 0.339), and English literacy (r = 0.427). All correlation coefficients were positive, indicating that students' overall satisfaction is positively associated with each of these dimensions.

The overall satisfaction shows significant correlations with seven aspects: course design, teaching strategies, evaluation, teacher professional development, technology integration, student support services, and English literacy, with correlation coefficients of 0.362, 0.417, 0.396, 0.408, 0.294, 0.339, and 0.427, respectively. All correlation coefficients are greater than 0, indicating a positive correlation between overall satisfaction and these seven aspects. The significant positive correlations indicate that improvements in any of the seven aspects are associated with an increase in students' overall satisfaction. This suggests that these dimensions play crucial roles in shaping students' perceptions of their academic experiences.

Structural Equation Modeling (SEM)

Structural Equation Modeling (SEM) was employed to analyze the relationships between academic administration components and their impact on students' English competencies. Following the validation of the measurement model through Confirmatory Factor Analysis (CFA), the structural model was developed to test the hypothesized relationships among latent constructs.

Table 8. Person correlation

Construct	Curriculum Design	Teaching Strategies	Evaluation	Teacher Professional Development	Technology Integration	Student Support Service	English Literacy	Overall Satisfaction
Curriculum Design	1							
Teaching Strategies	0.195**	1						
Evaluation	0.302**	0.241**	1					
Teacher Professional Development	0.335**	0.197**	0.293**	1				
Technology Integration	0.224**	0.140**	0.214**	0.242**	1			
Student Support Service	0.183**	0.271**	0.223**	0.222**	0.314**	1		
English Literacy	0.314**	0.311**	0.325**	0.334**	0.147**	0.207**	1	
Overall Satisfaction	0.362**	0.417**	0.396**	0.408**	0.294**	0.339**	0.427**	1

* $p<.05$ ** $p<.01$

1. Structural Model Overview

The structural model examines the relationships between various academic administration components and their impact on English Literacy (EL) and Overall Satisfaction (OS). The model consists of eight latent constructs, each measured by multiple observed variables:

Curriculum Design (CD) – Evaluates the effectiveness of course structure and content in supporting student learning.

Teaching Strategies (TS) – Represents the instructional approaches used to facilitate English competency development.

Evaluation (EV) – Captures the assessment methods and feedback mechanisms applied in academic administration.

Teacher Professional Development (TPD) – Measures the effectiveness of teacher training programs in improving instructional quality.

Technology Integration (TI) – Examines the role of digital tools and technological innovations in enhancing language learning.

Student Support Services (SSS) – Represents the availability and effectiveness of academic and non-academic support for students.

English Literacy (EL) – Reflects students' proficiency in English as influenced by the academic administration model.

Overall Satisfaction (OS) – Serves as the ultimate outcome variable, assessing students' satisfaction with their learning experience.

The model includes six predictor variables and two outcome variables:

Predictor Variables: CD, TS, EV, TPD, TI, SSS

Outcome Variables: EC (mediating variable), OS (ultimate dependent variable)

The model hypothesizes that:

Academic administration components (CD, TS, EV, TPD, TI, SSS) positively influence students' English Literacy (EL).

Some academic administration components (CD, TS, EV, TPD, TI, SSS) directly enhance Overall Satisfaction (OS), independent of EC.

EL mediates the relationship between academic administration components and Overall Satisfaction (OS), meaning these components improve EC, which in turn enhances OS.

The strength and significance of direct and mediated effects may vary among different components.

These relationships were then tested through SEM path analysis to determine the direct and indirect effects among constructs. Path coefficients (β) and p-values will determine if relationships are statistically significant. Mediation analysis (Bootstrap resampling) will confirm if EL truly mediates the effect of academic administration on OS.

Figure 3 represents the hypothesized relationships between latent constructs in the structural model. The academic administration components (Curriculum Design [CD], Teaching Strategies [TS], Evaluation [EV], Teacher Professional Development [TPD], Technology Integration [TI], and Student Support Services [SSS]) serve as predictor variables influencing English Literacy (EL) and Overall Satisfaction (OS). The standardized path coefficients (β) represent the strength and direction of relationships between latent constructs. However, βvalues alone do not determine statistical significance. It is essential to examine the associated p-values to assess whether these relationships are statistically significant. Typically, a relationship is considered significant at $p < 0.05$, meaning there is less than a 5% probability that the effect occurred by chance.

2. Model Fit Evaluation

Model Fit Evaluation was conducted after estimating the structural model in SEM. This step assesses how well the hypothesized model fits the observed data, ensuring that the relationships between constructs are statistically sound be-fore interpreting results (Table 9).

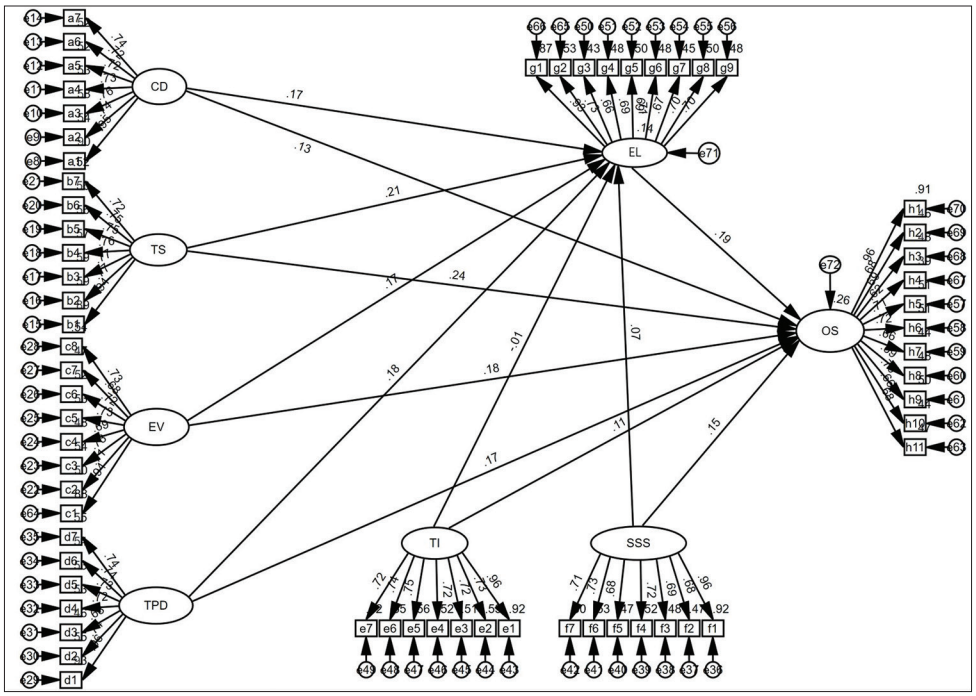

Figure 3. Academic administration effecting to satisfaction model diagram

The model fit indices, including Chi-square test (^{2}/df =1.329), Comparative Fit Index (CFI=0.958), Goodness-of-Fit Index (GFI=0.824), and Root Mean Square Error of Approximation (RMSEA=0.029), demonstrated that the model was well-fitted to the data. These indices suggest that the proposed academic administration model aligns closely with the observed data, accurately capturing the relationships among variables such as curriculum design, teaching strategies, evaluation, teacher professional development, technology integration, student support services, English literacy, and overall satisfaction. Once the model fit was confirmed, the researcher could proceed to analyze the impact relationships between the variables, as detailed in Table 10.

Structural Pathways

The path analysis results are summarized in the above table, presenting the standardized and unstandardized path coefficients, standard errors, Z-values, and corresponding significance levels (P-values). The analysis reveals the following relationships between the various dimensions of academic administration and both English literacy and overall satisfaction.

In the path "Curriculum Design → English Literacy," the standardized path coefficient was 0.168 (β = 0.168, p = 0.001), indicating a significant positive influence of curriculum design on English literacy.

In the path "Student Support Services → English Literacy," the standardized path coefficient was 0.066 (β =0.066, p = 0.196), suggesting that student support services do not have a statistically significant impact on English literacy.

In the path "Teacher Professional Development → English Literacy," the standardized path coefficient was 0.176 (β = 0.176, p < 0.001), indicating a significant positive influence of teacher professional development on English literacy.

In the path "Technology Integration → English Literacy," the standardized path coefficient was -0.014 (β = -0.014, p = 0.780), showing that technology integration does not have a significant effect on English literacy.

In the path "Evaluation → English Literacy," the standardized path coefficient was 0.170 (β = 0.170, p = 0.001), demonstrating a significant positive impact of assessment and evaluation on English literacy.

In the path "Teaching Strategies → English Literacy," the standardized path coefficient was 0.212 (β = 0.212, p < 0.001), indicating a significant positive effect of teaching strategies on English literacy.

In the path "Curriculum Design → Overall Satisfaction," the standardized path coefficient was 0.129 (β = 0.129, p = 0.008), suggesting that curriculum design positively influences overall satisfaction.

In the path "Teaching Strategies → Overall Satisfaction," the standardized path coefficient was 0.237 (β = 0.237, p < 0.001), showing a significant positive impact of teaching strategies on overall satisfaction.

In the path "Evaluation→ Overall Satisfaction," the standardized path coefficient was 0.176 (β = 0.176, p < 0.001), indicating a significant positive relationship between evaluation and overall satisfaction.

In the path "Teacher Professional Development → Overall Satisfaction," the standardized path coefficient was 0.173 (β = 0.173, p < 0.001), reflecting a significant positive influence of teacher professional development on overall satisfaction.

In the path "English Literacy → Overall Satisfaction," the standardized path coefficient was 0.189 (β = 0.189, p < 0.001),

Table 9. Model fit results

χ^2/df	PGFI	GFI	AGFI	RMSEA	NFI	IFI	CFI	RFI
<3	>0.5	>0.8	>0.8	<0.08	>0.8	>0.8	>0.8	>0.8
1.329	0.767	0.824	0.811	0.029	0.849	0.958	0.958	0.843

Table 10. Influence relationships between variables

Path	Standardized Path Coefficient	Unstandardized Path Coefficient	S.E.	C.R.	P
CD→EL	0.168	0.151	0.046	3.268	0.001
SSS→EL	0.066	0.060	0.046	1.294	0.196
TPD→EL	0.176	0.158	0.046	3.431	***
TI→EL	-0.014	-0.013	0.046	-0.279	0.780
EV→EL	0.170	0.278	0.085	3.260	0.001
TS→EL	0.212	0.188	0.046	4.109	***
CD→OS	0.129	0.118	0.044	2.662	0.008
TS→OS	0.237	0.214	0.044	4.814	***
EV→OS	0.176	0.292	0.082	3.571	***
TPD→OS	0.173	0.158	0.044	3.576	***
EL→OS	0.189	0.192	0.053	3.638	***
SSS→OS	0.153	0.140	0.044	3.212	0.001
TI → OS	0.108	0.099	0.043	2.288	0.022

*** P<0.001

indicating that English literacy positively affect overall satisfaction.

In the path "Student Support Services → Overall Satisfaction," the standardized path coefficient was 0.153 (β = 0.153, p = 0.001), showing a significant positive influence of student support services on overall satisfaction.

In the path "Technology Integration → Overall Satisfaction," the standardized path coefficient was 0.108 (β = 0.108, p = 0.022), showing a significant positive influence of student support services on overall satisfaction.

The analysis revealed significant positive effects of key academic administration components on English Literacy (EL). Specifically, Curriculum Design (CD) (β = 0.168, p = 0.001), Teaching Strategies (TS) (β = 0.212, p < 0.001), Evaluation (EV) (β = 0.170, p = 0.001), and Teacher Professional Development (TPD) (β = 0.176, p < 0.001) all had strong and significant impacts on students' English literacy. These results highlight the crucial role of well-structured curricula, effective pedagogical approaches, systematic evaluation methods, and continuous teacher training in fostering English proficiency.

However, Student Support Services (SSS) (β = 0.066, p = 0.196) and Technology Integration (TI) (β = -0.014, p = 0.780) had non-significant effects on EL, suggesting that these factors may not directly contribute to language improvement in this context. The weak effect of Technology Integration (TI) implies that merely incorporating technology in education does not necessarily enhance English skills. Likewise, the non-significant effect of Student Support Services (SSS) suggests that additional factors, such as the quality and accessibility of support programs, may influence its effectiveness.

Regarding Overall Satisfaction (OS), all academic administration components demonstrated statistically significant positive effects. The strongest direct influence on OS came from Teaching Strategies (TS) (β = 0.237, p < 0.001), emphasizing the critical role of instructional quality in shaping students' educational experiences. Other significant contributors included Evaluation (EV) (β = 0.176, p < 0.001), Teacher Professional Development (TPD) (β = 0.173, p < 0.001), English Literacy (EC) (β = 0.189, p < 0.001), Student Support Services (SSS) (β = 0.153, p = 0.001), Curriculum Design (CD) (β = 0.129, p = 0.008), and Technology Integration (TI) (β = 0.108, p = 0.022). These results confirm that a holistic academic administration framework, encompassing pedagogical effectiveness, assessment mechanisms, teacher training, and student support, is essential for fostering student satisfaction.

The strength and significance of direct effects vary among different components. Teaching Strategies (TS) has the strongest direct impact on EL (β = 0.212, p < 0.001). Teaching Strategies (TS) also has the strongest direct impact on OS (β = 0.237, p < 0.001), meaning that better teaching strategies directly lead to higher student satisfaction. Technology Integration (TI) has the weakest impact on OS (β = 0.108, p < 0.022), suggesting that while digital tools contribute to a better learning experience, their impact on student satisfaction remains relatively minor compared to other factors.

Overall, the findings indicate that while some academic administration components strongly influence both English literacy and overall satisfaction, others exhibit weaker or non-significant effects, underscoring the need for a balanced and strategic approach in academic administration for optimizing both educational outcomes and experiences.

Bootstrap Resampling

Following the path analysis, the researcher was unable to directly conclude the presence of a mediation effect. A more robust analytical approach was required, specifically the bootstrap resampling method. Subsequently, the bootstrap method was applied to conduct mediation analysis, with the 95% confidence interval for the product of coefficients a×b calculated to assess the significance of the mediation effect. The presence of a mediation effect was determined by examining whether the confidence interval included zero.

Table 11 presents the results of the mediation analysis, examining whether English Literacy (EL) mediated the relationship between academic administration components and Overall Satisfaction (OS).

(1) Significant Partial Mediation Effects

Curriculum Design → English Literacy → Overall Satisfaction (Mediation Effect = 0.032, 95% CI=[0.008, 0.064], Direct Effect=0.129). Partial mediation exists, meaning curriculum design influences OS both directly and indirectly through EC.

Teaching Strategies → English Literacy → Overall Satisfaction (Mediation Effect = 0.040, 95% CI = [0.014, 0.075], Direct Effect = 0.237). A strong partial mediation effect, reinforcing the central role of teaching strategies in both directly improving satisfaction and indirectly via enhanced English literacy.

Evaluation → English Literacy → Overall Satisfaction (Mediation Effect = 0.032, 95% CI = [0.009, 0.063], Direct Effect = 0.176). Evaluation significantly contributes to overall satisfaction, partially mediated by improvements in English literacy.

Teacher Professional Development → English Literacy → Overall Satisfaction (Mediation Effect = 0.033, 95% CI = [0.007, 0.065], Direct Effect = 0.173). Teacher professional development enhances overall satisfaction both directly and through its impact on English literacy.

(2) Non-significant Mediation Effects

Technology Integration → English Literacy → Overall Satisfaction (Mediation Effect = -0.003, 95% CI = [-0.030, 0.019]). No significant mediation effect, implying that technology integration does not influence overall satisfaction through English literacy.

Student Support Services → English Literacy → Overall Satisfaction (Mediation Effect = 0.013, 95% CI = [-0.008, 0.042]). No significant mediation, indicating that student support services do not contribute to overall satisfaction through English literacy.

The bootstrap resampling analysis revealed that Curriculum Design, Teaching Strategies, Evaluation, and Teacher Professional Development significantly enhance English Literacy, which in turn positively influences Overall

Table 11. Bootstrap mediation effect

Mediation Path	Effect Type	Effect Value	Lower Bound	Upper Bound	p
Course Design→English Literacy→Overall Satisfaction	Direct Effect	0.129	0.017	0.241	0.025
	Mediation Effect	0.032	0.008	0.064	0.001
	Total Effect	0.161	0.048	0.268	0.005
Teaching Strategies→English Literacy→Overall Satisfaction	Direct Effect	0.237	0.13	0.344	0.001
	Mediation Effect	0.04	0.014	0.075	0.001
	Total Effect	0.277	0.172	0.38	0.001
Evaluation→English Literacy→Overall Satisfaction	Direct Effect	0.176	0.065	0.286	0.004
	Mediation Effect	0.032	0.009	0.063	0.001
	Total Effect	0.209	0.099	0.316	0.001
Teacher Professional Development→English Literacy→Overall Satisfaction	Direct Effect	0.173	0.055	0.285	0.004
	Mediation Effect	0.033	0.007	0.065	0.006
	Total Effect	0.206	0.09	0.321	0.001
Technology Integration→English Literacy→Overall Satisfaction	Direct Effect	0.108	0.002	0.212	0.041
	Mediation Effect	-0.003	-0.03	0.019	0.798
	Total Effect	0.106	-0.004	0.212	0.058
Student Support Services→English Literacy→Overall Satisfaction	Direct Effect	0.153	0.053	0.256	0.002
	Mediation Effect	0.013	-0.008	0.042	0.263
	Total Effect	0.165	0.063	0.276	0.001

Satisfaction. This confirms that these academic administration components contribute to student satisfaction both directly and indirectly through improvements in English Literacy.

However, Technology Integration and Student Support Services showed no significant impact on English Literacy, suggesting that their effects on satisfaction may operate through alternative mechanisms rather than through language proficiency.

Overall, these findings provide strong empirical support for the theoretical framework of the academic administration model, demonstrating that academic administration operates through complex, interrelated mechanisms rather than simple, linear relationships. Furthermore, the results align with educational and organizational theories, particularly those emphasizing the role of mediators in dynamic systems.

Construction of the Original Academic Administration Model

Based on the above analysis, the newly developed academic administration model establishes interrelationships among these dimensions, showing their direct and indirect effects on English literacy and overall satisfaction as outlined in Figure 4.

The structural relationships within the academic administration model demonstrate significant positive interconnections among its components. The input dimensions include curriculum design, teaching strategies, evaluation, teacher professional development, technology integration, and student support services, which represent key academic administration practices. English literacy act as an intermediate mediator, transmitting the effects of these input dimensions to the output dimension, overall student satisfaction. Structural Equation Modeling (SEM) results reveal that most input dimensions directly enhance both English literacy and satisfaction, while the indirect effects mediated through English literacy further reinforce these relationships. This highlights the integrated nature of the model, where the alignment of academic practices facilitates improved English literacy and overall satisfaction among students.

Modification of the Model after Thematic Analysis

The primary purpose of the focus group discussion was to modify the original academic administration model to improve English course teaching and learning outcomes. Specifically, it sought to evaluate the model's effectiveness in enhancing instructional structures and its adaptability to institutional demands. Additionally, the discussion provided a platform for experts to identify potential barriers to implementation and offer actionable recommendations for refining the model. The feedback and suggestions from the experts helped pinpoint areas for improvement or adjustment, ultimately ensuring that the model would be more effective and applicable in real-world educational settings.

The focus group discussion was conducted in a semi-structured format, guided by open-ended questions aimed at fostering in-depth exploration of the model. In order to categorize and analyze qualitative data from the focus group discussion, a thematic analysis was conducted which followed the six-phase framework proposed by Braun and Clarke (2006, pp. 89-96). A thematic analysis approach was applied, wherein key themes were identified based on

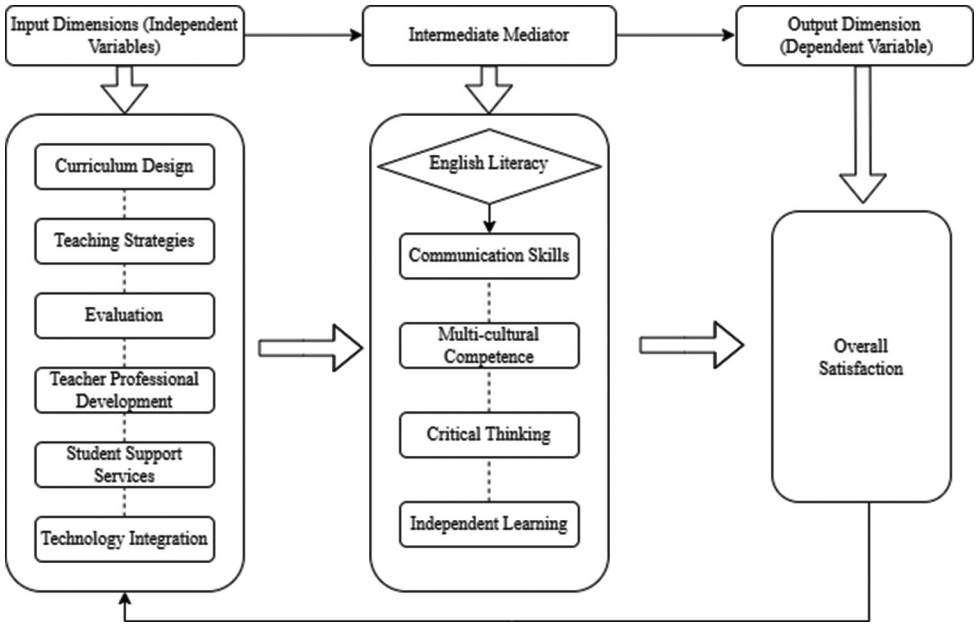

Figure 4. The original academic administration model

expert feedback and categorized according to the model's dimensions.

As shown Table 12, four themes such as Components of the Model, Effectiveness and Applicability of the Model, Potential Barriers of the Model, and Suggestions for Improvement emerged were identified. The example quote provides a direct, illustrative quote from the participants that reflects their perspectives on the topic.

Frequency analysis complements thematic analysis by quantitatively identifying trends within qualitative data, providing an additional layer of insight into experts' perspectives. By summarizing frequencies and counting mentions for each code, this method helps prioritize aspects of the model that require further attention or refinement. A typical categorization based on total mentions is:

Percentage of Total Mentions≥ 20%: Very High

Percentage of Total Mentions = 10% – 19%: High

Percentage of Total Mentions=5% – 9%: Moderate

Percentage of Total Mentions < 5%: Low

Themes or codes with higher frequencies often indicate areas of critical importance, while those with lower frequencies may represent emerging concerns.

Table 13 presents the thematic analysis of expert discussions on different aspects of the academic administration model. Among these codes, two codes ("English Literacy" and "Feedback Mechanisms") fall into the High category (≥ 10%), meaning experts heavily emphasized language proficiency and feedback systems. Most codes fall into the Moderate category (5%-9%), indicating that experts discussed multiple aspects of the model but without strong focus on any single area. Here, experts highlighted Teacher-Curriculum Developer Collaboration, which was not included in the original model. Several key areas, including barriers, model success, and real-world practicality, fall into the Low category (<5%), suggesting that experts did not focus heavily on challenges or direct implementation concerns.

In summary, the high frequency of mentions for "English Literacy" and "Feedback Mechanisms" underscores their central role in enhancing students' learning outcomes, reinforcing their necessity within the model. The moderate focus on Curriculum Design, Teaching Strategies, Evaluation, Teacher Professional Development, Technology Integration, Student Support Services and Teacher-curriculum Developer Collaboration indicates that while these elements are relevant, their practical implementation and potential optimization require further empirical validation.

In order to demonstrate the dynamics of the model and the rationale behind the structure, the influence mechanism was presented in Figure 5 to articulate the cause-and-effect relationships among these components.

As depicted in Figure 5, the primary influencing factors within the academic administration model for enhancing students' English literacy include curriculum design, teaching strategies, evaluation, teacher professional development, technology integration, and student support services. These components play a crucial role in shaping two key outcome indicators: students' English literacy and overall satisfaction. Additionally, feedback mechanisms from both students and teachers, and teacher-curriculum developer collaboration which ensuring alignment with pedagogical best practices—serve to continuously refine and improve the model, ensuring alignment with educational goals and enhancing the learning experience.

The two key outcome indicators, English literacy and overall satisfaction, reflected the model's dual focus on both skill development and the student experience. This suggested that the administration model not only aims to improve students' practical language skills but also ensures that they are satisfied with their learning environment and the overall teaching process. The inclusion of feedback mechanism from students and teachers highlighted the dynamic nature of the model. By regularly gathering feedback, teachers

Table 12. Thematic analysis of focus group discussion

Theme	Code	Example Quote
Model Components	Structure of the Model	"The component of the model is comprehensive."
	Curriculum Design	"The curriculum alignment and real-world application are considered."
	Teaching Strategies	"Diverse teaching strategies are considered to cultivate students' critical thinking and practical language use."
	Evaluation	"The model should emphasize a mix of assessments to track student progress."
	Teacher Professional Development	"Teacher training, mentoring and peer observation are essential for teachers' ongoing development."
	Technology Integration	"Technology is critical for modern English teaching."
	Student Support Services	"Academic advising and personal development resources are both necessary."
	English Literacy	"Practical English skills are important in course teaching."
	Overall Satisfaction	"Both students and teachers' satisfaction should be monitored to measure the model's success."
Effectiveness and Applicability	Model Success	"The model seems to address the main teaching challenges well."
	English Literacy Improvement	"This model has great potential to improve English competencies."
	Practicality in Real-World Settings	"This model is relevant to our needs."
Potential Barriers	Institutional Barriers	"We need to consider the practical constraints in our institutions."
	Attitudinal Barriers	"There could be resistance from teachers who are unfamiliar with the system."
Suggestions for Improvement	Enhancements to Model Components	"Reforms should be integrated into the model."
	Feedback Mechanisms	"There should be ongoing evaluation mechanisms to refine and adapt the model as needed."
	Teacher-Curriculum Developer Collaboration	"Collaboration between teachers and curriculum developers is essential for responding to student needs and industry trends."

Table 13. Frequency summary

Theme	Code	Frequency	Percentage	Frequency Level
Components of the Model	Structure of the Model	3	3.06	Low
	Curriculum Design	9	9.18	Moderate
	Teaching Strategies	7	7.14	Moderate
	Evaluation	8	8.16	Moderate
	Teacher Professional Development	7	7.14	Moderate
	Technology Integration	6	6.12	Moderate
	Student Support Services	7	7.14	Moderate
	English Literacy	10	10.20	High
	Overall Satisfaction	4	4.08	Low
Effectiveness & Applicability	Model Success	3	3.06	Low
	English Skills Improvement	4	4.08	Low
	Practicality in Real-World Settings	4	4.08	Low
Potential Barriers	Institutional Barriers	2	2.04	Low
	Attitudinal Barriers	3	3.06	Low
Suggestions for Improvement	Enhancements to Model Components	3	3.06	Low
	Feedback Mechanisms	10	10.20	High
	Teacher-Curriculum Developer Collaboration	8	8.16	Moderate

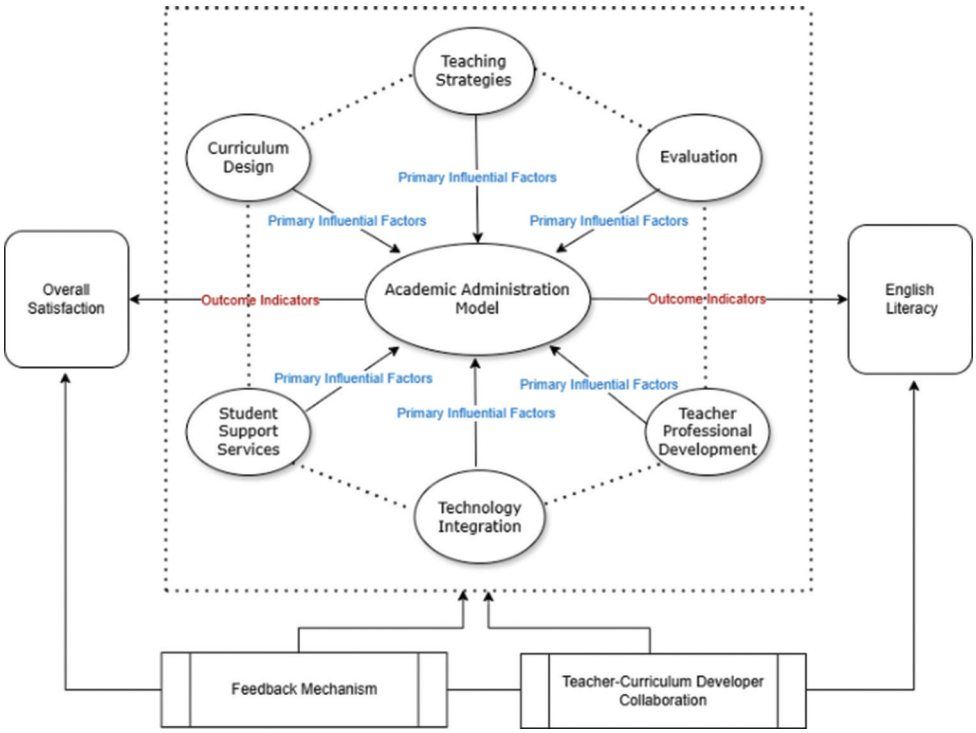

Figure 5. Mechanism of influential factors in the academic administration model

can continually refine and improve instructional methods, resources, and support systems. This feedback-driven approach ensured that the model remained responsive to the needs of both students and educators.

In summary, the modified academic administration model offered a comprehensive and well-rounded approach to academic administration. It emphasized flexibility, ongoing improvement, and the integration of modern teaching methods and technologies. However, implementing this model effectively required significant resources, coordination, and a strong commitment to teacher and student development. Moreover, it highlighted the importance of adapting academic administration to the specific needs of both the curriculum and the individuals it serves.

DISCUSSION

Among these components, curriculum design emerged as a critical component. This aligns with prior research indicating that effective curriculum frameworks are essential for teachers to meet students' needs (Carl, 2009; Alsubaie, 2016). Content relevance and engagement are vital for fostering meaningful learning experiences (Richards, 2001), while the strategic use of resources supports deeper learning and skills application (Harmer, 2007). Vocational colleges should consider reviewing and updating their curricula to better align with students' needs, especially in terms of language development and vocational skills.

Teaching strategies were also identified as a key component of academic administration. These strategies must be customized to accommodate the diverse learning styles and requirements of students in different disciplines. Research highlights that differentiated instruction, when effectively implemented, can lead to improved student outcomes by addressing varying learning needs (Hall et al., 2003). It should incorporate active learning techniques and adopt a student-centered approach that accounts for the diverse learning styles and academic backgrounds of students from various disciplines.

Evaluation practices play a crucial role in improving students' English literacy by providing systematic feedback that informs both teaching strategies and student learning progress. The findings of this study indicate that a balanced approach combining formative and summative assessments is essential in vocational English education, as it allows for continuous monitoring of student progress while also measuring overall learning outcomes. This aligns with existing research that emphasizes the importance of multi-faceted evaluation frameworks in language learning (Black & Wiliam, 1998).

Technology integration was found to enhance overall satisfaction but did not have a significant direct impact on English competencies. This finding highlights the broader benefits of educational technology in enriching the learning experience, such as facilitating engagement and administrative efficiency. Technology integration enhances student engagement and achievement and the overall learning experience (Connolly et al., 2017; MacDonald & Strang, 2015). Vocational colleges should invest in comprehensive student support systems that address both academic and personal needs. This could include tutoring services, counseling, career guidance, and workshops to develop essential soft skills.

Additionally, teacher professional development was found to significantly influence students' English literacy, emphasizing the need for continuous training to enhance teachers' pedagogical skills and integrate new technologies

into their teaching practices (Coburn & Stein, 2010). Vocational colleges should prioritize ongoing professional development programs that equip teachers with the skills needed to integrate modern pedagogical methods and educational technologies into their teaching practices.

While academic and non-academic support structures contribute to student motivation, retention, and general academic success, they do not inherently enhance language literacy unless explicitly designed to address language development. This aligns with previous research highlighting the need for targeted interventions within student support frameworks to yield measurable improvements in language learning outcomes (Tinto, 2017).

The study found that teachers who actively participated in curriculum development were more likely to implement instructional strategies that effectively bridged the gap between theoretical knowledge and vocational skills. This supports the findings of Nation and Macalister (2020), who argue that curriculum frameworks must be flexible enough to accommodate diverse learning needs while maintaining a clear progression of skills. For instance, teachers' recommendations led to the inclusion of industry-specific language tasks, which enhanced students' ability to apply their English skills in professional contexts.

Another key contribution of this study is the integration of feedback mechanisms into the academic administration model. The findings indicate that structured feedback plays a crucial role in improving students' language competencies. Students who received timely and detailed feedback on their assignments, classroom participation, and speaking activities demonstrated greater improvement in their language skills. These results align with the work of Hattie and Timperley (2007), who emphasize that effective feedback significantly enhances learning outcomes by providing students with clear guidance on how to improve their performance. The study also supports the findings of Nicol and Macfarlane-Dick (2006), who argue that formative feedback is most effective when it is specific, actionable, and linked to learning goals. Specific training in assessing and providing feedback on language literacy should be emphasized to support students' academic growth more effectively.

CONCLUSION

This study examined students' perceptions of current academic administration practices in English language teaching at higher vocational colleges. The results confirm that all dimensions of academic administration were perceived at a moderate level (M=2.912 SD=0.865). While students acknowledge the presence and function of these components in supporting English literacy development, their effectiveness remains limited, suggesting the need for further improvements.

By integrating Structural Equation Modeling (SEM) and Focus Group Discussion, an academic administration model in English course teaching was established. The results underscore the critical role of components such as curriculum design, teaching strategies, evaluation, teacher professional development, student support services, technology integration, English literacy, feedback mechanisms, and teacher-curriculum developer collaboration in strengthening the academic administration model to enhance students' English literacy.

While this study provides important insights, it also has limitations that should be considered when interpreting the findings. The research was conducted at a single vocational college, which may limit the generalizability of the results. The findings may not fully represent the experiences of students in other institutions, particularly those with different institutional cultures, teaching practices, or student demographics. Future studies should aim to include a larger, more diverse sample from multiple institutions to enhance the generalizability of the results.

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