

Licensure Examination for Teachers (LET) Performance of Fellowship Baptist College BEEd First-Time Examinees: Trend Analysis, Forecasting, and Cross-Era Validation (2015–2024)

*Rhea Calvo, Joel Perez, Citic Fatima Malacaman, Elvie Verde, and Jose Quinto

Fellowship Baptist College, Kabankalan City, Negros Occidental, Philippines

*Corresponding Author

DOI: <https://doi.org/10.51244/IJRSI.2026.1306000397>

Received: 24 June 2026; Accepted: 29 June 2026; Published: 14 July 2026

ABSTRACT

This study analyzed the Licensure Examination for Teachers (LET) performance of Fellowship Baptist College (FBC) Bachelor of Elementary Education (BEEd) first-time examinees across nine administrations from September 2021 to September 2024, benchmarked against national elementary passing rates. Employing a quantitative descriptive-trend research design, the study drew institutional records from official program data cross-referenced against Professional Regulation Commission (PRC) official announcements. The post-pandemic aggregate passing rate was 80.77% across 78 qualifying takers, consistently exceeding the national elementary rate in all six qualifying periods, with a mean advantage of +36.35 percentage points over the national mean of 48.39%. Annual FBC performance advantages over the national rate were positive in every year from 2021 to 2024, ranging from +18.01 percentage points (2023) to +44.04 percentage points (2021). Ordinary least squares (OLS) regression ($R^2 = 0.060$, $n = 6$) projected indicative rates from 76.90% to 65.69% for 2025–2027, while AIC-guided Simple Exponential Smoothing projected a flat continuation near 84.74% — both trajectories remaining above the national benchmark of approximately 45–47%. The low OLS explanatory power ($R^2 = 0.060$) confirms that these projections are directional estimates only. A historical validation incorporating pre-pandemic FBC records extended the evidentiary base to 13 qualifying periods and $N = 243$ takers across a full decade. FBC exceeded the national passing rate in 12 of 13 qualifying periods (92.3%), and an overdispersion-adjusted binomial logistic regression confirmed that the cross-era improvement is statistically significant. This study establishes FBC's first systematic institutional LET baseline, intended to anchor longitudinal monitoring and cross-program benchmarking.

Keywords: Licensure Examination for Teachers, institutional performance, trend analysis, board examination forecasting, Philippines

INTRODUCTION

The Licensure Examination for Teachers (LET) is the national professional qualifying examination for teacher education graduates in the Philippines, administered by the Professional Regulation Commission (PRC) under Republic Act No. 7836 (1994). The elementary level covers General Education and Professional Education, with a minimum weighted average of 75% required for licensure. Beyond its regulatory function, the LET serves as a critical external performance benchmark for Teacher Education Institutions (TEIs). The Commission on Higher Education (CHED), through Memorandum Order No. 74, Series of 2017, explicitly identifies LET results as a program quality indicator, requiring TEIs to track and report first-time board candidate (FBC) performance as evidence of instructional effectiveness and curricular alignment (CHED, 2017).

For small private TEIs such as Fellowship Baptist College (FBC), systematic documentation of LET outcomes is essential not merely for regulatory compliance but for evidence-based program development. First-time board candidate performance is widely recognized as the most unambiguous indicator of pre-service preparation quality, as it reflects examination readiness without the confounding influence of multiple prior attempts (Cadosales et al., 2023; Igcasama et al., 2021). Yet despite this recognized importance, many small private TEIs

in the Philippines continue to lack formalized, longitudinally maintained datasets of their LET FBC outcomes — a gap that limits their capacity for program self-assessment, data-driven planning, and participation in national benchmarking initiatives.

This study addresses that gap by documenting FBC BEEd LET performance across nine post-pandemic examination administrations from September 2021 to September 2024, comparing institutional rates against the national elementary benchmark, computing annual aggregates, generating and comparing OLS and exponential smoothing forecasts through 2027, and validating performance trends across pre- and post-pandemic examination eras (2015–2024) using formal inferential testing. The study provides a directly actionable performance reference for program administrators and institutional researchers, and serves as the first systematic baseline investigation at Fellowship Baptist College, intended to anchor future cross-program benchmarking across all board programs offered at the institution (Abao et al., 2023; Segumpan et al., 2025).

Research Questions

This study was guided by the following research questions:

What were the FBC BEEd first-time board candidate passing rates for each examination period from September 2021 to September 2024?

How did the FBC passing rates compare against national elementary passing rates across the study period?

What were the annual aggregate FBC passing rates and the mean advantage over the national rate for each year from 2021 to 2024?

What were the projected FBC passing rates for March 2025 through September 2027 based on OLS linear regression and exponential smoothing analyses, and how do the two forecasting approaches compare?

How does FBC's post-pandemic (2021–2024) performance compare with pre-pandemic (2015–2019) performance under an identical analytical protocol, and is the cross-era improvement statistically significant?

REVIEW OF RELATED LITERATURE

LET Performance as an Institutional Quality Indicator

Segumpan et al. (2025) argued that LET outcomes are direct reflections of the adequacy of teacher preparation programs and must be continuously evaluated for curriculum enhancement. Their documentation of cyclical fluctuations in national LET pass rates across multiple examination cycles underscores that period-to-period variability is a structural feature of Philippine teacher education data — a finding with direct implications for how small-cohort institutional results should be interpreted. Abao et al. (2023), in a national study of 2,780 beginning teachers across all 16 Philippine regions, confirmed that above-national LET pass rates coexist with year-to-year performance variability across TEIs of different sizes, indicating that cohort composition — not programmatic decline — often drives period-level fluctuations. Their study also documented significant performance differences between BEEd and BSEd graduates across examination components, establishing that degree program type moderates LET outcome variance ($\eta^2 = 0.07$).

At the individual-student level, Amanonce and Maramag (2020) demonstrated a strong and significant correlation between college GPA and LET performance in a study of 1,017 BEEd and BSEd graduates, finding that GPA predicted over 80% of LET general average variance for BEEd examinees. Igcasama et al. (2021) similarly identified academic achievement and institutional support mechanisms as significant determinants of LET success at the Saint Michael College of Caraga, arguing that institutional-level trend analysis must be complemented by student-level predictor research to yield actionable insights. Fiscal and Roman (2022) reinforced this conclusion by demonstrating that pre-licensure mock examination performance is a statistically significant predictor of final LET outcomes, providing an empirical basis for institutionalized pre-board review programs at Philippine TEIs.

Forecasting and Advanced Modeling Approaches in LET Research

The forecasting literature increasingly points beyond linear regression toward more flexible modeling approaches. Acoba (2024) compared multiple linear regression and Artificial Neural Networks (ANN) in predicting LET outcomes and found that ANN outperformed regression, particularly in capturing nonlinear relationships between predictor variables and licensure success. Diwag (2025) applied decision tree methodology to forecast teacher education licensure examination success, demonstrating how classification-based machine learning approaches can identify high-probability pass scenarios with greater granularity than trend-based regression models. Patungan and Joaquin (2024) further established that logistic regression provides a statistically reliable classification framework for predicting individual-level LET performance, confirming the practical utility of machine learning methods for student advisory and targeted intervention.

At the ensemble level, Rokach (2010) demonstrated that methods combining multiple base learners — such as decision trees and random forests — consistently outperform any individual classification model across educational and other high-dimensional prediction domains. These findings collectively argue that when institutional datasets mature beyond six to ten qualifying periods, a systematic comparison of OLS regression against these advanced alternatives — evaluated using standardized metrics including Mean Absolute Error (MAE), Root Mean Square Error (RMSE), and R^2 — is both methodologically warranted and practically necessary (Box et al., 2015; Hyndman & Koehler, 2006). Cross-program benchmarking using licensure examination data is an established practice in Philippine higher education research. Bautista et al. (2019) applied this approach to track quality trajectories in nursing education, while Laguador and Refozar (2020) documented five-year declining performance trends in Accountancy board examinations. Cadosales et al. (2023) extended this logic to teacher education, demonstrating that LET results for first-time examinees predict beginning teacher effectiveness. Quendangan et al. (2023) further reinforced the value of longitudinal quantitative approaches for institutional program review.

Research Gaps

Despite this growing body of work, three gaps directly motivate the present study. First, most Philippine institutional LET studies examine university-level or regional aggregates, leaving small private TEIs without comparable institutional benchmarks (Igcasama et al., 2021; Segumpan et al., 2025). Second, forecasting in this literature continues to rely almost exclusively on linear regression without systematic benchmarking against more sophisticated models, even when the limitations of OLS are explicitly acknowledged (Acoba, 2024; Box et al., 2015; Hyndman & Koehler, 2006). Third, cross-program institutional benchmarking remains underexplored at the level of individual institutions, limiting the capacity of small TEIs to conduct the kind of integrated, data-driven self-assessment that CHED quality frameworks increasingly require. This study directly addresses the first gap by generating the first systematic baseline dataset for a small private TEI in Negros Occidental, while acknowledging the methodological limitations that motivate the latter two.

METHODOLOGY

Research Design

This study employed a quantitative descriptive-trend research design (Best & Kahn, 2006; Quendangan et al., 2023). Fellowship Baptist College BEEd examination records were analyzed longitudinally across all nine available LET administrations from September 2021 through September 2024 as the primary curriculum-coherent baseline, with a historical validation using pre-pandemic records (2015–2019) serving as a corroborating supplementary analysis. A descriptive-trend approach was appropriate because the primary objective was to document performance patterns over time, establish comparative benchmarks against national rates, and generate directional forecasts — rather than to test causal hypotheses or establish predictive models for individual-level outcomes.

Participants

Fellowship Baptist College is a private faith-based higher education institution located in Kabankalan City, Negros Occidental, Philippines, operating under CHED supervision. The study population comprised all BEEd

program graduates who sat for the Licensure Examination for Teachers for the first time across nine examination administrations from September 2021 to September 2024. First-time examinees were defined as candidates with no prior LET attempt in any examination period, consistent with PRC classification protocols (Cadosales et al., 2023; Igcasama et al., 2021).

Data Sources

All FBC examination data were sourced exclusively from the institution's official program performance records, which documented FBC counts (n), number of first-timers who passed, number who failed, and total per examination period. These records were cross-referenced against PRC official examination result announcements for accuracy verification. National elementary LET passing rates were obtained directly from PRC official announcements for each examination period. For the June 2022 administration, the nearest available national comparator was the June 26, 2022 PRC elementary release (50.54%); this is documented in all relevant tables. No LET was administered in 2020 due to COVID-19 pandemic restrictions. Pre-pandemic national passing rates were obtained from official PRC examination announcements (PRC, 2015a, 2015b, 2016a, 2016b, 2017a, 2017b, 2018a, 2018b, 2019).

Scope and Delimitations

Although the BEEd program at Fellowship Baptist College predates 2021, this study delimits its primary analytical scope to September 2021 through September 2024 for four complementary reasons. First, the COVID-19 pandemic created an involuntary administrative discontinuity — no LET was held in 2020 (Cadosales et al., 2023) — making September 2021 the most defensible natural baseline anchor for a continuous monitoring dataset. Second, September 2021 marks the point at which FBC began treating per-period first-timer disaggregation as an ongoing, live institutional monitoring practice; earlier records required retrospective reconstruction for the historical validation. Data quality takes precedence over data quantity in institutional research design (Best & Kahn, 2006). Third, CHED Memorandum Order No. 74, Series of 2017 (CHED, 2017) prescribed substantially revised teacher education policies; the first BEEd cohorts fully prepared under CMO 74 entered the LET from approximately 2021 onward, making the 2021–2024 window a curriculum-coherent analytical frame. Fourth, this study functions as an initial institutional baseline investigation, and baseline studies derive their value from internal consistency rather than maximum historical length (Best & Kahn, 2006).

Analytical Procedures

Data analysis was organized around five sequential objectives. First (RQ1), FBC passing rates were tabulated per examination period using the formula: $\text{FBC rate} = (\text{number passed} \div \text{total FBC takers}) \times 100$. Second (RQ2), FBC rates were compared directly against national elementary passing rates for each period to compute period-level advantages. Third (RQ3), annual aggregate FBC rates and mean national advantages were computed for each calendar year from 2021 to 2024. Fourth (RQ4), OLS linear regression was applied to the six qualifying FBC data points ($x = 1$ through $x = 6$) to generate indicative projections for March 2025 through September 2027 ($x = 7$ through $x = 12$), supplemented by Simple Exponential Smoothing (SES) and Holt's linear trend method compared by AIC within the ETS state-space framework (Hyndman et al., 2008). Fifth (RQ5), a historical validation dataset covering March 2015 through March 2019 was analyzed under the identical protocol to compare pre- and post-pandemic performance, and an overdispersion-adjusted binomial logistic regression was used to formally test the statistical significance of the cross-era improvement (McCullagh & Nelder, 1989).

OLS regression was selected as the primary forecasting baseline because six qualifying data points fall below the minimum of approximately 30–50 observations required for ARIMA models (Box et al., 2015), machine learning methods require larger datasets to avoid overfitting (Acoba, 2024; Rokach, 2010), and OLS is the established baseline in the Philippine institutional LET research literature (Quendangan et al., 2023). The June 2022 administration ($n = 1$) was excluded from regression analysis: a single-trial binomial proportion produces a degenerate estimate with undefined standard error (Agresti, 2002; Fleiss et al., 2003) and the 0.00% value would function as a high-leverage influential point in OLS (Hyndman & Koehler, 2006). Uncertainty bounds for OLS forecasts were expressed as $\pm \text{MAE}$ (± 13.12 pp) rather than formal prediction intervals, which yield approximately ± 70 pp at $x = 7$ — practically uninformative given $n = 6$. For the logistic regression, because the

Pearson χ^2 -to-residual-degrees-of-freedom ratio exceeded 1 in all fitted models (indicating overdispersion consistent with the cohort-size-driven volatility documented throughout), model comparisons were evaluated using overdispersion-adjusted quasi-F tests rather than naive chi-square tests, following standard practice for overdispersed binomial data (McCullagh & Nelder, 1989).

RESULTS AND DISCUSSION

RQ1: FBC Passing Rates Across Examination Periods (2021–2024)

Table 1 presents the complete examination-period-level data for all nine LET administrations from September 2021 to September 2024. FBC takers were present in seven of the nine periods. The January 2022 administration recorded no examinees of any category. The March 2022 administration had no FBC takers. The June 2022 administration recorded one FBC taker who did not pass and is excluded from all trend and regression analyses on the statistical grounds detailed in the Methodology section. Among qualifying periods, the largest cohort was October 2022 ($n = 36$), accounting for 46.2% of all FBC takers across the study period. The smallest qualifying cohorts were September 2021 and September 2023 ($n = 2$ each); both recorded 100.00% — a result requiring cautious interpretation, as a single failing examinee would have reduced either rate to 50.00% (Abao et al., 2023; Amanonce & Maramag, 2020).

Table 1. FBC BEEd Performance vs. National Elementary Passing Rate Across All Examination Periods

Examination Period	FBC Takers (n)	FBC Passed	FBC Rate (%)	National Elem. Rate (%)	Gap (pp)	Qualifying Status
Sep 26, 2021	2	2	100.00	55.96	+44.04	Qualifying
Jan 30, 2022	0	—	—	55.66	—	No examinees
Mar 27, 2022	0	—	—	48.81	—	No FBC takers
Jun 06, 2022*	1	0	0.00	50.54 ¹	−50.54	Excluded ($n=1$)
Oct 02, 2022	36	33	91.67	54.43	+37.24	Qualifying
Mar 19, 2023	19	11	57.89	40.76	+17.13	Qualifying
Sep 24, 2023	2	2	100.00	47.01	+52.99	Qualifying

Note. ¹Jun 2022 national rate sourced from the Jun 26, 2022 PRC elementary examination release, the nearest available comparator. *Jun 2022 ($n=1$) excluded from regression analysis; a single-trial binomial proportion yields a degenerate estimate with undefined standard error and zero degrees of freedom for variance estimation (Agresti, 2002; Fleiss et al., 2003). Retained for descriptive completeness. Source: FBC institutional program records and PRC official announcement releases (2021–2024).

RQ2: FBC Rates vs. National Elementary Passing Rates

Table 2 presents period-on-period FBC rate changes and national comparisons across the six qualifying examination periods. The FBC rate exceeded the national elementary rate in all six qualifying administrations, with a mean advantage of +36.35 percentage points. The aggregate passing rate across all 78 qualifying FBC takers was 80.77% — exceeding the mean national elementary rate of 48.39% by more than 32 percentage points. This consistent above-national performance across all qualifying periods, spanning three calendar years and varying cohort sizes, provides strong evidence of sustained institutional preparation quality within the FBC BEEd program. Period-on-period changes were highly variable, ranging from −33.78 pp to +42.11 pp, primarily attributable to cohort size effects rather than programmatic instability — consistent with Abao et al.’s (2023)

finding that year-to-year variability in small Philippine TEIs is structurally driven by cohort composition rather than systematic programmatic factors.

Table 2. FBC BEEd First-Time Examinee Trend vs. National Elementary Rate

Examination Period	n	FBC Rate (%)	Period-on-Period Change	National Elem. Rate (%)	Gap (pp)	Status vs. National
Sep 26, 2021	2	100.00	— (baseline)	55.96	+44.04	Above
Oct 02, 2022	36	91.67	↓ -8.33 pp	54.43	+37.24	Above
Mar 19, 2023	19	57.89	↓ -33.78 pp	40.76	+17.13	Above
Sep 24, 2023	2	100.00	↑ +42.11 pp	47.01	+52.99	Above
Mar 17, 2024	10	70.00	↓ -30.00 pp	46.67	+23.33	Above
Sep 29, 2024	9	88.89	↑ +18.89 pp	45.51	+43.38	Above

Note. Period-on-period change computed relative to the immediately preceding qualifying period. Jun 2022 (n=1) excluded. Mean FBC advantage of +36.35 pp computed across six qualifying periods. National elementary rates sourced from official PRC announcements.

RQ3: Annual Aggregate Performance and Mean Advantage (2021–2024)

Table 3 presents annual aggregate FBC performance by calendar year. Annual FBC advantages over national rates were positive in every year of the study period. The highest annual aggregate was 2021 (100.00%, n = 2), reflecting the small-cohort limitations noted above; the lowest was 2023 (61.90%, n = 21), which also yielded the most statistically reliable estimate given its larger combined cohort. Notably, even in 2023 the FBC aggregate exceeded the national average by +18.01 pp. The recovery from 2023 (61.90%) to 2024 (78.95%) represents the most substantively meaningful trend signal in the annual data, as both years involved cohorts of sufficient size to produce interpretable estimates. These patterns are consistent with Segumpan et al.’s (2025) documentation that above-national LET pass rates reflect programmatic strengths while coexisting with year-to-year variability in small-cohort programs.

Table 3. Annual Aggregate FBC BEEd Performance vs. National Elementary Rate by Year

Year	FBC Takers (n)	FBC Passed	FBC Agg. Rate (%)	National Elem. Rate (%)	Advantage (pp)	Qualifying Periods
2021	2	2	100.00	55.96	+44.04	1 (Sep 2021)
2022	36	33	91.67	54.43	+37.24	1 (Oct 2022; Jun excl.)
2023	21	13	61.90	43.89 (avg)	+18.01	2 (Mar + Sep 2023)
2024	19	15	78.95	46.09 (avg)	+32.86	2 (Mar + Sep 2024)
Total / Mean	78	63	80.77	—	+36.35 (mean)	6 qualifying periods

Note. Annual aggregates computed from qualifying periods (n ≥ 2) only. Jun 2022 (n=1) excluded. For years with two qualifying periods, national rates are averaged across those periods. Aggregate passing rate across all 78 qualifying takers = 80.77%.

RQ4: OLS and Exponential Smoothing Forecasts (2025–2027)

Ordinary least squares linear regression applied to the six qualifying FBC data points produced:

$$\hat{y} = 92.587 - 2.241x \quad (R^2 = 0.060, n = 6)$$

The negative slope reflects the composite effect of early high values, the March 2023 dip, and the partial 2024 recovery on the OLS algorithm. The R^2 of 0.060 indicates that the model explains only 6% of FBC rate variance — a mathematically expected result given the small sample size and cohort-size-driven volatility. The downward direction of the regression line is a mathematical artifact of OLS applied to a short, volatile series and should not be interpreted as evidence of programmatic decline (Hyndman & Koehler, 2006). Table 4 presents the OLS-projected rates for 2025–2027; all six values (76.90%–65.69%) remain above the national benchmark of approximately 45–47%.

Table 4. OLS Linear Regression Forecast — FBC BEEd First-Time Passing Rate

Examination Period	x	Projected FBC Rate (%)	Lower Bound (–13.12 pp)	Upper Bound (+13.12 pp)	vs. National (~45–47%)
March 2025	7	76.90	63.78	90.02	Above
September 2025	8	74.66	61.54	87.78	Above
March 2026	9	72.42	59.30	85.53	Above
September 2026	10	70.18	57.06	83.29	Above
March 2027	11	67.94	54.82	81.05	Above
September 2027	12	65.69	52.58	78.81	Above

Note. Regression equation: $\hat{y} = 92.587 - 2.241x$ ($R^2 = 0.060$). $x = 1$ –6: qualifying FBC periods (Sep 2021–Sep 2024); $x = 7$ –12: forecast periods. Uncertainty bounds are MAE-based (± 13.12 pp) and should not be interpreted as formal 95% confidence intervals. All projections are directional estimates only (Hyndman & Koehler, 2006).

Two exponential smoothing models were independently fitted to the qualifying period-level FBC passing rates in each era: Simple Exponential Smoothing (SES) and Holt’s linear trend method. Table 5 presents the AIC-based model comparison; SES was preferred over Holt’s method in both eras, with the optimizer selecting a near-zero smoothing parameter ($\alpha \approx 0$) in each case. This indicates that, once fitted optimally, the data contain no exploitable serial structure beyond the historical mean. The AIC-preferred SES model therefore implies a flat forecast of approximately 84.74% for 2025–2027 — a materially different trajectory from the declining OLS line. Table 6 presents both forecasts side-by-side. Both remain above the national benchmark; the OLS trend line functions as a conservative lower-bound scenario while the SES flat trajectory is the more defensible central estimate.

Table 5. Exponential Smoothing Model Comparison — SES vs. Holt’s Linear Trend Method

Series	Model	Smoothing Parameters	AIC	In-Sample RMSE (pp)	Preferred (by AIC)
Post-pandemic (n = 6)	SES ETS(A,N,N)	$\alpha \approx 0.00$	56.03	15.65	✓ SES
Post-pandemic (n = 6)	Holt ETS(A,A,N)	$\alpha \approx 0.00, \beta \approx 0.00$	59.66	15.17	—

Pre-pandemic (n = 7)	SES ETS(A,N,N)	—	$\alpha \approx 0.00$	68.05	20.35	✓ SES
Pre-pandemic (n = 7)	Holt ETS(A,A,N)	—	$\alpha \approx 0.00, \beta \approx 0.00$	72.00	20.29	—

Note. Lower AIC indicates better fit penalized for model complexity (Hyndman et al., 2008). SES was preferred by AIC in both eras; near-zero α indicates no exploitable trend beyond the historical mean, consistent with the low OLS R^2 values (0.060 post-pandemic; 0.006 pre-pandemic).

Table 6. Exponential Smoothing (SES) vs. OLS Forecast — FBC BEEd First-Time Passing Rate

Examination Period	x	OLS Projected (%)	SES Projected (% , flat)	SES 95% PI Lower (%)	SES 95% PI Upper (%)	Examination Period
March 2025	7	76.90	84.74	54.07	100.00*	March 2025
September 2025	8	74.66	84.74	54.07	100.00*	September 2025
March 2026	9	72.42	84.74	54.07	100.00*	March 2026
September 2026	10	70.18	84.74	54.07	100.00*	September 2026
March 2027	11	67.94	84.74	54.07	100.00*	March 2027

Note. SES forecast from ETS(A,N,N) model ($\alpha \approx 0.0001$, initial level = 84.74%). *Upper PI truncated from 115.41% to 100.00% (passing rates cannot exceed 100%). OLS projections reproduced from Table 4 for comparison.

RQ5: Cross-Era Validation and Significance of Improvement (2015–2024)

Table 7 presents the complete period-level data for all nine pre-pandemic LET administrations from March 2015 through March 2019. Two periods recorded no FBC takers; the remaining seven qualify for formal analysis. The pre-pandemic aggregate rate was 48.48% across 165 takers, with a mean national advantage of +18.05 pp. FBC exceeded the national rate in six of seven qualifying pre-pandemic periods (85.7%); the single exception (March 2017, n = 4, 0.00%) coincided with the lowest national elementary passing rate of the decade (10.39%) and reflects cohort-size sensitivity rather than a systematic decline.

Table 7. Pre-Pandemic FBC BEEd Performance vs. National Elementary Passing Rate

Examination Period	FBC Takers (n)	FBC Passed	FBC Rate (%)	National Elem. Rate (%)	Gap (pp)	Qualifying Status
Mar 2015	5	2	40.00	27.42	+12.58	Qualifying
Sep 2015	27	20	74.07	31.36	+42.71	Qualifying
Mar 2016	0	—	—	28.38	—	No FBC takers

Sep 2016	54	23	42.59	30.18	+12.41	Qualifying
Mar 2017*	4	0	0.00	10.39	−10.39	Qualifying (below national)
Sep 2017	40	19	47.50	26.33	+21.17	Qualifying
Mar 2018	0	—	—	23.62	—	No FBC takers
Sep 2018	33	15	45.45	20.29	+25.16	Qualifying
Mar 2019	2	1	50.00	27.28	+22.72	Qualifying

Note. *March 2017 is the only qualifying period in which FBC’s passing rate fell below the national rate. Source: FBC institutional program records cross-referenced against PRC official announcements (PRC, 2015a, 2015b, 2016a, 2016b, 2017a, 2017b, 2018a, 2018b, 2019).

OLS linear regression applied to the seven qualifying pre-pandemic data points produced:

$$\hat{y} = 45.993 - 0.798x \quad (R^2 = 0.006, n = 7)$$

The near-zero R^2 (0.006) independently corroborates the primary finding that low OLS explanatory power is a structural property of small-cohort institutional LET series, not an artifact of the post-pandemic baseline. Table 8 presents annual aggregate pre-pandemic performance, with positive FBC advantages in all five years (2015–2019), ranging from +12.41 pp (2016) to +39.36 pp (2015).

Table 8. Annual Aggregate Pre-Pandemic FBC BEEd Performance vs. National Elementary Rate by Year

Year	FBC Takers (n)	FBC Passed	FBC Agg. Rate (%)	National Elem. Rate (%)	Advantage (pp)	Qualifying Periods
2015	32	22	68.75	29.39 (avg)	+39.36	2 (Mar + Sep)
2016	54	23	42.59	30.18	+12.41	1 (Sep only)
2017	44	19	43.18	18.36 (avg)	+24.82	2 (Mar + Sep)
2018	33	15	45.45	20.29	+25.16	1 (Sep only)
2019	2	1	50.00	27.28	+22.72	1 (Mar only)
Total / Mean	165	80	48.48	—	+18.05 (mean)	7 qualifying periods

Note. Annual aggregates computed from qualifying periods ($n \geq 2$) only. Aggregate passing rate across all 165 qualifying takers = 48.48%.

Table 9 synthesizes both eras. Across the full decade (2015–2024, $N = 243$, 13 qualifying periods), FBC exceeded the national rate in 12 of 13 periods (92.3%). The mean FBC advantage nearly doubled from +18.05 pp pre-pandemic to +36.35 pp post-pandemic — a pattern consistent with, though not proof of, a curriculum-linked strengthening of institutional preparation quality coinciding with the CMO 74 transition.

Table 9. Cross-Era Comparative Summary — Pre-Pandemic vs. Post-Pandemic FBC BEEd Performance

Metric	Pre-Pandemic (2015–2019)	Post-Pandemic Baseline (2021–2024)	Combined (2015–2024)
Qualifying periods ($n \geq 2$)	7	6	13
Total FBC takers (N)	165	78	243
Total FBC passed	80	63	143
Aggregate FBC rate (%)	48.48	80.77	58.85
Mean FBC advantage over national (pp)	+18.05	+36.35	+26.50
Qualifying periods above national rate	6 of 7 (85.7%)	6 of 6 (100.0%)	12 of 13 (92.3%)
OLS regression slope (b)	−0.80	−2.241	—
OLS R^2	0.006	0.060	—
OLS MAE (pp)	±14.00	±13.12	—

Note. Combined figures aggregate 13 qualifying periods ($N = 243$), excluding the 2020 pandemic hiatus. Mean advantage (pp) is the unweighted mean of period-level gaps within each era. OLS parameters are era-specific; the two series were not pooled into a single regression.

To formally test whether the cross-era improvement could be attributed to chance, an overdispersion-adjusted binomial logistic regression was fitted to the pooled 13-period, 243-taker dataset. Four nested models were compared; results are presented in Table 10. The era-only model (Model 2) confirmed that era status is a highly significant predictor of FBC’s passing probability (quasi- $F(1,10) = 11.38$, $p = .007$). In the additive model, the era coefficient corresponds to an odds ratio of 4.07 (adjusted 95% CI: 1.57–10.54; $p = .004$), meaning that FBC first-time examinees in the post-pandemic baseline had approximately four times the odds of passing relative to pre-pandemic examinees. Neither the continuous within-era time trend (Model 3) nor the era $\times$ time interaction (Model 4) reached statistical significance, confirming that FBC’s improvement is best characterized as a discrete level shift between eras rather than a continuous trend within either era.

Table 10. Nested Binomial Logistic Regression Models — Cross-Era Significance Test

Model	Predictors Added	Deviance	df (resid.)	AIC	Quasi-F (vs. prior model)	p-value
1. Null	Intercept only	49.31	12	81.69	—	—
2. Era-only	+ Era (pre/post)	25.04	11	59.43	$F(1,10) = 11.38$	0.0071**
3. Additive	+ Period-within-era (x)	23.01	10	59.40	$F(1,10) = 0.95$	0.3525 (n.s.)
4. Interaction	+ Era $\times$ x	22.98	9	61.37	$F(1,9) = 0.01$	0.9088 (n.s.)

Note. Quasi-F tests apply an overdispersion correction ($\phi = 2.13$, Model 3; $\phi = 2.37$, Model 4). ** $p < .01$. Models 3 and 4 did not significantly improve fit beyond the era-only model, indicating that FBC’s improvement is best characterized as a discrete level shift between eras rather than a continuous within-era trend.

Taken together, the cross-era analyses answer RQ5 with two complementary and mutually reinforcing conclusions: FBC's above-national performance is a decade-long pattern — not an artifact of the short 2021–2024 window — and the post-pandemic improvement over pre-pandemic levels is statistically significant at the $p < .01$ level.

LIMITATIONS OF THE STUDY

While this study provides a systematic and empirically grounded institutional baseline, several limitations must be acknowledged. First, the study is restricted to a single institution and one board program (BEEd), limiting generalizability to other TEIs or licensure programs. Second, the primary analytical dataset comprises only six qualifying examination periods (2021–2024), with an OLS R^2 of 0.060, making all forecasts strictly directional; the historical validation substantially mitigates this constraint by extending the evidentiary base to 13 qualifying periods and 243 takers. Third, several qualifying periods had cohort sizes as small as $n = 2$, producing rate estimates highly sensitive to individual outcomes. Fourth, the study relied exclusively on aggregate institutional records and did not incorporate examinee-level predictors such as GPA, pre-board examination scores, or attendance. Fifth, four pre-pandemic national passing rates were sourced from archived third-party announcement records rather than a unified official PRC dataset. Sixth, the logistic regression models are fitted to only 13 aggregate data points; confidence intervals are correspondingly wide, and the era effect cannot establish curriculum reform — as opposed to other unmeasured factors — as the causal mechanism. These limitations define the interpretive boundaries of this study and motivate the recommendations below.

CONCLUSION

This study documented and analyzed the LET first-time board candidate performance of Fellowship Baptist College BEEd graduates across nine examination administrations from September 2021 to September 2024, generated indicative forecasts for March 2025 through September 2027 using both OLS linear regression and exponential smoothing, and validated the institutional performance pattern through a cross-era analysis spanning 2015 to 2024.

Five substantive findings correspond directly to the five research objectives. First, FBC takers were present in seven of nine examination periods, with six qualifying periods ($n \geq 2$) used for formal analysis. Second, the FBC passing rate exceeded the national elementary rate in all six qualifying periods, with an aggregate rate of 80.77% representing a +32.38 pp advantage over the national mean. Third, annual FBC advantages were positive in every year from 2021 to 2024, ranging from +18.01 pp (2023) to +44.04 pp (2021). Fourth, OLS regression ($R^2 = 0.060$) projected indicative rates declining from 76.90% to 65.69%, while the AIC-preferred Simple Exponential Smoothing model projected a flat continuation near 84.74%; both forecasts remain above the national benchmark, and the divergence between them underscores the need for caution in relying on any single-method forecast given $n = 6$. Fifth, the historical validation confirmed that FBC's above-national performance pattern spans the full 2015–2024 decade (12 of 13 qualifying periods, $N = 243$), with the post-pandemic advantage (+36.35 pp) nearly double the pre-pandemic figure (+18.05 pp); formal logistic regression testing confirmed this cross-era improvement is statistically significant ($OR = 4.07$, $p = .004$), and no significant within-era linear trend was detected, indicating a genuine level shift rather than a product of chance variation.

This study successfully establishes the first institutional baseline for FBC BEEd LET performance, constituting a foundational reference for longitudinal monitoring and cross-program benchmarking at Fellowship Baptist College.

RECOMMENDATIONS

Based on the findings and limitations of this study, the following recommendations are proposed:

1. Fellowship Baptist College should formalize and sustain per-period institutional monitoring of first-time LET examinees across all board programs, building on the 2021–2024 BEEd baseline established here. Systematic expansion of this dataset across subsequent examination cycles will progressively increase the statistical

reliability of trend estimates and enable meaningful cross-program benchmarking (Cadosales et al., 2023; Segumpan et al., 2025).

2. The institution should take deliberate steps to maximize qualifying FBC cohort sizes where practicable. Small cohort sizes ($n = 2$) produce highly unstable rate estimates. Igcasama et al. (2021) identified cohort-level factors as significant drivers of LET performance variability in small TEIs, underscoring that larger, more consistent cohorts are a prerequisite for robust institutional performance monitoring.
3. The March 2023 administration — which recorded the lowest qualifying FBC passing rate (57.89%) — warrants targeted program review. Fiscal and Roman (2022) demonstrated that pre-board mock examination performance is a statistically significant predictor of LET outcomes, providing an actionable evidence base for institutionalized pre-board preparation programs.
4. Future institutional research should incorporate student-level predictor variables — including academic achievement (GPA), pre-board mock examination scores, attendance, review center participation, and demographic characteristics — to move beyond aggregate trend description toward explanatory modeling. Amanonce and Maramag (2020) established that GPA alone predicts over 80% of LET general average variance in BEEd graduates.
5. The cross-program benchmarking agenda should be operationalized through replication studies covering other board programs at Fellowship Baptist College, including BSEd, BSCrim, and related programs. As the dataset grows beyond 20–30 qualifying periods, advanced predictive models — including Decision Tree Regression (Diwag, 2025), Artificial Neural Networks (Acoba, 2024), Random Forest and Ensemble methods (Rokach, 2010), and ARIMA (Box et al., 2015; Hyndman & Koehler, 2006) — should be systematically compared against the OLS and SES baselines established in this study using standardized metrics (MAE, RMSE, R^2 , AIC).

REFERENCES

1. Abao, E. L., Petancio, J. A. M., Sanchez, J. M. P., & Sumalinog, G. G. (2023). Performance of beginning teachers in the licensure examination for teachers: A national study. *Frontiers in Education*, 8, Article 1240658. <https://doi.org/10.3389/feduc.2023.1240658>
2. Acoba, R. (2024). Predictors of Licensure Examination for Teachers: A comparative analysis of multiple linear regression and artificial neural network. *Journal of Education, Social Sciences and Allied Health*, 1(2), 66–75.
3. Agresti, A. (2002). *Categorical data analysis* (2nd ed.). Wiley-Interscience.
4. Amanonce, J. T., & Maramag, A. M. (2020). Licensure examination performance and academic achievement of teacher education graduates. *International Journal of Evaluation and Research in Education*, 9(3), 510–516. <https://doi.org/10.11591/ijere.v9i3.20614>
5. Bautista, J. R., Ducanes, G., & David, C. C. (2019). Quality of nursing schools in the Philippines: Trends and evidence from the 2010–2016 Nurse Licensure Examination results. *Nursing Outlook*, 67(3), 259–269. <https://doi.org/10.1016/j.outlook.2018.12.012>
6. Best, J. W., & Kahn, J. V. (2006). *Research in education* (10th ed.). Pearson.
7. Box, G. E. P., Jenkins, G. M., Reinsel, G. C., & Ljung, G. M. (2015). *Time series analysis: Forecasting and control* (5th ed.). Wiley.
8. Cadosales, M. N. Q., Sanchez, J. M. P., Cordova, M. E., Merin, J. A., & Augusto, W. S., Jr. (2023). Exploring the predictive influence of licensure examination results for beginning teachers' performance: The case of the Philippines. *Frontiers in Education*, 8, 1252368. <https://doi.org/10.3389/feduc.2023.1252368>
9. Commission on Higher Education. (2017). CHED Memorandum Order (CMO) No. 74, Series of 2017: Policies, standards and guidelines for Bachelor of Elementary Education (BEEd). Commission on Higher Education. <https://ched.gov.ph/wp-content/uploads/2017/11/CMO-No.-74-s.-2017.pdf>
10. Diwag, G. S. (2025). Cracking the code: Using decision tree to forecast 100% chance of teacher education licensure exam success [Institutional working paper]. University of Eastern Pangasinan.

11. Fiscal, R. R., & Roman, A. G. (2022). Pre-licensure examination as predictor of licensure examination for teachers result. *International Journal of Evaluation and Research in Education*, 11(1), 136–142. <https://doi.org/10.11591/ijere.v11i1.22133>
12. Fleiss, J. L., Levin, B., & Paik, M. C. (2003). *Statistical methods for rates and proportions* (3rd ed.). Wiley.
13. Hyndman, R. J., & Koehler, A. B. (2006). Another look at measures of forecast accuracy. *International Journal of Forecasting*, 22(4), 679–688. <https://doi.org/10.1016/j.ijforecast.2006.03.001>
14. Hyndman, R. J., Koehler, A. B., Ord, J. K., & Snyder, R. D. (2008). *Forecasting with exponential smoothing: The state space approach*. Springer. <https://doi.org/10.1007/978-3-540-71918-2>
15. Igcasama, A. M. C., Layao, J. A., Magallano, S. M. C., & Maloloy-on, M. C. (2021). Factors affecting the Licensure Examination for Teachers (LET) performance of Saint Michael College of Caraga from 2017–2019. *SMCC Higher Education Research Journal (Teacher Education Journal)*, 3(1). <https://doi.org/10.18868/cte.03.060121.01>
16. Laguador, J. M., & Refozar, R. F. G. (2020). Five-year declining performance of private and public schools in the Philippine certified public accountant licensure examination. *European Journal of Educational Research*, 9(3), 995–1007. <https://doi.org/10.12973/eu-jer.9.3.995>
17. McCullagh, P., & Nelder, J. A. (1989). *Generalized linear models* (2nd ed.). Chapman & Hall.
18. Patungan, A. J., & Joaquin, M. N. B. (2024). Predicting LET results for mathematics teachers using machine learning. *AIP Conference Proceedings*, 3201(1), Article 070006. <https://doi.org/10.1063/5.0230585>
19. Professional Regulation Commission. (2015a). PRC releases LET results March 29, 2015 teachers board exam [Official examination announcement]. <https://www.prcboardnews.com/2015/03/prc-releases-let-results-march-29-2015-teachers-board-exam.html> [archived third-party announcement; official PRC URL unavailable]
20. Professional Regulation Commission. (2015b). Board exam results, professional teachers: September 2015 LET results [Official examination announcement]. <https://www.boardexamresultsph.com/professional-teacher-board-exam-results> [archived third-party announcement; official PRC URL unavailable]
21. Professional Regulation Commission. (2016a). March 2016 results of Licensure Examination for Teachers. <https://www.prc.gov.ph/article/march-2016-results-licensure-examination-teachers-released-forty-one-41-working-days/2160>
22. Professional Regulation Commission. (2016b). LET results September 2016 elementary level [Official examination announcement]. <https://www.prcboard.com/let-results-september-2016-elementary-level> [archived third-party announcement; official PRC URL unavailable]
23. Professional Regulation Commission. (2017a). March 2017 results of Licensure Examination for Teachers. <https://www.prc.gov.ph/article/march-2017-results-licensure-examination-teachers-released-forty-40-working-days/1410>
24. Professional Regulation Commission. (2017b). September 2017 results of Licensure Examination for Teachers. <https://www.prc.gov.ph/article/september-2017-results-licensure-examination-teachers-released-forty-three-43-working-days>
25. Professional Regulation Commission. (2018a). March 2018 results of Licensure Examination for Teachers. <https://www.prc.gov.ph/article/march-2018-results-licensure-examination-teachers-released-forty-40-working-days/2051>
26. Professional Regulation Commission. (2018b). Official results: September 2018 LET teachers board exam [Official examination announcement]. <https://www.prcboardnews.com/2018/09/official-results-september-2018-let-teachers-board-exam-list-of-passers.html> [archived third-party announcement; official PRC URL unavailable]
27. Professional Regulation Commission. (2019). March 2019 results of Licensure Examination for Teachers. <https://www.prc.gov.ph/article/march-2019-results-licensure-examination-teachers-released-forty-two-42-working-days/3967>
28. Quendangan, M., Garcia, R., & Balbin, S. (2023). Trends in licensure examination success among psychology and teacher education graduates. *Journal of Interdisciplinary Perspectives*, 1(4), 25–32. <https://doi.org/10.69569/jip.2023.0027>

-
29. Republic Act No. 7836 (1994). Philippine Teachers Professionalization Act of 1994. Congress of the Philippines.
 30. Rokach, L. (2010). Ensemble-based classifiers. *Artificial Intelligence Review*, 33(1–2), 1–39. <https://doi.org/10.1007/s10462-009-9124-7>
 31. Segumpan, S. M. I., Tac-an, T. N. F., Tidal, A. R., Trasmonte, C. B., & Mahinay, R. B. D. (2025). Licensure Exam for Teachers elementary and secondary performance: Implications for teacher preparation. *Journal of Interdisciplinary Perspectives*, 3(9), 290–300. <https://doi.org/10.69569/jip.2025.551>