Enhancing LET Readiness: Evaluation of Competency-Based Education Outcomes in Professional Education Subjects

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DOI: https://dx.doi.org/10.47772/IJRISS.2025.903SEDU0343

Received: 17 June 2025; Accepted: 21 June 2025; Published: 24 July 2025

ABSTRACT

This study investigated the effectiveness of Competency-Based Education (CBE) subjects in enhancing the readiness of Fourth-year pre-service teachers at Pangasinan State University-Bayambang Campus for the Licensure Examination for Teachers (LET). Employing a descriptive research design using a quantitative approach and a pretest-posttest methodology, the study measured students' competency development before and after instruction in the CBE 2 (Professional Education) subject. The participants included 262 pre-service teachers from various teacher education programs. The findings revealed a significant improvement in student performance, with posttest scores being significantly higher compared to pretest scores, as confirmed in a paired t-test analysis. Based on the results, the study recommends the continued integration of CBE strategies in teacher education, enhanced assessment practices, and targeted interventions for different specializations. Faculty training and further research on the long-term impacts of CBE are also recommended to ensure continuous program improvement. Furthermore, incorporating qualitative perspectives and exploring cross-institutional comparisons are recommended to better understand the holistic impact of CBE in varying contexts**.** The findings contribute to the discourse on effective teacher education practices, emphasizing the role of competency-based learning in preparing future educators for professional licensure and teaching careers.

Keywords: Competency-Based Education, pre-service teachers, Licensure Examination for Teachers, teacher education, formative assessment

INTRODUCTION

The competency-based education (CBE) model has emerged as a powerful approach in teacher preparation programs, emphasizing the development of specific skills and knowledge necessary for success in the field of education. Recent developments in global education have further amplified the need for CBE, especially as institutions integrate technology, flexible learning modalities, and lifelong learning goals (Ryan & Deci, 2020; OECD, 2021).

Understanding the profile of pre-service teachers in terms of their academic program is essential, as this context can influence their learning outcomes and overall competency development. According to Darling-Hammond (2006), the design of teacher education programs significantly impacts student success, with well-structured programs leading to improved teaching practices and higher licensure exam pass rates. Therefore, this study will analyze the demographic and academic profiles of the pre-service teachers to better contextualize the findings.

The implementation of pretest and posttest assessments will provide a clear measurement of student learning outcomes before and after the CBE intervention. This approach aligns with educational assessment practices recommended by Black and Wiliam (1998), who emphasize the importance of formative assessments in identifying learning gaps and informing instructional strategies. By comparing pretest and posttest performances, the study aims to determine the effectiveness of CBE in fostering competency development among the participants.

Moreover, investigating whether there is a significant difference between pretest and posttest scores will yield valuable insights into the impact of CBE methodologies on student performance. This aspect of the study is grounded in Guskey's (2000) assertion that evaluating the effectiveness of educational programs requires rigorous measurement of learning outcomes. Such evaluations not only inform educators about the efficacy of their teaching practices but also contribute to continuous program improvement.

This study aims to evaluate the effectiveness of CBE in enhancing the readiness of 4th-year pre-service teachers for the Licensure Examination for Teachers (LET). The focus on LET readiness is critical, as it serves as a gateway for aspiring educators to enter the teaching profession and is often seen as a reflection of their competency (Gonzalez, 2019). By examining the profiles of the students, assessing their performance through pretest and posttest evaluations, and analyzing the significance of performance differences, this study seeks to contribute to the ongoing discourse on effective teacher education practices.

Objectives of the study

The primary objective of this study was to evaluate the competency development of 4th-year pre-service teachers in the Competency-Based Education (Professional Education) subject (CBE 2) of the Teacher Education curriculum at Pangasinan State University.

Specifically, the study sought to answer the following:

a. Determine the specialization/program4th-year pre-service teachers;
b. Evaluate their pretest and posttest performance in CBE 2; and
c. Analyze whether there is a significant difference between the pretest and posttest performance of the respondents.

MATERIALS AND METHODS

This study employed a quantitative approach using a descriptive research design to evaluate the competency development of 4th-year pre-service teachers enrolled in the Competency-Based Education (Professional Education) subject (CBE 2) at Pangasinan State University. The study utilized a quantitative approach, measuring participants' knowledge and skills before and after instruction through a pretest-posttest methodology.

The subjects of this study were 4th-year pre-service teachers from the College of Teacher Education enrolled in the first semester of the academic year 2024-2025. The study covered various teacher education programs, including Bachelor of Early Childhood Education (BECEd), Bachelor of Elementary Education (BEEd), Bachelor of Secondary Education (BSEd) with majors in English, Filipino, Mathematics, Science, and Social Studies, Bachelor of Physical Education (BPEd), and Bachelor of Technology and Livelihood Education (BTLEd). The total population and corresponding sample sizes using Slovin’s formula are detailed below:

Table 1: Respondents of the study

Program	**Population**	**Sample**
BECEd	45	16
BEEd	95	34
BSEd English	98	35
BSEd Filipino	56	20
BSEd Mathematics	78	28
BSEd Science	99	36
BSEd Social Studies	106	38
BPEd	103	37
BTLEd	50	18
Total	**730**	**262**

A pretest was administered before the instructional discussions on CBE 2 to assess the initial competency levels of the participants. After completing the instruction, a posttest was conducted to evaluate learning gains. The difference between the pretest and posttest scores was analyzed to determine the effectiveness of the instruction and its correlation with the respondents' profiles.

The primary instrument used in this study was a 150-item teacher-made test designed to measure knowledge and skills relevant to CBE 2. The test underwent a validation process to ensure its content accuracy and relevance. Additionally, a reliability test was conducted to determine the consistency of the assessment instrument.

The data gathered from the pretest and posttest were statistically analyzed using descriptive and inferential statistics. Mean and standard deviation were used to describe the respondents' performance, while a paired t-test was employed to determine if there was a significant difference between the pretest and posttest scores. Furthermore, an analysis of variance (ANOVA) was applied to examine whether the respondents' profiles significantly influenced their performance outcomes.

RESULTS AND DISCUSSION

Table 2: Profile of Programs/Specialization in College of Teacher Education of PSU Bayambang Campus

Program	**Sample**
BECEd	16
BEEd	34
BSEd English	35
BSEd Filipino	20
BSEd Mathematics	28
BSEd Science	36
BSEd Social Studies	38
BPEd	37
BTLEd	18
Total	**262**

Table 2 presents the distribution of 262 pre-service teachers across various teacher education programs. The highest number of participants are enrolled in BSEd Social Studies (38), BSEd Science (36), and BSEd English (35), while the lowest number of participants is in BECEd (16). The distribution highlights a concentration of students in secondary education majors, aligning with Shulman's (1987) assertion that pedagogical knowledge varies based on specialization, which can influence student preparedness and professional competencies.

The variation in enrollment may also reflect the demand for teachers in different subject areas, as emphasized by Darling-Hammond (2006), who stated that program structure and availability influence student choices and eventual success in licensure examinations**.**

Table 3: Pretest and Posttest CBE 2 Scores of Programs/Specialization in College of Teacher Education of PSU Bayambang Campus

Program/ Specialization	**Scores**	**N**	**Mean**	**Std. Deviation**	**Description**
BECED	pre1	16	70.94	9.2266	Average
BEE	post1	16	91.38	18.9592	High
BSE-EL	pre2	34	73.00	11.8168	Average
BSE-FIL	post2	34	98.85	19.5233	High
BSE-MH	pre3	35	64.69	11.2819	Average
BSE-SCIENCE	post3	35	104.37	13.6943	High
BSE-SST	pre4	20	96.75	21.6889	High
BPED	post4	20	100.95	14.6807	High

BTLED	pre5	28	95.43	19.5589	High
BECED	post5	28	99.54	21.5312	High
BEE	pre6	36	95.89	19.7770	High
BSE-EL	post6	36	101.17	17.9165	High
BSE-FIL	pre7	38	97.55	23.3142	High
BSE-MH	post7	38	102.58	17.0732	High
BSE-SCIENCE	pre8	37	71.14	14.4360	Average
BSE-SST	post8	37	93.54	17.1231	High
BPED	pre9	18	67.56	13.7978	Average
	post9	18	91.72	17.5023	High

The pretest and posttest results show improvement across all specializations, demonstrating the effectiveness of Competency-Based Education (CBE) in preparing pre-service teachers. The mean pretest scores ranged from 64.69 to 97.55, with most specializations classified as "Average" before CBE 2 instruction. This suggests that while students had foundational knowledge, there were notable learning gaps. After instruction, all specializations demonstrated a significant increase, with mean scores ranging from 91.38 to 104.37, shifting performance from "Average" to "High." The most substantial improvement was observed in BSEd English (64.69 to 104.37, +39.68 points) and BTLEd (67.56 to 91.72, +24.16 points), suggesting that CBE methodologies had a particularly strong impact on these groups. These findings align with Gonzalez (2019), who highlighted that competency-based learning enhances student engagement and knowledge retention, especially for students with lower initial performance levels. These results support Black and Wiliam's (1998) study, which emphasized that formative assessments help bridge learning gaps. Furthermore, Guskey (2000) asserted that program effectiveness should be measured through learning gains, which is evident in the consistent posttest improvements.

Table 4: Paired T Test Result of th CBE 2 Scores of Programs/Specialization in College of Teacher Education of PSU Bayambang Campus

CBE 2 Scores	**N**	**Mean**	**Mean Difference**	**SD**	**Std. Error Mean**	**t value**	**df**	**sig**
PreTest	262	82.0420	16.94	21.69826	1.34052	-9.72148	261	000
PostTest		98.9847		17.88404	1.10488			

The results of the paired sample t-test indicate a statistically significant improvement in the competency levels of pre-service teachers after undergoing Competency-Based Education (CBE) instruction. The overall mean pretest score was 82.04, while the mean posttest score increased to 98.98, reflecting a mean difference of 16.94 points. This substantial gain suggests that CBE effectively enhanced the knowledge and skills of the participants. The t-value of -9.72 and a significance level of $p < 0.001$ confirm that the improvement is statistically significant, reinforcing the positive impact of CBE on learning outcomes. Additionally, the standard deviation (SD) values show that while there was variation in pretest scores (SD = 21.70), the posttest scores exhibited a lower SD of 17.88, indicating a more consistent performance across students after the intervention. These findings align with the work of Darling-Hammond et al. (2017), who emphasized that competency-based learning significantly contributes to classroom readiness and improved teaching performance. Furthermore, Boud and Falchikov (2007) highlighted that assessment-driven learning enhances student engagement and knowledge retention, leading to more uniform outcomes. The statistical significance of the results supports the effectiveness of CBE as a model for teacher education, providing strong evidence that structured, skills-focused instruction leads to measurable improvements in student competency.

CONCLUSION AND RECOMMENDATION

Based on the findings of the study, the following conclusions were drawn.

1. Effectiveness of Competency-Based Education (CBE): The study confirms that CBE significantly enhances the competency levels of pre-service teachers, as evidenced by the substantial improvement in posttest scores across all specializations. The findings highlight the effectiveness of CBE in

preparing students for the Licensure Examination for Teachers (LET) by bridging learning gaps and strengthening their subject knowledge.

2. Impact on Students with Lower Initial Performance: The largest learning gains were observed in students who initially scored lower in the pretest, particularly in BSEd English and BTLEd. This supports the idea that CBE methodologies are particularly beneficial for students who need more structured and skills-based instruction to improve their academic performance.
3. Statistical Significance of Learning Gains: The paired sample t-test results indicate a statistically significant difference between pretest and posttest scores ($p < 0.001$), demonstrating that CBE has a measurable and positive impact on student learning outcomes. The reduction in score variation posttest also suggests that CBE contributes to more consistent and uniform competency development.
4. Implications for Teacher Education Programs: Given the proven effectiveness of CBE, teacher education institutions should consider fully integrating competency-based approaches into their curriculum. The findings emphasize the need for structured, formative assessments and targeted instructional strategies to ensure that all pre-service teachers are adequately prepared for professional teaching practice and licensure examinations.

With the conclusions drawn as bases, the following recommendations are given.

1. Integration of Competency-Based Education (CBE) Across Teacher Education Programs: Teacher education institutions should fully implement CBE methodologies across all specializations to ensure uniform competency development and better preparation for the Licensure Examination for Teachers (LET).
2. Continuous Assessment and Feedback Mechanisms: Regular pretest and posttest assessments should be conducted to track student progress, identify learning gaps, and adjust instructional strategies accordingly. This aligns with Black and Wiliam's (1998) findings on formative assessments improving learning outcomes.
3. Targeted Support for Low-Performing Students: Special interventions, such as tutoring, mentoring, or additional practice exercises, should be provided to students with lower initial competency levels. The study highlights that students with lower pretest scores benefited the most from CBE, making targeted support essential.
4. Faculty Training on CBE Implementation: Educators should undergo continuous professional development to effectively implement CBE strategies, including outcome-based assessments and adaptive instructional techniques that cater to diverse student needs.
5. Integration of Mixed-method approach: To complement future quantitative analyses, the researchers recommend incorporating qualitative components such as focus group discussions (FGDs) and key informant interviews (KIIs) with both students and faculty. This mixed-method approach can enrich data interpretation and offer actionable insights for practice and policy.
6. Further Research on CBE Effectiveness: Future studies should explore long-term impacts of CBE on teaching performance and LET pass rates, as well as the effectiveness of specific instructional strategies within the CBE framework to refine best practices in teacher education.

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