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Pre-licensure examination as predictor of licensure examination for teachers result

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Article Info	ABSTRACT
	Licensure examination for teachers (LET) is the major requirement of teachers in the Philippines before practicing teaching profession. As such, it is imperative to monitor necessary parameters to increase passing percentage of teachers in LET. This study attempted to examine the relationship between performance in pre-LET and LET of 71 elementary education (BEEd) and 127 secondary education (BSEd) graduates in one university in the Philippines. Individual and aggregated data were secured from the college of teacher education dean's office and Professional regulations commission (PRC). Using the descriptive-correlation method of research, this study presented the null hypothesis that pre-licensure is not a predictor of LET results. Findings showed that there is a notable relationship between the pre-LET and LET examination performances. Using linear regression analysis, ratings attained by the graduates in pre-LET can predict the performance in LET with higher level of confidence. The study confirmed that for general education (GenEd) and professional education components of licensure examination for BEEd, the pre-LET scores of education graduates are significant predictors. *This is an open access article under the [CC BY-SA](#) license.*

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1. INTRODUCTION

Higher education institutions (HEIs) around the globe are the country's prime movers in building quality nation. Teacher quality is one of the goals of every higher learning institution. According to the research of World Bank on 2010, teacher quality is the major factor in achieving student accomplishment and it determines the success of the country [1]. In the Philippines, one of the measures of producing quality teacher is through surpassing the licensure examination for teachers (LET). Passing the LET is one of the qualification requirements of every teacher based on the Philippine Teachers Professionalization Act of 1994 or Republic Act (RA7836) [2]. Because of this, it is the duty and obligation of every institutions to increase their performance in the LET which is one of the indicators of quality and excellence in education [3]. To pass the licensure examination, a criterion-reference test is utilized by the professional regulations commission (PRC). In this, examinees in elementary education level must obtain at least 75% average. Scores rate comes from 60% professional education and 40% general education (GenEd). For secondary education level, 75% average must also be obtained which 40% from professional education, 40% from major field of specialization, and 20% from general education.

For the past 10 years, LET results released by PRC showed that national passing rates of teacher education graduates are below 50%. Clearly, a gap exists in terms of competencies of teacher education graduates in the country. In response to this scenario, HEIs in the Philippines initiated variety of strategies to improve the Licensure results. Some HEIs venture on identifying predictors of performance in the LET i.e., factors involving students, previous academic level performance, college admission test performance, aptitude test results, academic achievement, and attendance in review-examinations; faculty-related factors including teaching experiences, educational qualifications, seminars/trainings/workshops participated, organizational membership, academic position, teaching performance, publications; and factors related to other ancillaries including administrative services and support services [4]–[6] while several universities practice the giving of series of pre-licensure review and examination [7]. However, despite several initiatives, teacher education institutions have low confidence level when it comes to predicting the result of the licensure examination for teachers while others still have below national passing percentage in the licensure examination for teachers. One of these is the campus where the study was conducted. Although the campus has a promising trend in terms of first-time licensure examination takers that pass the licensure examination in the past decade, when combined with the retakers, the performance becomes lower as compared to the national passing percentage. Similar scenario explained that repeaters drag down the institutional performance in the licensure examination for teachers [8].

It has been the practice of the university to conduct the pre-LET examination to its graduating students to determine their readiness in LET since 2008. The pre-LET examination had been yearly distributed to the graduating students. The content of the examination is aligned with the competencies to be measured in the actual licensure examination reflected on the website of the PRC. Developers of the pre-LET examination are the tertiary educators in specific field of specializations. Table of specifications are also prepared to ensure the balance between the items measuring the lower order thinking skills and higher order thinking skills. However, no documented evidence for reliability analysis was observed.

However, little is known about the monitoring of its effects to the actual LET performance. This had been the scenario until the institutionalization of pre-LET stopped after ten years of its implementation. The researchers found interest on evaluating the relationship of this pre-LET and its potential as being a predictor of the actual LET. The result will be an input to re-institutionalize the pre-LET.

The framework (Figure 1) shows the relationship between the pre-LET and LET performances of teacher education graduates of the university where the study was conducted. The performance of teacher education graduates in the pre-Licensure examination serves as the predictor or independent variable while the actual LET performance of the teacher education graduates serves as the dependent variable. The result of the variable comparison will serve as input for the development of comprehensive pre-LET program for teacher education.

The main objective of this study is to determine if the pre-LET scores are valid predictors of the actual LET performance of the graduates of the university which serves as inputs to propose comprehensive pre-LET program in the university. In particular, the study tries to describe the pre-LET and LET performances of education graduates; test the relationship between the two variables; determine if pre-LET scores are predictors of actual LET performance; and propose for the re-institutionalization of pre-LET.
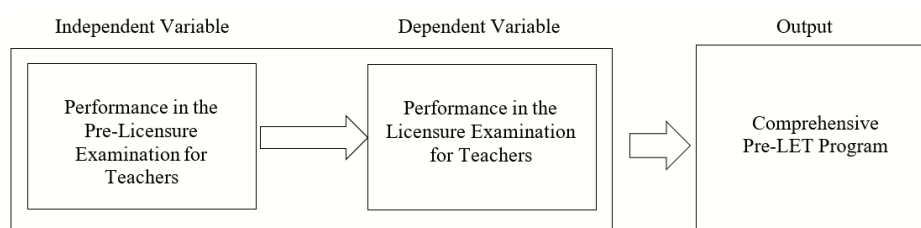
Figure 1. Conceptual framework

2. RESEARCH METHOD

The regression-based research was utilized in this attempt. Records of the performance of 127 secondary education (BSEd) graduates and 71 elementary education (BEEd) graduates of 2015 and 2016 in the pre-LET were obtained from the office of the dean of the college of teacher education. The result of the study conducted by Roman [7], the previous pre-LET performance of the graduates in the same university did not follow a normal distribution from 2009-2013 using Kolmogorov-Smirnov (KS) Test (p-value<0.001) hence variance-based statistics could not be possible. Using the same test, the pre-LET performances of 2015

and 2016 are normally distributed (p=0.994). For this reason, variance-based statistics can be applied. LET performance was gathered from records of the PRC. The pre-LET was constructed by the faculty members of the college of teacher education of the university. The items in the examination include the general education, professional education and major of specialization (MFS) depending on the list of competencies provided by the PRC on its website. Data were statistically treated using statistical package for social sciences (SPSS). To determine the relationship between the variables, correlation value was presented and analyzed. Similarly, regression analysis was conducted to explain if pre-LET is a predictor of LET. Regression models were also derived to further strengthen the result. Analysis was conducted separately for BSEd and BEEd.

3.   RESULTS AND DISCUSSION
3.1. Pre-LET and LET performances of education graduates
Table 1 shows the performance of teacher education graduates in pre-and licensure examination for teachers. Both average results of pre-LET and LET performance of the BSEd graduates are below 75% threshold value in the majority of examination areas such as general education, professional education and major field of specialization except for general education in the actual licensure examination. This result means that BSEd graduates have acquired enough competencies in terms of general education while fall short on the other two areas. Further, parallel results for both pre-LET and LET indicate that BSEd graduates need to increase their competencies in professional education area since it is the lowest area among the three. The result of the study confirms the claim of previous studies [8]–[11] that graduates in the secondary level find difficulty in professional education and major field of specialization areas of LET. In addition, the result implies that one of the strengths of the college in terms of instruction function is general education as compared to professional education and major field of specialization.

Table 1. Performance of teacher education graduates in pre-and licensure examination for teachers

Level	Stats	Pre-LET				LET			
		GenEd	ProfEd	Major	Overall	GenEd	ProfEd	Major	Overall
Secondary	Mean	73.79	73.74	73.68	73.73	78.41	73.67	74.52	74.88
	SD	4.42	4.52	4.96	3.73	6.99	7.25	6.96	6.21
Elementary	Mean	72.09	71.84	***	71.94	72.28	73.42	***	72.96
	SD	3.48	4.40	***	3.60	7.61	7.54	***	7.00

In terms of the performance of BEEd graduates, both average results of pre-LET and LET performance are below 75% threshold value in the two examination areas such as general education and professional education. Similar scenarios in other state universities and colleges in the Philippines conform the result of the study for the bachelor of elementary education, where below average performance have been observed [12]–[14]. The result of below average performance of BSEd and BEEd graduates is also reflected in other HEIs across other regions [15], [16]. The results implied that teacher education student-graduates, upon graduation, are not fully ready to immediately take the licensure examination for teachers. There needs to be done other initiatives on the part of the students to prepare themselves prior to the actual licensure examinations. Literatures provided some predictors of passing the licensure examination for teachers such as academic achievement [17], attending LET review [18], mental ability [19], language proficiency [20], and field study course and internship [21], while on the part of the institution, studies suggest that teacher's personal and professional attribute [6], college admission test [22], metacognitive strategies [23] assessment procedures [24], and curriculum [25] are predictors of passing the LET.

3.2. Relationship between the performances of education graduates in pre-LET and LET
Table 2 presents the correlation between the performance of the BEEd graduates in general education, professional education, and overall performance in both pre-LET and the LET. As revealed by the table, there is a notable correlation between the variables being studied. Further a direct linear relationship between performance of graduates in the general education, professional education and overall pre-LET and the LET Performances was found. More so, the r^2 values of both general education and overall performances in the pre-LET can explain the 50% of the variations in the actual LET while the professional education result of the pre-LET can explain the 37% variation in the actual LET performance. The result of the analysis infers that the performance of the teacher education graduates in the licensure examination for teachers can be explained with 50% confidence by the pre-LET results. This provides an implication that practices of the college in terms of providing instruction and its initiatives in conducting pre-LET review can contribute a lot

to the assurance of passing the actual licensure examination. The result is supported by the quasi-experiment conducted by Manlangit [26] that after undergoing review sessions, mock exam, and receiving review materials, 50% of the BEEd graduate respondents were able to pass the LET. Further, the result suggests that supplemental materials and mock exam prepare the graduates for their LET. It is also explained by the results that there is a need to continue the practice of conducting pre-LET initiatives in the campus together with the mock examination given to the aspirant licensed teachers.

Table 2. Linear model for prediction of performance in LET of BEEd graduates based on the performance in the pre-LET

Variables for BEEd	r-value	r^2	p-value	Interpretation
General education (Pre-LET and LET)	0.723	0.523	<0.001	High
Professional education (Pre-LET and LET)	0.610	0.372	<0.001	High
Pre-LET and LET	0.722	0.521	<0.001	High

Table 3 presents the relationship between the performance of the BSEd graduates in the general education, professional education, and overall performance in both pre-LET and the LET. As revealed, there is correlational significance between the variables being studied. The direct linear relationship between performance of graduates in the general education, professional education and overall pre-LET and the LET performances is also revealed in the table. Likewise, the r^2 value of 0.410 in terms of professional education performance in the pre-LET can explain 41% in the actual LET result variations while 21.8% in the GenEd LET result can be explained by the GenEd pre-LET results. Similarly, 18.7% of the variations in the LET major area can be explained by the pre-LET major area results. Finally, 38.1% of the variations in the actual LET performance is explainable by the pre-LET results. The results show that among the three areas, professional education area in the pre-LET has the largest correlation coefficient value suggesting that it explains more compared to other two areas. Similar to the result in the BEEd program, the college's initiatives in conducting LET review session for its graduates significantly influences the performance of the students in the actual LET which is similar to the previous studies [4], [27].

Table 3. Linear regression model for predicting performance in LET of BSEd graduates based on the performance in the pre-LET

Variables for BSEd	r-value	r^2	p-value	Interpretation
General education (Pre-LET and LET)	0.467	0.218	<0.001	Medium
Professional education (Pre-LET and LET)	0.640	0.410	<0.001	High
Major field of specialization (Pre-LET and LET)	0.433	0.187	<0.001	Medium
Pre-LET and LET	0.617	0.381	<0.001	High

Arce and Belen [4] argued that religiously participating in an in-house review build students' confidence and prepare them to responding the questions in the licensure examination. They further mentioned that schools are hopeful that through exercising students, they would increase assurance of passing the licensure examination. Similarly, Visco [5] determined that attendance in LET review classes as one of the student-related factors aside from average performance in high school, admission test result, aptitude test result, and academic achievement in general, professional, and major subjects significantly influenced performance in the LET and identified as good predictors of LET performance.

In the study of Gerundio and Balagtas [3] about exploration of formula for LET success in the Philippines, pre-board total score determined as significant predictor of performance in the LET. They stated that review classes are effective contributory to the success in the LET. Likewise, Montemayor *et al.* [27] claimed that performance in a simulated examination significantly affects performance in the actual examination and that the constructed mock examination of the faculty of College of Teacher Education can validly predict the performance in the licensure examination for teachers.

Moreover, Faltado III [28] determined that admission and policy for retention, curriculum and instruction together with competence of faculty are the determinants of teacher education performance in the licensure examination. On the other hand, Soriano [29] opined that students who garnered higher performance in general education courses (GEC) had a higher probability of passing the LET and the higher the score in the entrance examination, the higher the chance in surpassing the LET.

Pascua and Navalta [30] concluded that the higher the GPA, English proficiency, and admission test score, the higher the expected LET performance. In addition, Arenillo and Arenillo [31] pointed that performance grades in pre-teaching education specifically in areas of general education and professional

education are correlated significantly to the performance scores gained in the LET. Likewise, previous studies [9], [32] concluded that general scholastic aptitude scores together with IQ and high school average are significantly correlated with the LET.

3.3. Pre-LET scores as predictors of actual LET performance

Table 4 shows the linear model for prediction of performance in LET of BEEd and BSEd graduates based on the performance in the pre-LET. Using regression analysis, it was found that for general education and professional education components of licensure examination for BEEd, the pre-LET scores of education graduates are significant predictors. This resulted to an overall regression model of y'=-28.3+1.40x. Similarly, the LET performance of BSEd graduates can be predicted using their general education, professional education, and field of specialization components resulted to overall regression model of y'=-3.23+1.06x.

Table 4. Linear model for prediction of performance in LET of BEEd and BSEd graduates based on the performance in the pre-LET

	Variables	Model
BEEd	General education (Pre-LET and LET)	y'=-43.5+1.60x
	Professional education (Pre-LET and LET)	y'=-2.3+1.05x
	Pre-LET and LET	y'=-28.3+1.40x
BSEd	General education (Pre-LET and LET)	y'=24.7+0.725x
	Professional education (Pre-LET and LET)	y'=-1.43+1.02x
	Major field of specialization (Pre-LET and LET)	y'=27.8+0.630x
	Pre-LET and LET	y'=-3.23+1.06x

Taking into consideration the slopes of the regression models, all coefficients provide positive values which show direct relationships of pre-LET scores and LET performances of education graduates. Further, it signifies that when an education graduate got high scores in pre-LET, these scores can be bases of possible self-intervention of education graduates to obtain high rating in LET while students with low pre-LET score could also provide self-intervention to ensure passing performance in LET.

4. CONCLUSION

The finding of the study is an assessment of relationship between the pre-LET and LET performances of teacher education graduates of in one state university in the Philippines. Based on the findings of their study pre-board examinations can validly predict performance in the LET. Likewise, the pre-board test constructed by the faculty of the college of education is a valid predictor of performance in the LET. In addition, the college is satisfactory in terms of providing competencies to the students specifically in the area of general education. However, giving focus on other areas, the college may focus on providing reviews to the graduates specifically in the area of professional education and major field of specialization. This can be done through providing intensive program to the LET takers with continuous monitoring and evaluation. Since the pre-LET performances of the students are valid predictors of actual LET, religious implementation through intensive monitoring process may be done.

Though this study is a success in terms of creating regression models for predicting LET performance of teacher education graduates, there are limitations found by the researchers. First, the data obtained from the sources were the performances of teacher education graduates before the COVID-19 pandemic. Secondly, the study only focused on the hard data obtained and no data for self-assessment were gathered. For this reason, a study about the performance of teacher education graduates in the licensure examination during and after the pandemic may be conducted to determine the implication of the pandemic to the performance of aspirant teachers. Likewise, a qualitative study may be conducted for further determining the factors predicting the licensure examination performance of teacher education graduates aside from pre-licensure examination.

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