Research Article

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Admission Criteria as Predictors of Licensure Performances among Graduates of a State University in the Philippine Cordillera Administrative Region

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Abstract

Proficiency in licensure examinations has emerged as a foundation of pride for graduates and an attraction for potential students to higher education institutions (HEIs). Therefore, the purpose of this study was to uncover the admission criteria that confidently predicted the licensure performance of graduates of a state institution in the Philippine Cordillera Administrative Region. This study used correlation research and 654 randomly selected graduates of Ifugao State University (IFSU) who took and eventually passed their licensure tests. The records of the university registrar and the Professional Regulations Commission (PRC) were the primary sources of data. To comply with research ethics and standards, written permission from university officials was obtained. The mean, standard deviation, and frequency were used to describe the descriptive variables. Multiple regression analysis was utilized to identify the significant set of predictors of license performance per licensure examination. A stepwise procedure was used to select the best model. The study concludes that the performance of graduates in the fields of agriculture, criminology, and teacher education in their respective licensure examinations can best be predicted by their high school grade point average and admission test scores, whereas the performance of graduates in the field of forestry in their licensing exam is best explained by their performance in their secondary education curriculum.

Keywords: *Admission criteria, licensure performance, High School Grade Point Average, Entrance examination, State Universities and Colleges, Cordillera Administrative Region*

1. Introduction

The aspirations of the academic system on a micro and macro level have highlighted quality education. The UN acknowledged its centrality and integrated it into its Sustainable Development Goals (SDGs). The SDGs, which include 17 global goals, act as a road map for peaceful coexistence for people and the environment now and into the future. All advanced and emerging member nations, including the Philippines, have embraced these objectives. SDG's 4th Objective was created expressly to "provide inclusive and equitable quality education and encourage lifelong learning opportunities

for all" (UNDP, 2015; Laguador and Refozar, 2020).

In the Philippines, it is required by law to offer accessible, high-quality education. This is reiterated in the *Batas Pambansa* 232 (Education Act of 1982) and Republic Act (RA) 7722 (Higher Education Act of 1994), which articulate that the "State shall protect, foster, and promote the right of all citizens to affordable quality education at all levels." This is in accordance with Article XIV Section 2 of the 1987 Philippine Constitution, which states that "the State shall establish, maintain, and support a complete, adequate, and integrated system of education relevant to the needs of the people".

In the framework of outcomes-based education (OBE), the caliber of graduates that a learning institution generates determines the quality of education. As a result, the Commission on Higher Education (CHED) stressed that success in the licensure examinations is used to evaluate the quality of graduates (Fiscal and Roman, 2022). One of the metrics for judging the effectiveness and competence of higher education is how well graduates perform on the board examination (Espartero, 2022). Success in obtaining a license is viewed as a sign of high-quality education (Visco, 2015).

State Universities and Colleges (SUCs), which fall under CHED, place more emphasis on establishing quality standards to give their students a quality education. One of these strategies is making sure that graduates perform well on the certification examination. Therefore, it is crucial for these institutions to make sure that graduates of board programs pass their respective licensing examinations, especially since students' exam results reflect both their intellectual ability and the effectiveness of the school (Gabasa and Raqueno, 2021). In fact, student performance in every institution is extremely important in determining the quality of education, which ultimately ensures their effectiveness and efficiency in the professions or careers of their choice. Additionally, it implies that they performed to a better standard in the university's educational program (Albina, Balasabas, Laquinon, Pampilo, & Caballero, 2021).

Graduates' achievement on licensing exams has developed into a source of prestige and a factor in luring potential students to higher education institutions (HEIs) (Bansiong and Balagtey, 2020). Because success on licensing exams is one of the output factors in the normative financing model used to allocate expenditures to SUCs, it also influences in part the budget that the institution receives (Somosot, Duran, & Rodriguez, 2022). Additionally, passing the licensing exam plays a significant role in moving up the SUC leveling scale. The success of graduates on licensing exams is one indicator for the first Key Results Area (KRA), which is Quality and Relevance of Instruction, in the SUC leveling scheme. The performance-based bonus (PBB) that the government awards to employees in the public sector, particularly in agency performance targets, also considers license performance (DBM-CHED, 2016).

The Commission on Higher Education (CHED), which certifies curricular programs at HEIs as Centers of Development (COD) and Centers of Excellence (COE), also heavily weighs the performance of license holders (Dagdag, 2018). The pinnacle of excellence for a program is earning a COD or COE. Therefore, HEIs are pushed and encouraged to achieve this status by excelling in various mandatory areas, one of which is the licensure examination.

Based on the outcomes of board exams, the Professional Regulations Commission (PRC), has consistently been tasked with determining which graduates of board programs will be issued professional licenses (Callena, et al. 2019; Juanatas and Juanatas, 2019). Professional regulation affects the 2.4 million Filipinos who are recognized as professionals in 42 different disciplines as well as the tens of thousands of aspirants who sit for the licensing exams each year (PRC, 2018). Sadly, based on the outcomes of board exams, the passing rate is dropping in practically all professions. Coleman-Salgado & Barakatt (2018) reported that the quality of graduates is poor as seen by the dropping pass rate for license exams. Graduates' general performance on licensing exams has been appalling and is gradually deteriorating. The quality of education offered by the various institutions is affected by this reduction. Baylan (2018) expressed that success on licensing tests is a good indicator of the standard of higher education being offered. He reiterated that colleges and universities are crucial to the creation of competent graduates. Additionally, they must create strong, independent, and top-notch

higher education institutions in the Philippines.

Several studies identified many elements influencing students' licensure performance. Admission criteria, such as the outcomes of entrance exams (Maaliw, 2021) and high school grades are associated with graduates' success in obtaining a license (Mallari, & Bueno, 2018). Graduates' performance on the Licensure Examination for Teachers (LET) is correlated with their entrance test results, grade point average, and English competence. These entry-level factors are also reliable indicators of successful licensure (Pascua and Navalta, 2011). Scholastic achievement, nursing aptitude exams, and college admissions tests are all reliable indicators of success in obtaining a nursing license. Nursing students' pre-board performance, college GPA, and results on college entrance exams all strongly predict how well they will do on nursing licensing exams (Cahapay, 2021). Graduates' success on the Licensure Examination for Agriculturists (LEA) is well predicted by their performance on the College Admission Test (CAT), academic performance, and course audits (Dagdag, 2018).

As one of the 110 SUCs in the nation and the only institution of higher learning in the province of Ifugao, Philippines, the Ifugao State University (IFSU) strives for excellence in each of the four functions of a university: instruction, research, extension, and resource development. In its instructional function, the university has consistently outperformed the national passing rate in other board exams and has previously been ranked among the best schools for the criminology licensure exam. However, over the last few years, the university's success percentage on the various board exams has decreased. Additionally, the university was delisted from the nation's top criminology schools for the past two years. The university's goal to create excellent graduates is therefore dubious given the trend of graduation rates in recent years. Due to the passing rate of its graduates on the licensing exam, the university was unable to move up a level in the SUC leveling. Therefore, it continued to be a SUC-Level 3. Additionally, due to the non-attainment of the target on the passing percentage of the licensing test of their board programs and the absence of a COD or COE program, IFSU was unable to qualify for the performance-based bonus (PBB) since 2017. To realize its goal of becoming a hub for academic achievement, the university must consequently enhance its performance on licensing exams.

As was already established, several variables influence how well graduates perform on licensing exams. The admission process is one of the factors contributing to subpar licensure performance. Although there is a cut-off score required for enrollment in board programs, IFSU has an open admission policy. There was no research done to determine whether the cut-off score was helpful in selecting students for board programs and assuring that they would pass their licensing exams. Additionally, there is no policy in place that requires retention or screening of continuing students each semester to make sure they adhere to requirements for passing performance on the licensing exam.

To enhance graduates' performance upon receiving their licenses, IFSU must consequently pay close attention to its admission and retention policies. The governing board of the university ordered the review and revision of the institution's admission and retention policies, according to an executive memo from the university president. To get a clearer understanding of the performance status for licensure, IFSU may take this opportunity to analyze the data they currently have.

On these grounds, this study was conducted to establish the admission requirements of students enrolled in board programs at IFSU. The study's findings will be presented to university authorities for use in policy and decision-making to improve graduates' licensure success. The study analyzed the licensure performance of IFSU graduates and determined a predictive model that will give the optimal result in the licensure examination. It specifically aimed to 1) determine the level of performance of the graduates in terms of the admission variables such as high school grade point average and entrance examination results; 2) determine the licensure performance of graduates in Agriculture, Criminology, Forestry, and Education (Elementary and Secondary); and 3) determine admission variables that significantly predict the licensure performance of graduates in the different board programs.

2. Materials and Method

As correlation research, this study utilized 654 randomly selected graduates of IFSU who took and eventually passed their licensing exams. The main source of data was the records of the university registrar and the Professional Regulations Commission (PRC). These are empirical data of graduates from the different board programs under study such as admission and licensure examination performance. Admission criteria include high school grade point average (HSGPA) and entrance examination results. The HSGPA of graduates was derived from Form 138. Likewise, the entrance examination result is the score they obtained in the admission examination they took before they were admitted to the university.

To adhere to research ethics and protocols, written consent from the university officials was sought. The descriptive statistics of the variables were ascertained using the mean, standard deviation, and frequency. To identify the significant group of determinants of license performance per licensure examination, multiple regression analysis was used. The best model was chosen via a stepwise process.

3. Results and Discussion

3.1 Performance of Graduates in Admission Criteria

3.1.1 High School Grade Point Average (HSGPA)

Table 1 presents the frequency and means of graduates as to their grade point average in high school.

Table 1: High School Grade Point Average of graduates

Board Programs	Frequency				Mean	Description
	75-79	80-84	85-89	90-100		
Agriculture	11	42	18	4	82.93	Satisfactory
Criminology	21	112	82	5	83.48	Satisfactory
Forestry	4	10	3	1	82.20	Satisfactory
Education-Elementary	4	53	118	10	85.48	Very Satisfactory
Education-Secondary	1	11	108	36	87.72	Very Satisfactory
Over-all	**41**	**228**	**329**	**56**	**84.42**	**Satisfactory**

Table 1 reflects that teacher education graduates performed very satisfactorily in their high school education. Graduates of criminology, agriculture, and forestry displayed satisfactory performance in their high school education. This indicates that the university is committed to carrying out its admissions policy. As articulated in the CMO No. 52 series of 2007, for students to be admitted to the educational program, they must have a grade of 85% or higher. The university, however, takes open admission into consideration for other board programs. As a result, graduates from the fields of criminology, forestry, and agriculture could have lower high school averages than their peers in the field of education.

The results corroborate Angeles, (2020) observation that most institutions base admissions decisions on high school GPAs to select the most talented and devoted applicants. The fundamental premise is that a high school student with a remarkable grade point average will also do well in college. Pattaguan (2018) stated that success in higher education is closely tied to students' pre-university academic achievement and preparation, and the quality of university education is greatly influenced by the abilities of those who are admitted and retained.

3.1.2 Entrance Examination Results

The frequency and mean admission examination outcomes for graduates are displayed in Table 2. It provides the grads' results on the test. An intelligence test is employed as part of the admission exam, and it covers linguistic analogy, spatial ability, spatial reasoning, logic, analogy, and understanding. The test has 76 items, and students must receive a score of at least 27 to be accepted into the board programs.

Table 2: The entrance examination results of graduates

Board Programs	Frequency				Mean	Description
	26 & below	27-33	34-47	48 & above		
Agriculture	24	21	29	1	30.15	Below Average
Criminology	19	135	65	1	31.43	Below Average
Forestry	15	2	1	0	23.84	Poor
Education-Elementary	48	74	56	7	31.23	Below Average
Education-Secondary	23	59	68	6	34.03	Average
Over-all	**129**	**291**	**219**	**15**	**30.14**	**Below Average**

Results reveal that only graduates from secondary education received an average score, whereas graduates from criminology, elementary teacher education, and agriculture all received below-average scores. Forestry graduates performed poorly on entrance exams.

Board program graduates had a below-average overall performance, according to the entrance results. It further implies that they didn't get the average score, barring postsecondary degrees. Also worth mentioning is the existence of underperforming students. The IFSU management made the decision to lower the required cut-off score for students admitted in board programs, even admitting those with subpar entrance performance if they had superior high school GPAs, to admit more students to enroll in the institution. Because of this, students with low test scores are nonetheless accepted into board programs.

Admission exam scores are an important factor in the selection of students who would succeed in their later professional careers (Barrera, Cagang, & Capistrano, 2013). However, they also considered the possibility that applicants who can rigorously study enough to satisfy all the requirements can succeed in their future pursuits. A wider range of abilities, knowledge, attitudes, behaviors, and techniques than those now taken into consideration for admission appears to be more important for real success in college (Orlanda-Ventayen, 2020).

3.2 Performance of Graduates in Licensure Examinations

The succeeding tables present and discuss how graduates fared on their individual licensing exams. Each professional board designated by the PRC for the various licensure examinations has its own resolution defining the topics to be studied and the importance of each topic for each program. Because of this, some licensing exams only have two areas while others have six. As a result, some examinees have their licensing exams in one day while others have their examinations over the course of three days.

3.2.1 Licensure Examination for Agriculturists (LEA)

The results of graduates in the LEA for obtaining licenses are shown in Table 3. Based on the LEA requirements outlined in PRC Resolution No. 2000-663 series of 2000, it is determined by the graduates' average scores in their several fields of expertise.

Table 3: Performance of agriculture graduates in licensure examination

Specialization	Frequency		Mean	Remarks
	Passed	Failed		
Crop Science	40	35	70.69	Failed
Soil Science	45	30	72.78	Failed
Crop Protection	36	39	69.07	Failed
Animal Science	31	43	68.02	Failed
Economics	36	39	70.14	Failed
Extension	43	32	70.61	Failed
General Average	36	39	**70.21**	**Failed**

The frequency distribution in the table suggests that more graduates failed the license exam than succeeded. As a result, where these courses have the highest means, there are more students who passed Soil Science, Crop Science, and Economics courses.

This suggests that graduates of agricultural programs do poorly on licensing exams, typically scoring below the passing mark. The graduates themselves attest to the exam's severity. They include six categories in their exam, but they only concentrate on one area and typically have two or three subjects in each of the topics. Teachers and graduates agree that the most challenging topic in the LEA is crop protection. The extremely low scores for license performance indicate that there is much that may be improved in relation to the six areas to improve graduates' licensure performance.

The result of this research reinforces the results of Dagdag, Sarmiento, & Ibale (2017) who found that graduates scored well on the licensure exam for soil science and crop science but not for animal science. In contrast, Nicolas, De Guzman, Tejada, & Capalad (2020) found that agriculture examinees fared poorly in soil science and agricultural economics and marketing and performed best in crop protection and animal science. Nevertheless, all tests showed that the takers' average LEA rating fell below the cutoff.

The College Dean expressed during a personal conversation that the unit is working to solve the problem within the institution by adopting several steps. He noted that to assist the graduates in preparation for the licensing exams, they have added course audits and internal review sessions. To better prepare its graduates for the exam, they also added new subjects to the several areas covered in the licensure examination. To upgrade the books and materials used by the faculty teaching the professional and major courses, they even requested teaching aids, workbooks, and textbooks from the University of the Philippines in Los Banos. Fortunately, the percentage of IFSU takers who passed improved beginning in 2016.

3.2.2 Licensure Examination for Criminologists (LEC)

Table 4 shows the licensure performance of graduates in the Criminology Licensure Examination. It is based on the average scores obtained by the graduates in the different subjects required in the LEC specified in PRC Board Resolution No. 3 series of 1987.

Table 4: Performance of criminology graduates in licensure examination

Subjects	Frequency		Mean	Remarks
	Passed	Failed		
Criminal Jurisprudence, Procedure, and Evidence	196	24	79.43	Passed
Law Enforcement Administration	214	6	81.75	Passed
Criminalistics	198	22	78.97	Passed
Crime Detection and Investigation	211	9	82.39	Passed
Sociology of Crimes and Ethics	210	10	82.01	Passed
Correctional Administration	202	18	79.61	Passed
General Average	207	13	**80.70**	**Passed**

The frequency analysis shows that most graduates passed in the various LEC topic areas. The graduates of criminology programs frequently rank among the best-performing schools in the nation, and their performance on the licensure examination was reinforced by their high licensure scores. The quality of Education affects graduates' ability to obtain a license. Course audit and internal review have both been incorporated into the program's curriculum to better prepare graduates for their licensing exams (Quiambao, Baking, Buenviaje, Nuqui, & Cruz, 2015).

The criminology graduates passed the criminologist licensing examination. Despite getting an average rating of 80%, their licensure achievement is great. The license examination is crucial in determining a school's performance in terms of the quality of education it provides. This examination is required to practice a practical profession. It is a precondition for becoming a recognized expert in one's field (Binayao and Dales, 2020). Actual results are the best predictor of licensure performance, and knowledge, skills, and competencies are the outputs of a quality-assured HEI (Noderama, 2020).

3.2.3 Licensure Examination for Foresters (LEF)

The table that follows presents the licensure performance of graduates in the Forestry Licensure Examination. It is based on the average scores obtained by the graduates in the different subjects required in the LEF as mentioned in PRC Resolution No. 1 s. 2008.

Table 5: Performance of forestry graduates in licensure examination

Subjects	Frequency		Mean	Remarks
	Passed	Failed		
Forest Ecosystem	14	4	76.46	Passed
Forest Policy and Governance	13	5	74.88	Failed
Forest Engineering and Utilization	13	5	73.92	Failed
Forest Resources Management	17	1	77.64	Passed
General Average	**14**	**4**	**76.46**	**Passed**

The distribution shows that most graduates passed in the various LEF subject areas. They did, however, have the most graduates who failed in the subject, Forest Policy and Governance and Forest Engineering and Utilization, each with five graduates who received a failing grade in those courses.

Applicants who can study rigorously enough to fulfill all the study criteria may be successful in their future endeavors. They underlined the importance of admission test scores in the success of graduates. Because they were more concentrated on their studies during their college years and during their review, even though their entrance exam score was lower than that of agricultural graduates, they performed better when applying for licenses (Ibarrientos, 2022; Montemayor, Roxas, & Panayon, 2009).

3.2.4 Licensure Examination for Teachers (LET- Elementary)

Table 6 presents the licensure performance of graduates in education at the elementary level. Their rating in the different areas required in the LET is presented and discussed.

Table 6: Performance of teacher education-elementary graduates in licensure examination

Components	Frequency		Mean	Remarks
	Passed	Failed		
General Education	150	35	76.97	Passed
Professional Education	162	23	77.89	Passed
General Average	156	29	**77.53**	**Passed**

Results show that most teacher education elementary graduates passed the licensure examination for teachers. To achieve the advancement of human resources, the workplace must be equipped, and universities must provide excellent training and educational opportunities to produce excellent graduates (Somosot, Duran, & Rodriguez, 2022). The success of graduates in licensure examinations determines the degree of instruction imparted by institutions (Nool and Ladia, 2017; Antiojo, 2017; Gatan, Sumande, & Bactasa, 2019).

3.2.5 Licensure Examination for Teachers (LET-Secondary)

Table 7 shows the licensure performance of teacher education-secondary graduates in the licensure examination for teachers (LET). It is based on the average scores obtained by the graduates in the different components taken by graduates in the LET.

Table 7: Performance of teacher education-secondary graduates in licensure examination

Components	Frequency		Mean	Remarks
	Passed	Failed		
General Education	139	17	80.90	Passed
Professional Education	146	10	79.53	Passed
Major	137	19	78.82	Passed
General Average	144	12	**79.56**	**Passed**

Data revealed that secondary teacher education graduates passed the LET. The above table indicates that generally, most of the secondary teacher education graduates are passers of the LET.

The university's retention strategy, which requires education students to maintain a retention grade of 85 or better and admits enrollees with an HSGPA of 85%, may be responsible for the student's strong performance on the licensing exams. The academic and admittance ratings of education-secondary graduates have constantly been very high; thus, their licensure has also performed well. The study's conclusion that there was a strong correlation between a student's academic achievement and their likelihood of passing the Teachers Licensure Examination is supported by the findings of Fuente, (2021). The likelihood that a student will pass the board exam increases with their performance in the major subjects.

This was further reinforced by Fulgado (2020), who noted a substantial correlation between respondents' academic success in general education, professional education, and main courses, and LET performance. On the other hand, a conflicting finding from Garcia (2020) shows that passing the license exam is not guaranteed (not determined) by an examinee's academic performance. Basilio (2010) disclosed that the IFSU education graduates' average was below the passing mark. Several authors such as Soriano (2009), Visco (2015) Asunsion (2019), and Camuyong, Adlawan, Reyes, Magtalas, & Decena (2022) explained that the performance of their education graduates fell short of the minimum standard. Their investigations stressed how crucial it is to adhere to admissions and retention policies to the letter. Gatan, Sumande, & Bactasa, (2019) also emphasized the significance of upholding the admission and retention policy for board programs.

3.3 Predictors of Licensure Performance using Admission Criteria

3.3.1 Licensure Examination for Agriculturists (LEA)

Table 8 shows the summary of the multiple regression analysis made on the agriculture licensure performance of graduates using admission variables. It presents the model generated and the significant predictors of licensure performance utilizing admission variables.

Table 8: Regression parameters on LEA performance using admission variables as predictors

Variables	Unstandardized Coefficients		Standardized Coefficients Beta	t-value	p-value
	B	S.E			
Constant	-36.322	19.364			
HSGPA	1.129	0.243	0.416	4.651	<0.001
Entrance Result	0.426	0.103	0.372	4.152	<0.001

Dependent Variable: LEA Performance
R^2 = 0.642, Adjusted R^2 = 0.398, F-value = 28.803, p-value = <0.001
Standard Error of Predictive Value = 1.184

Table 8 shows that the adjusted R2 or coefficient of multiple determination is 39.8% when all admission variables are employed. This shows that the HSGPA and entrance examination account for 39.8% of the variability in the licensure performance of agriculture graduates. Other factors account for the remaining 61.2% of the data. This suggests that the admission variables account for more than one-third of licensure performance. The following predictive model will be used to forecast licensure achievement based on admission scores and HSGPA:

LEA Performance = -36.322 + 1.129 HSGPA+0.426 Entrance Exam Results

The model derived has a standard error of 1.184 indicating that the predicted values are near the actual value. Figure 1 presents the predicted vs actual value of LEA performance of graduates.

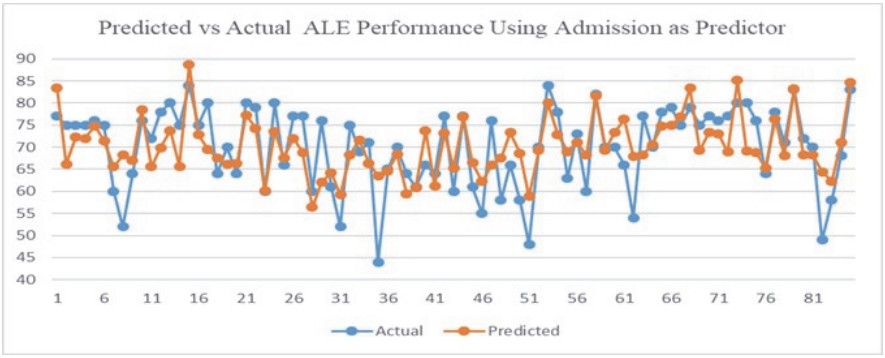

Figure 1: Predicted and actual LEA performance using admission criteria

The model well captures the trend of the real value of LEA performance as seen in Figure 1. However, the difference between the anticipated and actual values shows that the model overestimates the real value. But because the standard error is so small, the model nevertheless fits the data well.

The study's findings are very beneficial for accepting agriculture students for higher performance on licensing exams. There is a need to think about criteria for admitting agriculture students using the HSGPA and entrance examination results since it has been demonstrated that they both contribute around 40% to the licensure performance.

The Licensure Examination for Agriculturists is one method for professionalizing the agricultural industry. The easiest way to assess the success of State Universities and Colleges (SUCs) that offer agriculture courses is to look at their LEA passing percentage (Minoza, 2016). Several studies have discussed various factors that affect licensure examination performance, including Pascua and Navalta (2011) who found that licensure performance is accounted for by the high school GPA. A high school GPA is the best predictor of academic success in postsecondary education (Nicolas, De Guzman, Tejada, and Capalad, 2020). Furthermore, Nool and Ladia (2017) asserted that, after controlling for all other variables, the high school GPA is related to college sociology students'

success. Additionally, it was discovered by Quiambao, Baking, Buenviaje, Nuqui, and Cruz (2015) that SAT scores and high school GPA both contribute to the explanation of GPA.

3.3.2 Licensure Examination for Criminologists (LEC)

Table 9 presents the model summary of the multiple regression analysis done on the criminology licensure performance of graduates using admission variables. It presents the models derived and the significant predictors of licensure performance utilizing admission variables.

Table 9: Regression parameters on LEC performance using admission variables as predictors

Variables	Unstandardized Coefficients		Standardized Coefficients Beta	t-value	p-value
	B	S.E			
Constant	46.966	6.687			
HSGPA	0.349	0.082	0.247	4.247	<0.001
Entrance Result	0.145	0.049	0.171	2.932	0.004

Dependent Variable: LEC Performance
R^2 = 0.330, Adjusted R^2 = 0.103, F-value = 16.946, p-value = <0.001
Standard Error of Predictive Value = 0.425

The adjusted R2 or multiple determination coefficient is 10.3% when all admission factors are considered. These explain the variation in license examination scores that can be explained by admission scores and HSGPA. The stepwise selection suggests using both admission variables since they produce a higher adjusted R2 value. The F-test shows how well the independent variables fit the forecasting model. The following is the prediction model used to forecast criminology licensing performance based on admission score and HSGPA:

LEC Performance = 46.966 + 0.349 HSGPA+0.145 Entrance Exam Results

According to the model, while holding the entrance score constant, a 1% improvement in college HSGPA resulted in a 0.349 increase in LEC performance. On the other hand, a 1-point improvement on the entrance exam will result in a 0.145-point improvement in LEC performance. The high school grade contributes more to LEC performance than the admission result, although both predictors suggest that they have a beneficial impact on the licensure performance of criminology graduates. The standardized coefficient of 0.247 assigned to HSGPA and 0.171 assigned to entrance result show this.

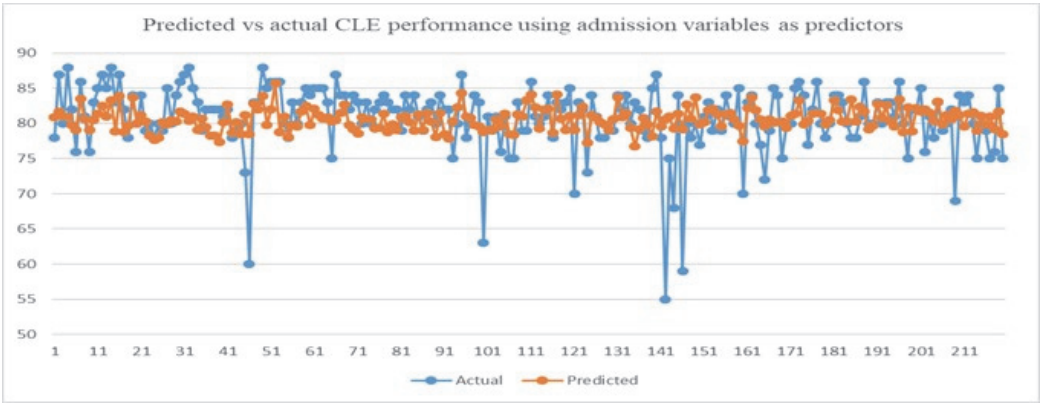

Figure 2: Predicted and actual LEC performance using admission criteria

The model's standard error of 0.425 shows that the predicted values are reasonably close to the actual value. The projected vs. actual value of graduates' performance is shown in Figure 2. It demonstrates that the predicted model successfully caught the trend of the real performance. However, the difference between the anticipated and actual values shows that the model overestimates the real value. The model is still a decent fit, despite the little standard error.

Even though the admission predictors only account for about 10.3% of licensure performance, they are nonetheless reliable foundations for admitting students to the program since they have a favorable impact on graduates' licensure success. On the other hand, it also suggests that factors other than admission characteristics are responsible for the performance on the licensing examination. Thus, it is crucial to take into consideration additional variables that affect graduates' licensure performance, especially in criminology where admission variables only account for a small portion of the variation in licensure performance (Albina, Balasabas, Laquinon, Pampilo, & Caballero, 2022).

The study's findings are consistent with those of Visco (2015), who found that 93% of the variance in licensure performance is explained by other factors and just 7% of the variance in graduate admittance variables. The grade point average (GPA) in high school accounts for 40% of the variability in academic accomplishment in physical therapy. Espartero (2022) also provided insight into additional elements that might affect criminology license achievement. Further, teaching efficacy accounts for the overall difference in the performance on the Criminology Board Examination (Barrera, Cagang, & Capistrano, 2013).

3.3.3 Licensure Examination for Foresters (LEF)

Table 10 presents the model summary of the multiple regression analysis done on forestry licensure performance of graduates using admission variables. It presents the models generated and the significant predictors of licensure performance utilizing admission variables.

Table 10: Regression parameters on LEF performance using admission variables as predictors

Variables	Unstandardized Coefficients		Standardized Coefficients Beta	t-value	p-value
	B	S.E			
Constant	2.020	29.498			
HSGPA	0.900	0.359	0.464	2.510	0.020

Dependent Variable: LEF Performance
R^2=0.464 , Adjusted R^2=0.181, F-value=6.301, p-value=0.020
Standard Error of Predictive Value=1.690

The table shows a reliable backward stepwise selection predictor of forestry license performance. Only the HSGPA significantly predicts licensure success based on the results of multiple regression analysis, with an adjusted R2 of 18.1% and a coefficient of multiple determination of 18.1%. This indicates that HSGPA accounts for 18.1% of the variation in the licensure performance of forestry graduates. Other factors account for the remaining 81.9% of the data. It also suggests that HSGPA has multiple coefficients of determination higher than employing two variables when employed as a predictor.

To predict licensure performance in forestry using admission variables, the predictive model is as follows:

LEF Performance = 2.020 + 0.900 HSGPA

A 1% improvement in college HSGPA was associated with a 0.900 increase in FLE performance, according to the model that used HSGPA as a predictor. Even though these predictors only provide relatively limited information (18.1%) about licensure performance, the coefficient indicates a positive impact on the licensure performance of graduates in forestry.

The finding supports Albite's (2019) research, which showed that high school GPA is a more accurate predictor of students' academic performance than the other variables included in the study. According to the study's descriptive findings, forestry graduates had the lowest HSGPAs and admission test scores, and the predictive models support this finding that these two factors have a minimal impact on license performance. As a result, it supports what Gabasa and Raqueno (2021) have stressed that the success of graduates is influenced by their admission test scores. However, they also thought that students who can study rigorously enough to complete all the prerequisites might succeed in their future endeavors.

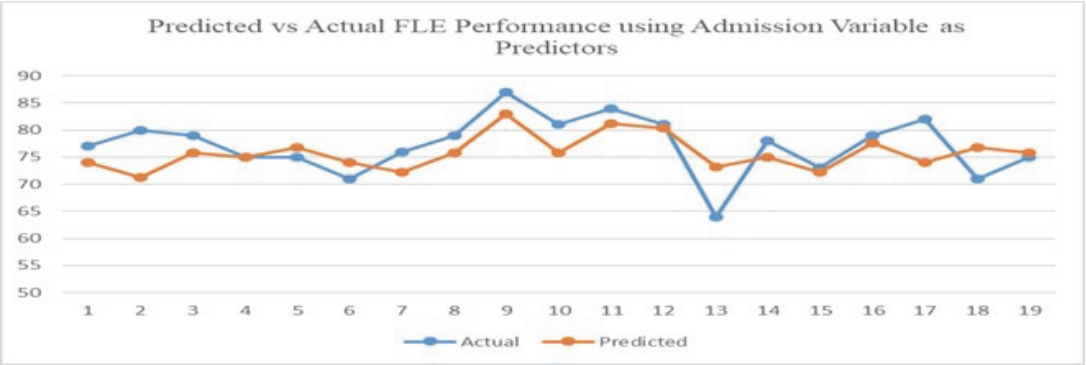

Figure 3: Predicted and actual LEF performance using admission criteria

The predictive model's capture of the actual value of LEF performance is shown in Figure 3 as a trend. The fact that the predicted value is lower than the actual value, however, shows that the model significantly overestimates the performance required for licensure. The model is still a decent fit, despite the little standard error. The model must then be used to develop an entrance standard because the admission variable accounts for about 18% of licensure performance.

The study's results agree with those of Visco (2015), who found that only 7% of the difference in licensing exam scores may be attributed to graduate admission criteria. As a result, factors other than admission characteristics are responsible for licensing examination performance. Therefore, it is crucial to consider additional characteristics that affect graduates' licensure performance, especially in forestry, where admission variables tend to undervalue licensure performance.

3.3.4 Licensure Examination for Teachers (Elementary)

The table that follows presents the model summary of the multiple regression analysis done on the licensure performance of graduates in education-elementary using admission variables. It presents the models derived and the significant predictors of licensure performance utilizing admission variables.

Table 11: Regression parameters on LET-Elementary performance using admission variables as predictors

Variables	Unstandardized Coefficients		Standardized Coefficients Beta	t-value	p-value
	B	S.E			
Constant	30.994	10.683			
HSGPA	0.462	0.130	0.242	3.568	<0.001
Entrance Result	0.225	0.047	0.325	4.784	<0.001

Dependent Variable: LET-Elem Performance

R^2 = 0.465, Adjusted R^2 = 0.208, F-value = 26.395, p-value = <0.001; Standard Error of Predictive Value = 0.553

Results showed that the adjusted R2 or coefficient of multiple determination when using all admission criteria is 20.8%. This shows that the graduates' HSGPA and entrance exam results account for 20.8% of their licensure performance in elementary education. Other factors account for the remaining 79.2% of the data.

The results don't match up half with those of Jay-cen (2020), who found that the GPA in high school accounted for 40% of the variation in academic accomplishment in physical therapy. Additionally, it backs with the conclusions reached by Pascua and Navalta (2011) and Dagdag (2018) that performance on college entrance exams is the best indicator of success in getting a license. Additionally, the results are in line with Somosot, Duran, & Rodriguez's (2022) findings, who claimed that the "best" predictors of academic performance were college admission exam scores and high school grade point averages.

In predicting licensure performance of education-elementary graduates using HSGPA and entrance results as predictors, the predictive models will be:

LET Performance (Elementary) = 30.994 + 0.462 HSGPA+0.225 Entrance Exam Results

According to the model, when the entrance result is held constant, a 1% improvement in college HSGPA results in a 0.462 rise in LET-Elem performance. On the other side, a 1-point improvement in the entry score will result in a 0.225-point improvement in the LET-Elem performance while the HSGPA is constant. Both indicators suggest a beneficial impact on the license performance of education-elementary graduates, with entrance results contributing more to LET-Elem success than high school grade. The standardized coefficient of 0.325 assigned to the entry result and 0.242 assigned to the HSGPA shows this.

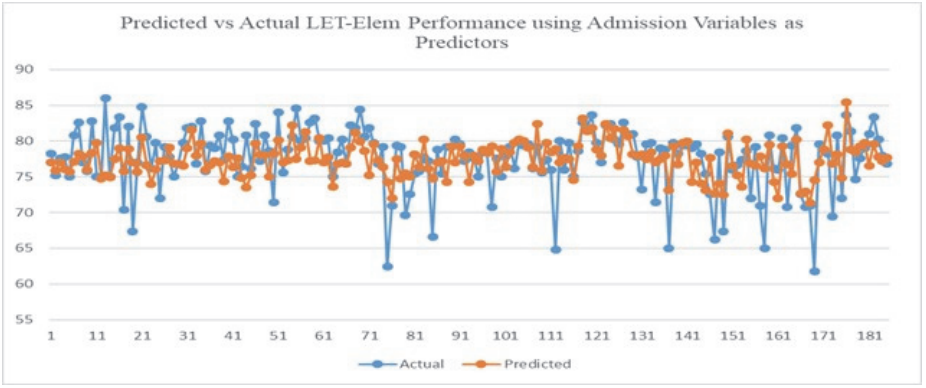

Figure 4: Predicted and actual LET-Elementary performance using admission criteria

The trend of the actual value of LET-Elem performance as predicted by the predictive model is shown in Figure 4. The fact that the anticipated value is lower than the actual value shows that the model significantly overestimates the performance required for licensure. The model is still a decent fit, despite the little standard error. As a result, it is crucial to use the model to develop an admission standard because the admission variable accounts for 20% of education-elementary graduates' licensure performance.

The study's results showed a higher coefficient of determination than Visco (2015), who had a coefficient of determination of only 7%. Fuente (2021) concluded that the admission test score had a very low coefficient of determination for predicting academic achievement in the fields of political science and psychology, with only 3.9% and 9.1%, respectively. However, high school GPA and admission scores have a significant impact on academic and licensure examinations (Ibarrientos, 2022). The professional education and overall evaluation of graduates are two areas where the admissions variables significantly contribute (Botengan, Bansiong, & Kudan, 2018; Cahapay, 2021).

3.3.5 Licensure Examination for Teachers (Secondary)

The table that follows presents the model summary of the multiple regression analysis done on the licensure performance of graduates in education-secondary using admission variables. It presents the models generated and the significant predictors of licensure performance utilizing admission variables.

Table 12: Regression parameters on LET-Secondary Performance using admission variables as predictors

Variables	Unstandardized Coefficients		Standardized Coefficients Beta	t-value	p-value
	B	S.E			
Constant	51.642	10.682			
HSGPA	0.241	0.126	0.146	1.910	0.058
Entrance Result	0.199	0.041	0.373	4.868	<0.001

Dependent Variable: LET-Secondary Performance;
R^2 = 0.444, Adjusted R^2 = 0.186, F-value = 18.873, p-value = <0.001; Standard Error of Predictive Value = 0.500

The table demonstrates that the adjusted R2 or coefficient of multiple determination is 18.6% when all admission variables are considered. This indicates that the HSGPA and entrance exam results account for 18.6% of the variation in the licensure performance of education-secondary graduates. Other factors account for the remaining 81.4% of the data. These are the variances in the license examination that these predictors may account for.

The model's adjusted R2 of 18.6% is significantly lower than the findings of Tonogbanua's study (2005). Her findings showed that the admission variables she included in her model may account for 50.40% of the variation in performance. She employed factors for admission such as high school GPA, results from the mental ability test, and results from the Cooperative English Test.

In predicting licensure performance of education-secondary graduates using HSGPA and entrance results as predictors, the predictive model is as follows:

LET Performance (Secondary) = 51.642 + 0.241 HSGPA+0.199 Entrance Exam Results

The model demonstrates that, when entry result is held constant, a 1% rise in college HSGPA resulted in a 0.241 increase in the LET-Secondary performance. On the other hand, a 1-point improvement in the entry score will result in a 0.199-point increase in the LET-Elem performance while the HSGPA is constant. Both indicators point to a beneficial impact on graduates of education-related postsecondary institutions' ability to obtain licenses, with admission scores having a greater impact than high school grades on LET-Secondary performance. This is evident from the standardized coefficients of 0.146 for the HSGPA and 0.373 for the admission result.

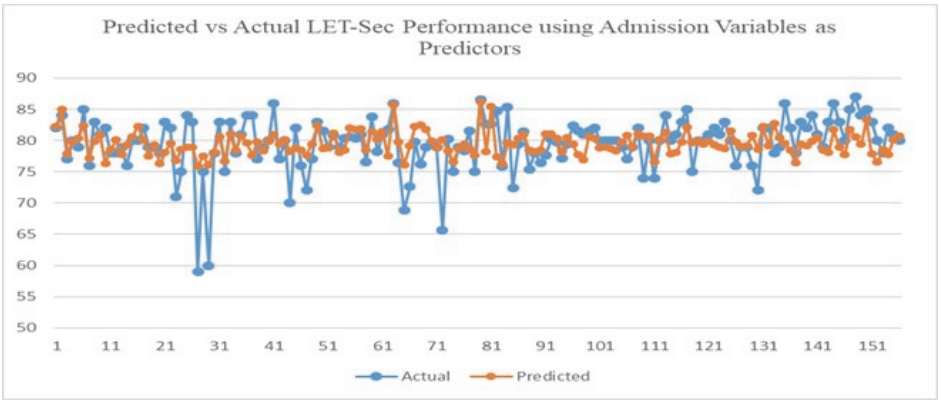

Figure 5: Predicted and actual LET-Secondary performance using admission criteria

The trend of the actual value of the LET-Secondary performance as captured by the predictive model is depicted in Figure 5. The fact that the anticipated value is lower than the actual number shows that the model overestimates the performance of the licensing process. The model is nevertheless a decent fit because the standard error is low. Since entrance variables account for about 18% of education-secondary graduates' performance on the licensing exam, it is crucial to apply the model to develop an admission standard.

The results showed that entrance exam scores are a greater predictor than graduates' high school GPAs. Admission exam results can be related to graduates' success in obtaining a license, (Fuente, 2021; Dagdag, 2018). Student entrance results contributed the most out of all the factors considered to predict board examination achievements, such as teacher factor, school facilities, student academic GPA, and student admission results (Quiambao, Baking, Buenviaje, Nuqui, & Cruz, 2015). As a result, to track and manage the passing percentage, the university must offer an entrance exam with a solid track record of predictive validity.

Further studies concluded that admission and retention policies, curriculum and teaching, and faculty competence are substantially connected with the performance of the teacher education program on the licensure examination complementing the findings of the study (Amanonce and Maramag, 2020). As a result, it is important to investigate the university's admissions practices because a higher HSGPA and entrance score correlates with better licensure achievement (Albite, 2019).

4. Conclusions

While graduates of teacher education did remarkably well in their high school curriculum, graduates in forestry, agriculture, and criminology all performed satisfactorily in their high school education. Further, graduates in agriculture, criminology, and elementary teacher education all obtained below-average marks on the entrance exams, while graduates in secondary teacher education received an average score. Graduates in forestry did poorly on their admission tests.

A significant proportion of criminology graduates passed the LEC, most forestry graduates passed the LEF, and a large percentage of teacher education graduates passed the LET. However, more agriculture graduates failed the LEA.

While the performance of forestry graduates in their licensing exam is best explained by their performance in their secondary education curriculum, the performance of graduates in the fields of agriculture, criminology, and teacher education in their respective licensure examinations can best be predicted by their high school grade point average and admission test scores.

Based on the above conclusions, the following recommendations are offered to the different stakeholders of the university to further improve the performance of graduates in licensure examinations, such as a) the crafting of standards for admission and retention of students in agriculture, criminology, forestry, teacher education, and other board programs; b) the conduct of a periodic study on the performance of graduates in order to continually measure effectiveness in preparing for and ensuring the success of the licensure examination; and, c) the review and enhancement of program offerings to include some necessary courses needed by students that are in the licensure examination.

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