PREDICTIVE VALIDITY OF BUCET TO THE LICENSURE EXAMINATION FOR TEACHERS
Batches 2007 to 2010

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ABSTRACT

Inherent in the Bicol University Admissions Policy is the formulation of an effective and efficient system of admission for entrants via a selective admission procedure. To carry out this mandate the Bicol University Entrance Test (BUCET) has been instituted to assess applicants' potential to perform in college. This research aimed to provide a strong empirical data on the validity of the BUCET as an assessment tool which involved the entrants of the BU College of Education for SY 2002-2003 to SY 2006-2007. The predictive study made use of the descriptive method to describe the entrants' BUCET results, BUCE academic performance and LET performance of the graduates. The Slovin's formula was used in identifying the sample of the study which involved 508 and 545 respondents for the BSED and BEED courses, respectively. To establish the correlation between the BUCET scores and the college GPA as well as the LET performance, the Pearson Product Moment Method was employed; while the stepwise multiple regression determined the predictive validity of the BUCET to the graduates' Licensure Examination for Teachers. Findings of the study, revealed that: 1) The entrants were mostly females, from national high school, of average income who opted to pursue teaching as a career.; 2) The BSED entrants as compared to the BEED performed better in the BUCET and High school academic performance.; 3) The BSED and BEED entrants performed better during their senior year in college.; 4) The BSED graduates' mean LET performance were better than the BEED.; 5) The BUCET CBR had a strong correlation with BEED and BSED college general weighted average and across all LET test areas.; 6) Four out of the 5 BUCET component areas are valid predictors of LET general average; and 7) The BUCET composite rating is a strong predictor of BEED and BSED LET general average. Recommendations put forth, emphasized the refinement of the BUCET by experts and jurors, enhancement activities on college survival among freshmen and maintaining the stringent admission policy in BUCE to further increase the graduates' passing LET percentage.

Keywords
Predictive Validity, Correlation, Entrance Test, Admission Policy

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Introduction

The Bicol University College Entrance Test (BUCET) is the primary tool used in selecting applicants in the different tertiary courses in Bicol University. The BUCET is a three (3) hours examination consisting of subtests in Non-Verbal Reasoning, Language Proficiency in English and Filipino, Mathematics, Science and Reading Comprehension. The BUCET has undergone standardization of procedures and local norms have been established to reflect the regional population it caters. However, the subject areas it covers have been retained since it was first used as an admission tool in Bicol University which dates back during the declaration of Bicol University as a state university by virtue of RA 5521 in 1969. How effective is the BUCET as an assessment tool in determining students' potential to carry out college work in BUCE degree programs? What particular test area of the BUCET possesses a reliable predictive efficiency? Can the performance of BUCET entrants in the College of Education, determine their performance in their college academic work and similarly, their performance in the Licensure Examination for Teachers?

The aforecited questions all point out in addressing the basic issue on the validity of the BUCET as an admission tool in Bicol University. A test's predictive validity measures an examinee's performance in a criterion's measure which in the case of the present research pertains to the performance of graduates in the Licensure Examination for Teachers. Indeed, a test with a good predictive efficiency, provide a critical measure of its content validity which can be reflected in its accuracy in predicting how well are the subtests and items extrapolate similar

performance in another setting such as college performance in the Bicol University College of Education and the Licensure Examination for Teachers. Relevant findings on the predictive efficiency of the BUCET can be used as springboard of recommendations to align test items and areas so it can emphasize needed skills for success in college. (Lawrence et. al. Rigol, 2003).

A predictive validity study on the BUCET was conducted by Melecio in 2000 which revealed noteworthy findings as follows:

" ....Student posted low performance in the BUCET components rating but performed on the average during their first year level in Bicol University. The Language and Mathematics test areas of the BUCET are good predictors of academic performance while the non-verbal and science test areas did not predict consistently students' academic performance in college."

To date these findings of Melecio have not been effected in the revised editions of the BUCET for reasons that the sample taken may not have been enough to prove the predictive validity of the test as it only involved the entrants across colleges for SY 1998-1999. It is therefore the aim of the current study to conduct a similar study of Melecio's research, but this time it was narrowed down to the BUCE but on an extensive five year period covering BUCE entrants for SY 2002 - 2003 to 2006-2007, and/or its graduate for Batches 2006, 2007, 2008, 2009 and 2010. Students' performance during their four years stay in Bicol University College of Education were determined to establish significant associations between the BUCET scores and college academic performance as well as LET performance. Moreover, it determined the predictive validity of the Bicol University College Entrance Tests to their LET performance.

CONCEPTUAL FRAMEWORK

The effectiveness of an educational activity when it comes to assessment lies in its ability to predict future behavior. Specifically, when used in the context of college admission testing, it becomes a valuable practice to look into the varied test dimensions or areas of the entrance test used that could be later correlated to their future college performance and eventually to the results of the professional licensure examinations.

This research was an attempt tocorrelate the BUCET areas, namely: Language proficiency in English and Filipino, Mathematics, Science, Non-verbal Reasoning, Reading Comprehension, High school grade point average and the over-all BUCET rating to BU College of Education teacher-trainees' performance in college across the four year levels. The BUCET is a standardized examination crafted by a Committee of item writers in Bicol University who are considered specialists in their areas of specialization.

The Bicol University College of Education teacher-trainees included the Bachelor in Elementary Education and Bachelor in Secondary Education with majors in Mathematics, English, Filipino, Physical Science, Biological Science, MAPEH, TLE, and Social Studies. Moreover, it attempted to track and analyse the graduates' performance in the Licensure Examination for Teachers in the areas of General Education, Professional Education and Major subjects (BSED group). The path diagram in Figure 1, as depicted by the arrows revealed the associations that have been established between the BUCET test areas and the college academic performance. Moreover it determined the predictive validity of the Bicol University College Entrance Tests for the entrants during the SY 2002-2003 to SY 2006-2007 (who later graduated as Batches 2006 to 2010) to their LET performance. Using the step-wise multiple regression and enter regression, the predictive efficiency of the BUCET test areas and composite BUCET rating (predictor variables) were established with the criterion-variable – the LET performance.

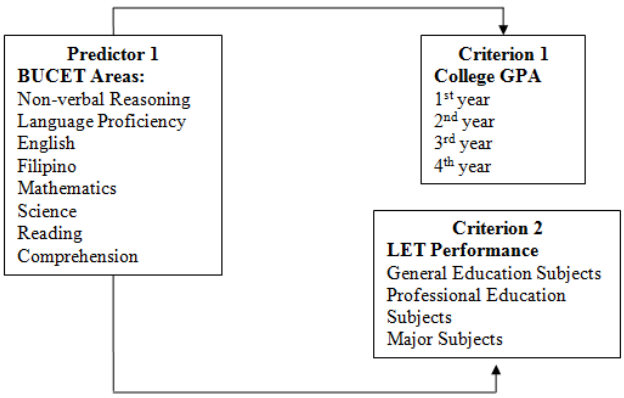


Figure1.The Conceptual Paradigm

MATERIALS AND METHODS

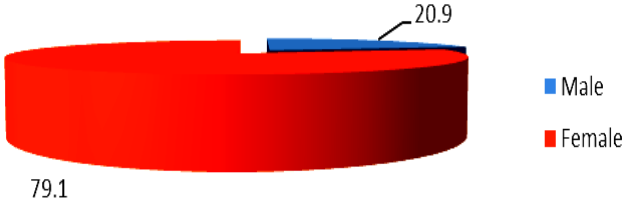
The study made use of the descriptive method to describe the entrants' BUCET scores, college academic performance in BUCE and in their Licensure Examination for Teachers. The samples of the study were determined using the Slovin's formula. It employed the frequency and percentage to provide data on the socio-demographic characteristics of the respondents. The data on the entrants' performance in the BUCET, college academic performance and Licensure Examination for Teachers employed the mean and standard deviation. To establish the relationship between the BUCET entrants' performance in the varied test areas, their college academic performance and their LET ratings, the Pearson Product Moment Method was utilized. The predictive efficiency of the BUCET to the LET performance of the entrants who graduated in 2006 – 2010 was determined using multiple regressions and enter regression.

RESULTS AND DISCUSSION

The results and discussion pertinent to the findings revealed in this study are discussed hereunder.

Demographic profile of BUCE Entrants

The demographic profile of the BUCE entrants during the SY 2002-2003 to SY 2006-2007 who later graduated as Batches 2006-2010 included their sex, high school of origin, socio-economic status and course preference. The data is presented hereunder:



1. Sex

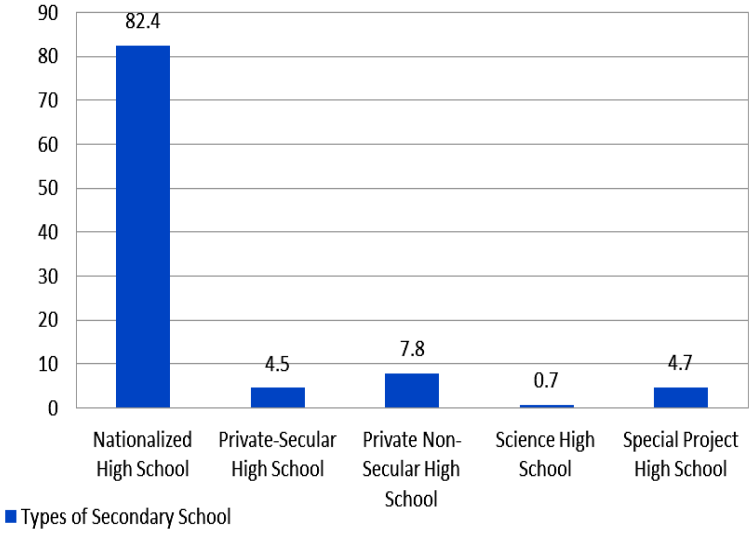
BEED = 545
BSED = 508
Total n = 1,053

Figure 2. Sex of BUCE Examinees

The data presented in Figure 2 revealed that there were more female BUCE entrants than males. This implies that the BU College of Education is a female dominated college which could be due to the perception that teaching is for the female gender. This is likewise observable among the applicants in the Bicol University Admissions Office, where male college applicants mostly prefer courses such as engineering, business and technology rather than the teaching profession. This must have accounted why there are less male enrolled in the BEED and BSED courses. This finding is in contrast to a research conducted by Kobrin, et. al. (2008) on The Validity of SAT for Predicting First-Year college grade point average, where in the sample of college-bound seniors' cohort, which is made up of 151,316 students, 54 percent of whom were females and 46 percent were males. Kobrin's study further revealed that college bound students do not significantly differ in their number of enrollment, relative to sex. The greater number of female applicants in education course is likewise revealed in another survey conducted by Ratcliffe (2013), as featured in the "The Guardian" which showed that female students outnumber the boys on the majority of course, but those mostly dominated by women include veterinary science and subjects allied to medicine and education. Men outnumber women on computer science and engineering and technology.

2. High School of Origin

The BU College Entrance Test is open to all graduating high school students throughout the Bicol region and the neighboring provinces. It is the goal of state universities and colleges in the Philippines to provide access to tertiary education provided they pass the criteria for admission. The selective admission policy is further explained by the fact that SUC'S has limited resources in terms of teacher complement and physical facilities. The data presented in Figure 3 revealed that majority of the BUCE entrants/examinees graduated from Nationalized High Schools comprising 868 or 82.4 percent, and only 7.8 per cent from private non-secular high school. Less than 5 % or 4.7 and 4.5 per cent came from special project and private-secular schools, respectively; while below 5 percent came from private non-secular high school. Very few graduated from Science high schools which accounted to 0.7 percent only.



Total n = 1,053

Figure 3. School of Origin of BUCE Examinees

It can be discerned from the data that more graduates from nationalized high school decided to pursue a course in teaching in a state university for the major reason that it will not entail much expenses from their families, as compared to graduates from private high schools who opted to enroll in private colleges or universities since they can afford its expensive tuition and miscellaneous fees. Moreover, very few graduates from science high school enroll in BUCE since they are moulded to pursue science and technology courses which is in consonance with their training and exposures.

Since more students in the nationalized high schools are admitted to Bicol University, it is indicative that the secondary public schools in the Philippines specifically in Region V has prepared their secondary school graduates for higher learning which will redound to the improvement and efficiency of BUCE in educating them. According to the ADB Report (2012) countries prosper when students are adequately prepared for a higher education both in expectations and in abilities. If not, it will result to: university teachers tendency to "dumb down" courses, student's dropout rates fall, extension rates rise, and students who manage to graduate are less prepared to enter the labour market and to contribute productively.

3. Socio-economic Status of BUCE Entrants

The data presented in Table 1 reveals that most of the BUCE entrants, either from BEED or BSED course belong to the lower socio-economic status, with less than 15,000.00 monthly family income. The data implies that majority of the BEED and BSED graduates came from low income families and this condition served as a great motivator for the students to strive hard to attain their dreamed success – that of becoming a professional teacher. In a research article by Garg (2011), he found a significant relationship between socio-economic status with performance of teacher-trainees in their skills in teaching exam ($r = .189$, $p < .01$) and their over-all performance ($r = .162$, $p < .05$) and that the higher the socio-economic status; the greater are the marks in skills in teaching.

Table 1. Socio-Economic Status of BUCE Graduates

Monthly Family Income	Frequency	Percent
< 15,000.00	490	74.50
15,000.00-20,000.00	122	18.57
20,001.00- 25,000.00	30	4.57
25,001.00- 30,000.00	8	1.22
30,001.00- 35,000.00	6	.91
>35,001.00	1	.15
Total	**657**	**100**

Evidently, the BUCE teacher-trainees generally came from poor families, but this did not hamper them in coping with the rigors of college life. Thus, they achieved a diploma after their four years stay in the BU College of Education.

4. Course Choice of BUCE Entrants

The data presented in Table 2 reveals that many BEED examinees/ entrants preferred Elementary Education as their first choice; while choosing other courses as their second choice. On the other hand, the BSED entrants preferred other courses as their first and second choices. The data indicated that the BEED students posted a higher percentage preference for Elementary Education as their first choice while the BSED entrants originally chose other courses for their first and second course choices. But, since they were not accommodated in their preferred course/s, they decided to enroll in the BU College of Education.

The BEED entrants who pursued their original course choice have been influenced by intrinsic reasons to choose teaching as a career. In the study on the recruitment and retention into ITE programs commissioned by the Department of Education and Skills in Britain which were conducted by Edmonds, Sharp and Benefield (2002) as cited by Lovett (2006), they noted that the intrinsic reasons that dominated in the choice of teaching as a career are as follow:

"the enjoyment of working with children, the expectation that teaching would bring them intellectual challenge and the view that teaching makes an important contribution to society... an association between young people previous experience of working with children and their desire to teach."

Table 2. Course Choice of BUCE Entrants

BEED Entrants	Frequency	%	BSED Entrants	Frequency	%
First Choice	315	57.79	**First Choice**	245	48.23
*Elementary Education	230	42.20	*Secondary Education	263	51.77
* Other Courses			*Other Courses		
Second Choice	238	43.67	**Second Choice**	248	48.82
*Elementary Education	307	56.33	*Secondary Education	260	51.18
* Other Courses			*Other Courses		
N= 545			**N=508**		

The BSED students' decision to join the teaching career because they weren't able to make it in other popular courses in BU reflected a mixed model for opting to be in the teaching career: these new conception of career as emerging in a society may indicate the notion that a single career or loyalty to a single organization is obsolete. It is possible that the college entrants resorted to multiple career changes, but in the end they considered to be part of the community of teachers who do not want a high status position, but a job with a good image (Kane and Mallon, 2006) and respected in the Philippine society.

BUCET Performance of BEED and BSED Entrants

The data in Table 3 presents the over-all mean performances of students in BEED and BSED for Batches 2006, 2007, 2008, 2009 and 2010. It can be gleaned from the data that the BEED entrants obtained mean scores in the varied subject areas ranging from 83.99 - 86.32; having performed highest in Filipino and lowest in English. For the BSED, the mean rating in the subject areas ranged from 85.10 - 87.18. Again, they performed highest in Filipino and least in Science. The better performance of the entrants in the Filipino subject can be attributed to the fact that the Filipino language is the Philippine national language and since it is used locally; hence, the students have the facility to perform well in this subject area.

Table 3. BUCET Performance of BEED and BSED Entrants Batches 2006 to 2010

BUCET	BEED		BSED	
	MEAN	SD	MEAN	SD
Non-Verbal Reasoning	85.33	3.82	85.57	4.10
Filipino	86.32	3.37	87.18	3.67
English	83.99	3.39	85.14	3.35
Mathematics	84.32	3.22	85.27	3.15
Science	84.16	3.50	85.10	3.55
Reading Comprehension	86.00	3.41	86.91	3.44
High School GPA	87.47	2.70	88.65	2.89
Composite BUCET Rating	**85.17**	**2.02**	**86.10**	**2.16**
N	545		508	

However, the BEED's performed least in English is an indication that they still did not possess mastery in the use of the English language; specifically, the proper use of grammar, organizing paragraphs, vocabulary and reading comprehension. It can also be discerned that despite the use of the English language as a media of instruction in schools as mandated by the Department of Education, it is still a foreign language to these students, which is a cause of alarm since the very teachers who will be in the BUCE teacher training institution have weak foundations in the English language.

The low score obtained by the BSED entrants in Science reflects the Philippine education scenario where in the 2011 sectoral assessment of education, it was revealed that the National Achievement Test (NAT) in varied subject areas in Basic Education got a mean percentage score of 69% which is significantly below the mastery level of 74% based on DepEd grading system. The data further indicates that the BEED and BSED entrants performed better than their counterparts in the national level, having earned an average rating in Filipino, English, Mathematics and Science as reflected in their BUCET scores.

In addition, the better performance of the BEED and BSED entrants in the BUCET areas and the HSGPA as compared to the results of the NAT can be attributed to the stringent admission policy carried out by the BU Admissions Office, where applicants to the different courses are ranked and only those who are qualified and were accommodated based on the quota set by the college can be admitted. The variability of scores was mostly observed in the performance of entrants in Non-verbal Reasoning which indicates that the score of BEED and BSED entrants were heterogeneous. Their achievement in the subjects offered in high school such as Mathematics, English and Science did not differ much and so with their over-all high school performance.

Finally, it can be noted in table 3 that High School grade point average which forms 20% of the BUCET Composite rating revealed that the BSED had a higher mean, obtaining 88.65 High School GPA than that of the BEED entrants were more heterogeneous having a standard deviation of 2.89 than the BEED who had a computed α = 2.70. The interplay of both test scores and high school grade in combination as primary predictors of the Scholastic Aptitude for Teachers (SAT) was revealed in the study of Schmitt (2011). In the case of BUCET, the BU Admissions Office includes the high school grade in the computation of the BUCET composite Rating by constituting 20% weight due to the fact that different high schools have varied rating standards, the BUCET test areas whch is given 80% weight in the computation of the CBR attempts to standardize the variability of the high school rating scheme in the 1st to 3rd year HS grades of the applicants.

College Performance of BEED and BSED

It is evident from the data that the BSED entrants for SY 2002-2003 to SY 2006-2007 consistently performed better than the BEED. The data on the over-all performance of BEED and BSED entrants from 1st year to 4th year is revealed in Table 4. As noted from the data, upon reaching the higher year level specifically the fourth year level where their specialized courses become the curricular emphasis in the subject offerings; the students performed better as revealed by a GWA of 1.48 for the BEED and 1.63 for the BSED. Standard deviation measures indicated a higher spread of GWA in the 1st year level for the BEED which can be attributed to varying individual skills and their method of study.

Table 4. College Performance of BEED and BSED Entrants (SY 2002 – 2003 to SY 2006 – 2007)

GRADES	BEED		BSED	
	MEAN	SD	MEAN	SD
FIRST	2.04	.32	1.99	.18
SECOND	1.95	.17	1.92	.17
THIRD	1.87	.18	1.88	.21
FOURTH	1.48	.18	1.63	.21
GWA	**1.83**	**.14**	**1.86**	**.15**
N	545		508	

Moreover, it can be gleaned from the table that the mean grade of both BEED and BSED entrants were higher during their last 2 years in college than during their first and second year levels. These can be explained by the fact that students found it easier to adjust to their transition from high school to college than in their later years which was close to their graduation. In another study on, "Incoming Student Survey - Freshmen: personal traits, academic skills, activities, academic obstacles" by Sewell (2009), freshmen students revealed that being too tired in school activities and weak academic skills served as obstacles to their academic success during their initial years in college.

The junior and senior levels curriculum in the BU College of Education were focused on the professional and major courses while the initial two years' subject offerings emphasized general education courses which must have been found difficult by the students. It can be further discerned from the data that the teacher-trainees found it easier to cope with Student teaching which is the practicum component of in-service education for teacher-trainees in the BU College of Education which is offered during the fourth year level.

Performance in Licensure Examination for Teachers (LET)

The over-all performances of the BEED and BSED graduates along the subject areas of the

LET such as General Education, Professional subjects and Major courses were revealed in Table 5. The data shows that the BEED group performed below par the passing rate in the LET which was set at 75%. Their BSED counterparts however, was at par in their performance with the passing rate, having obtained at least a mean rating of above 75% rating. This indicates that the BSED students were more prepared to take the LET and have been prepared by the college to tackle the major subjects of the LET having finished 30-33 units on the varied areas of specialization such as English, Mathematics, Filipino, Biological Science, Physical Science, MAPEH, Social Studies and Technology and Livelihood Education.

The BEED graduates' performance in the LET is also reflected in their lower performance in the BUCET as well as their college performance when compared to their BSED counterparts in the BU College of Education.

Table 5. LET Performance in the Licensure Examination for Teachers (Batches 2007 – 2010

SUBJECT AREA	BEED		BSED	
	MEAN	SD	MEAN	SD
General Education	74.78	7.28	75.60	7.12
Professional Education	74.25	7.82	75.06	6.99
Major/ Concentration Courses	74.06	7.11	75.72	7.35
GENERAL AVERAGE	**74.87**	**6.57**	**75.48**	**6.21**
N	545		508	

The low performance of the BEED and BSED graduates were already noted in the USAID Report where the Licensure Examination on the national level posted only on the average, a passing rate of 36%. A more recent report by Faltado (2014) revealed that for the past three years which is composed of six (6) LET administrations (April 2010-September 2012), the average national passing percentage is only 28.71%. The data provide evidence that the passing percentage is dwindling down rather than reflecting improvement which is a cause of alarm since teachers should possess the competency which is expected since they become molders of the future generation.

In a similar study conducted by Espino et. al. (2011) on Academic Performance, Licensure Examination for Teachers Results from 2004-2008 and Work Performance of BSED graduates: An Analysis, the respondents' mean rating was 87.33 which is inclusive of the areas in Professional education, General education and Major subjects. The respondents coming from Bataan Peninsula State University outperformed the sample of BSED respondents in BUCE since the mean scores in these 3 areas of the BSED graduates for Batches 2006- 2010 was only 75. This surprisingly low rating of the BU College of Education is supported by its absence in the top performing Teacher Education Institutions in the country as reported by the Commission on Higher Education (PBED, 2012). In this report, however the national passing percentage for the period October 2009- September 2013 were raised from 52% to 56% for BEED and BSED, respectively which is an improvement from the data provided by the USAID report.

Relationship between BUCET Scores and College Academic Performance

The study made use of the Pearson product moment method as statistical measure to estimate the degree of linear relationships between the BUCET scores and the college academic performance as well as the BUCET scores and the Licensure Examination for Teachers. University of Quinnipiac's Correlation Guideline was used in interpreting the correlation value to indicate the strength of the relationship between the variables, as follow:

≤ .29 - trivial correlation
.30 - .39 - medium correlation
≥.40 - large correlation

The correlation coefficient between the BUCET-CBR of the BEED and their college general weighted average incurred strong correlation (r = 5.33 > 0.05) among Batch 2007 and 2008. The data is shown in Table 6. It is surprising that the BUCET- CBR almost consistently posted moderate correlations with their college GWA even during the junior and senior levels of the BEED teacher- trainees. Moreover, the subject areas: Filipino, English, Mathematics, and Science incurred moderate correlation with the college GWA but not the Non- Verbal Reasoning, which was likewise revealed by the study of Melecio (2000).

Again the BSED graduates for Batches 2006-2010 BUCET-CBR correlated largely with their college GWA (r= 0.52- 0.65; $p \leq 0.05$. It can likewise be noted that in one instance, during the freshman year of Batch 2009, the Filipino subject posted large correlation (r= 0.54; $p \leq 0.05$) with their freshman grade. Similar to the findings among the BEED, the BSED's BUCET test areas generated medium correlation with their college grades during their freshmen to senior level. This time even the Non-Verbal Reasoning posted medium correlation to the freshmen and sophomore college grade weighted average which ranged from (r= 0.33-0.37; $p \leq 0.05$).

Table 6. Illustrative Correlation Strengths between BUCET and College Grades of BEED and BSED from 2006 to 2010

	2006					2007					2008					2009					2010				
	1	2	3	4	GWA	1	2	3	4	GWA	1	2	3	4	GWA	1	2	3	4	GWA	1	2	3	4	GWA
NVR																-.37	-.38			-.33					
FIL	-.37											-.38				-.53	-.41			-.38		-.33			
ENG	-.43	-.37	-.34		-.39	-.35					-.42	-.43			-.37	-.40	-.37			-.32	-.31	-.40		-.34	-.40
MATH	-.41	-.35				-.31				-.31	-.43										-.46	-.41			-.37
SCI	-.33	-.32									-.38					-.45	-.47			-.39	-.35	-.40			-.38
CBR	-.62	-.50	-.33		-.45	-.48	-.36		-.30	-.38	-.62	-.46	-.41		-.45	-.64	-.65	-.45		-.59	-.57	-.62	-.32	-.31	-.55

N= 1,053

Legends:

BEED
BSED

- Weak correlation (r = .20 - .29; p < 0.05)
- Moderate correlation (r = .30 - .39; p < 0.05)
- Strong/High correlation (r = .40 - .69; p < 0.05)

These findings is supported by Micceri (2006) who indicated that cognitive predictors such as standardized test scores together with high school GPA are the best predictors with variables such as race, ethnicity, and gender. Although, a contrasting finding was revealed by Alderman (2007) that high school GPA is a better predictor of future academic success than other factors. Other educational institutions though, adapt both cognitive and non-cognitive factors as basis for entry to post-secondary education as espoused by Fan, Li & Niess (2008), Schwartz & Washington (2007) and Ting (2008). In these studies cognitive predictors covered such areas as high school academic performance and college entrance test

scores, while, non-cognitive predictor relates to two main attributes: personality characteristics (such as self-motivation, self-directedness, dedication to studies and social skills) and environmental factors (such as size of schools, location of schools, parental education and socio economic status) (Johnson et. al., 2011).

Relationship between BUCET scores and LET Performance

The correlation coefficient strengths between BUCET test areas and the graduates' Licensure Examination results reveal that almost consistently the BUCET composite rating; specifically, for graduates of Batches 2006, 2008, 2009, and 2010 have strong relationship with their LET results in the areas of General Education and Professional Education. It should be noted however, that the entrants LET ratings were on the average not at par with the passing rating of LET (75%). It can therefore be implied in the given data; that if the college have implemented a strict admission policy in the admission of BEED entrants; then it could have raised the passing rating of these examinees. Further, it can be gleaned from the data in Table 7 that all BUCET subject areas incurred moderate to strong correlation with the graduates' LET results; noting that there were test areas of the BUCET which closely approximates their performance in the LET such as Filipino and English. The BUCET results of 2009 Batch were more accurate in determining their results in the LET as evidenced by only two subtests: Mathematics and Science having negligible correlation with LET results.

The strength of correlation between BUCET and LET components of the BSED Graduates for Batches 2006 to 2010 confirms the finding among the BEED batches where it consistently registered strong correlation with the BUCET composite rating and the LET components ($r = .44 - .68$; $p < 0.05$). Again, among the 2009 Batch, Mathematics score had negligible correlation with LET subtests but had moderate correlation with the LET GEN Ed area.

Table 7. Illustrative Correlation Strengths between BUCET and LET Componentsof BEED and BSED from 2006 to 2010

	2006				2007				2008				2009				2010			
	GEN Ed	PROF Ed	MAJ	LET AVE	GEN Ed	PROF Ed	MAJ	LET AVE	GEN Ed	PROF Ed	MAJ	LET AVE	GEN Ed	PROF Ed	MAJ	LET AVE	GEN Ed	PROF Ed	MAJ	LET AVE
NVR													.50	.29		.43				
									.37				.42	.39	.36	.43	.34			
FIL	.29								.43	.51		.51	.43	.34		.41	.37			.35
				.35	.33	.43		.40	.56	.54	.37	.35	.37	.38		.37				
ENG		.32		.32	.42	.35		.41	.50	.41		.45					.39			.32
	.36	.31	.36	.40	.50	.49	.34	.51	.52	.56		.43	.46	.45		.43	.42	.33	.31	.39
MATH												.40					.38			.30
	.49	.32	.45	.47	.39		.31	.37	.32								.35		.38	.38
SCI													.47	.38		.46				
	.41			.33	.40	.42	.38	.47	.43	.45		.38	.43	.45	.35	.45	.45	.39	.35	.44
CBR	.43	.40		.49	.36	.33		.38	.61	.53		.57	.61	.51		.60	.60	.46		.52
	.57	.45	.51	.59	.61	.53	.49	.62	.68	.61	.42	.51	.63	.61	.44	.60	.61	.50	.47	.58

N= 1,053

Legends:

BEED
BSED

- Weak correlation ($r = .20 - .29$; $p < 0.05$)
- Moderate correlation ($r = .30 - .39$; $p < 0.05$)
- Strong/High correlation ($r = .40 - .69$; $p < 0.05$)

Filipino consistently correlated moderately with General Education, Professional Education, and LET Average from 2007 to 2009. English consistently correlated from moderate to mostly high correlations with LET test areas; except for the major subject for Batches 2008-2009 but consistently posted high correlations with LET for Batches 2006, 2007 & 2010. Science consistently got high correlation with all test areas, except in 2006 where Professional Education and major subject got trivial correlation too among the 2008 Batch.

The findings on the correlation of the BUCET to the LET agree with the findings of Pascua & Navalta (2001) at (NVSU) where their Admission Test is also related with LET performance. Her findings indicated a moderate significant relationship between their Admission Test scores and LET General Average. In the present study, the BUCET scores were represented by the composite BUCET rating (CBR) which also resulted a moderate to strong significant relationship with LET performance. Although, Pascua & Navalta used simple Pearson correlation in determining the relationship, same findings would be generated if linear regression were used as in the BUCE research. But what Pascua & Navalta in her research did not mention was if their Admission Test has any components or subtests. BU's CBR has Non-Verbal Reasoning, Science, English, Math, Filipino, and a High School General Average as components. The NVSU research is silent with regards to their Admission Test components. In any case, it is only relationship, although she had other variables investigated, between Admission Test scores and LET performance that Pascua & Navalta was interested to find. The BUCE research, on the other hand, investigated what would be the valid predictors of LET scores considering BUCET-related variables or components. Moreover, Pascua & Navalta recommended that Admission and Retention Policies should be strictly implemented as cited in one of her conclusion; the higher the Admission Test score, the higher the LET General Average score would be.

Table 8. BUCET Subject Area Predictors of LET General Average Score in the BEED Sample

Model	Predictor/s	Correlation Coefficient with LET General Average	Variance Explained in Percent	Percent Change	Significance of Change
1	FIL	0.33	11	11	$p < 0.01$
2	FIL + ENG	0.39	15	4	$p < 0.01$
3	FIL + ENG + MATH	0.41	17	2	$p < 0.01$

N = *545*

Table 8 contains the valid BUCET Subject Area predictors of LET General Average score in the BEED sample. Filipino is the primary predictor which accounts for 11 percent variance explained. Considering English and adding it to the equation, variance explained increased by 4 percent. Supplementing Model 2 further by Math variance explained increased by another 2 percent. The final model explains a total of 17 percent and is considered large by estimate. All changes are significant at $p < 0.01$.

Table 9. BUCET Subject Area Predictors of LET General Average Score in the BSED Sample

Model	Predictor/s	Correlation Coefficient with LET General Average	Variance Explained in Percent	Percent Change	Significance of Change
1	ENG	0.37	14	14	$p < 0.01$
2	ENG + FIL	0.42	18	4	$p < 0.01$

3	ENG + FIL + SCI	0.45	20	2	$p < 0.01$

N = 508

It can be noted in Table 9 that the primary BUCET Subject Area predictor for the BSED sample is English. This is different from the BEED sample which the primary predictor is Filipino. English in the BSED sample accounts for 14 percent variance explained. Considering Filipino adds another 4 percent explained variance and Science increases model prediction by another 2 percent. All in all, the final predictive model estimates 20 percent explained variance which is considered a large estimate.

At this point, if one is to combine both samples, it seems to be that the predictors are Filipino, English, Math, and Science. Regression analysis to confirm this seems to be in order.

Table 10. BUCET Subject Area Predictors of LET General Average Score in Combined Sample

Model	Predictor/s	Correlation Coefficient with LET General Average	Variance Explained in Percent	Percent Change	Significance of Change
1	FIL	0.32	10	10	$p< 0.01$
2	FIL + ENG	0.40	16	6	$p < 0.01$
3	FIL + ENG + MATH	0.41	17	1	$p < 0.01$
3	FIL + ENG + MATH + SCI	0.42	18	1	$p = 0.01$

N= 1,052

As speculated above, Table 10 shows the confirmation that indeed Filipino, English, Math, and Science are valid predictors of LET General Average. Filipino is the primary predictor accounting for 10 percent variance explained. Successive consideration of English, Math, and Science result into a total of 18 percent variance explained which can be considered large. All models are significant at $p < 0.01$.

English seems to be a consistent predictor, primarily in BSED. Even in the study of Pascua and Navalta (2011), and Hena, Ballado et. al. (2014) English proficiency is a predictor of LET performance. Filipino is also a consistent predictor found in both courses, primarily in the BEED sample. This is maybe partly due, as Pascua and Navalta also noted, that Elementary majors focused on Filipino language. In this research, English and Filipino seem to be the emerging foundation of LET success. And this seems to be a sound claim for Casey (2007) recommended that written tests or profiles be included in teacher admission programs for they are correlated with teacher performance. In the Philippines, in writing, one needs to be proficient in English and Filipino. It is also interesting to speculate whether language proficiency translates to more "understanding" of board exam content and thus increasing board exam score. Not by merely being "technically" proficient in English and Filipino but by understanding means comprehending what a specific test item mean or asks. Perhaps this is a research avenue worth investigating in the future. Science and Math, though small in contribution, also poses as valid incremental predictors.

The only BUCET Subject Area that is not considered as a predictor and is absent considering separated samples and samples combined is Nonverbal Reasoning. This is quite surprising considering that nonverbal reasoning is a rough measure of general intelligence. But this may prove a sound finding for in the American College Test (ACT) and Scholastic Aptitude Test (SAT), a figural test component is absent. Both test have English, Reading and Math components with ACT has an additional Science component but both do not have a nonverbal reasoning test. ACT and SAT are constantly refined and it is logical to assume that in their refinements developers found out that a nonverbal test is not a factor in performance during and after college.

Overall, the BUCET and its components seem to be a good test in predicting LET performance, only except Nonverbal reasoning. 4 out of the 5 subject areas came out as predictors significantly

attest to BUCET's soundness. But of course, there are rooms for improvement.

Predictive Efficiency of the BUCET

Score prediction is useful in university admissions. In the case of the BU College of Education (BUCE) where BEED and BSED are flagship courses, it is necessary that admission in these courses be guided by some admission criterion to more or less help the college be confident that their original entrants whom they will be graduating after four years can eventually pass the Licensure Examination for Teachers. The major admissions criterion of the BUCE is the Bicol University College Entrance Test - Composite BUCET Rating (CBR). Previously, a CBR that falls with within a percentile rank of 50 or depending the average rating obtained by the norm group was set in the college. This was before when the current predictive research was conducted. This, however, must be reviewed in the face of whether the admission CBR cut-off score of the college is still relevant or not.

BUCET Composite Rating as Predictor of LET General Average

The predictive efficiency of the BUCET CBR to the sample used in the study for BEED and BSED are given in the proceeding discussions. One way to determine whether the minimum CBR in BUCE is still relevant or not is by using regression analysis. The current study used 544 sample who were previous students of the BUCE and who have taken the LET from 2006 to 2010. This 544 sample graduated in the BEED program. Results generated from SPSS using Linear Regression is presented in Table below:

Table 11. Correlation and Variance explained by CBR to LET General Average

Course	Predictor	R	R Square	Adjusted R Square	Significance
BEED	CBR	0.45	0.20	0.20	p = 0.00
BSED		0.49	0.24	0.24	P = 0.00

In Table 11, the correlation coefficient between CBR and LET General Average is 0.45. This suggests a strong relationship. The square of the correlation coefficient, $r^2 = 0.20$, indicates that 20 per cent of the variance of the LET General Average is significantly explained by CBR. This effect size is likewise considered strong. Thus, predictive efficiency of CBR to LET general average, as far as the BEED sample is concerned, is strong. In fact, adjusted r-square suggests that even if another sample of incoming BEED students took the BUCET, their CBR can also be considered as strongly predictive.

On the other hand, BSED sample is composed of 508 graduates who took the LET. Like the BEED sample, data gathered were from Batches 2006 to 2010. Regression analysis results are as shown in the table above showed that the correlation coefficient between CBR and LET General Average is 0.49. This suggests a strong relationship. The square of the correlation coefficient, $r^2 = 0.24$, indicates that 24 percent of the variance of the LET General Average is significantly explained by CBR. This effect size is likewise considered strong. Thus, predictive efficiency of CBR to LET general average, as far as the BSED sample is concerned, is strong. It is interesting to note that while the predictive indicators are classified as strong/high. Adjusted r-square, 0.24 suggests that even if another sample of BSED students took the BUCET, their CBR can also be considered strongly predictive.

The 20 and 24 percent variance explained can be considered moderate at the very least. In some guidelines it is considered large. Cohen's (1988) guideline in interpreting variance explained puts the 20 and 24 percent as moderate. At Quinnipiac University, their guideline puts it at strong/large. But these guidelines are rule of thumbs or crude estimates/guideline. Cohen, which is currently the convention, even cautioned with regards to the use of his estimates. Lacking guidelines based on empirical data, Hemphill (2003) studied 380 meta-analytic studies and came up with a distribution of correlation coefficients and recommended it as an empirical guideline in interpreting correlation indices and variance explained. He proposed

correlation coefficients with ≤ 0.20 as low, 0.21 – 0.30 as moderate, and ≥ 0.31as high. Hemphill's study seems to be in line with earlier studies of Meyet et. al (2001) and Lipsey and Wilson (1993) who also suggest that current conventional interpretative guidelines are "unrealistically large and inappropriate". It is thought that Hemphill's guideline as supported by Meyer's study as well as Lipsey and Wilson's will gather support in the social sciences as it is empirically based. While at it, Huck (2009) also demonstrated that sample size is a factor in correlation offering his observations that as sample size increases, pearson r decreases to have significant effect. This study has a large sample size that it seems it would not necessitate a large correlation coefficient to have significance. In addition to this, the 20 or 24 percent variance explained by BUCET's CBR really seems to be a large statistic considering other numerous sources of variance which includes, but not limited to, students' physical and emotional states, physical environment, family background, pre-board preparations, and test characteristics. Technically speaking, it is highly probable that the remaining 82 percent is spread out thinly to these numerous extraneous variables. Almost the same professional opinion was expressed bt Pacheco and Allaga (2012) when their study involving LET components their predictive model only explained 2 percent of the variation of LET General Average scores. They mentioned physical, emotional and mental conditions, financial capability of the examinees" family background as other sources of variance.

In order to predict LET general average scores, the predictive equation should be determined. Additionally, SPSS generated the following results:

Table 12. CBR and Constant Unstandardized Beta Weights

Course	Model	Unstandardized Beta Weight	Significance
BEED	CBR	1.45	p = 0.00
	(Constant)	- 48.82	p = 0.00
BSED	CBR	1.40	p = 0.00
	(Constant)	-44.98	p = 0.00

Table 12 shows the beta weights of CBR and constant of the predictive model predicting LET general average. CBR is 1.45 and constant is -48.82. Both beta weights are significant at p = 0.00. Following these, the predictive equation would be:

LET General Average = [1.45(CBR)] – 48.82

If the LET General Average passing mark is the usual 75.00, simple derivation of the above equation suggests that students must obtain a CBR of 86.00 if BUCE wants its' BEED freshman to have more probability of reaching the LET passing mark. A CBR score of 85.00 or lower increases the chances of not reaching the LET passing score when the graduate takes the board exam. Using the predictive equation, a clearer illustration is as follows:

75.88 = [1.45(86.00)] – 48.82

Studies involving LET General Average score as a criterion variable in predictive studies abound in different Teacher Education colleges in the Philippines. One such study is that of Gana et. al. (2014) at FEU, Manila. Their study also made use of BEED graduates and LET General Average as the criterion variable. But dissimilar from this BUCE study, where it used college entrance exam performance as predictor variable, Gana et. al. used scores from an institute-made comprehensive exam that is given before students graduate to assess whether or not the students are ready for the LET. Their results indicate significant findings with high correlation between predictor and criterion variables; in variance explained, and model significance.

But interesting their results was, their study is without alarming concerns. First of all, their study consisted of only 19 subjects, since convenience sampling was resorted to. This leaves the validity of their study in question. The BUCE study on the other hand has a large sample size, N = 544. The external validity of the BUCE study

seems very sound and stable. The adjusted r-square (0.20) did not move a flinch from the r-square of 0.20 suggesting that if a whole new different sample would be used, variance explained would still be 20 percent.

In order to predict LET general average scores, the predictive equation should be determined. SPSS generated the following results as shown in Table 9. The data in Table 9 shows the beta weights of CBR and constant of the predictive model predicting LET general average. CBR is 1.40 and constant is -44.98. Both beta weights are significant at p = 0.00. Following these, the predictive equation would be:

LET General Average = [1.40(CBR)] – 44.98

If the LET General Average passing mark is the usual 75.00, simple derivation of the above equation would tell that students must obtain a CBR of 86.00 if BUCE wants its BSED freshman to have more probability of reaching the LET passing mark. A CBR score of 85.00 or lower at admission increases the chances of not reaching the LET passing score when the graduates take the board exam. Using the predictive equation, a clearer illustration is as follows:

75.42 = [1.40(86.00)] – 44.98

This is similar with the BEED sample where both results suggest that BEED and BSED programs of BUCE should adopt a CBR cut-off score of 86.00 if it wants its graduates to have an increased probability of passing the LET. Models from both samples indicate strong predictive efficiency and they are very significant.

In the light of these results concerning admission cut-off scores, it is apparent that there is validity in the argument of Faltado (2014) as he found out in his research that Admission and Retention Policies is a predictor of LET performance. Although his research did not mention the specific admission and retention policies of the teacher education institutions in his sample, it is noteworthy to speculate that the schools may have a required entrance test cut-off before admission. Furthermore, in Faltado's regression analysis, Admission and Retention Policies has the second highest standardized beta weight, second only to Curriculum and Instruction. Third is Faculty Competence. In one of his recommendations, he stated that there should be strict measures on who can enter a teacher education program based on the high school general average and admission test results. Incidentally, it is worth noting that BU's CBR also had a high school grade component. Twenty percent of CBR is weighted from the high school general average. He also added that retention policies of teacher education institutions must be handled seriously.

Another study that explored the predictive power of college entrance test is the study of Navarro et. al. (2011) at the University of Northern Philippines in the Cordilleras. While the BUCE study comprised of Education graduates, Navarro et. al.'s sample were Nursing graduates. The predictors they investigated were college entrance test scores, nursing aptitude test scores, and academic performance. Their results suggested that, although the weakest predictor among the three independent variable, is the college entrance test score but it is a valid predictor of the nursing board examination performance. Similar to Faltado's recommendation, the University of Northern Philippines College Admission Test should remain a standard requirement in nursing admission and specified an admission score of 85.00 as the minimum cut-off.

CONCLUSION

The study generated the following conclusions based on the findings of the researchers:

1. The entrants were mostly females, from national high school, of average income who opted to pursue teaching as a career;
2. The BSED entrants as compared to the BEED performed better in the BUCET and High school academic performance.;
3. The BSED and BEED entrants performed better during their senior year in college;
4. The BSED graduates' performed better in the LET than the BEED;

5. The BUCET CBR had a strong correlation with college general weighted average and across all LET test areas.;
6. 4 out of the 5 BUCET components are valid predictors of LET general average score.
7. The BUCET composite rating is a strong predictor of BEED and BSED LET general average.

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