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# A Benchmark on the Alternative Education System for Engineering Courses

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## ABSTRACT

Offered by the Commission on Higher Education (CHED) under the Republic of the Philippines, the Expanded Tertiary Education Equivalency and Accreditation (ETEEAP) is an alternative method of earning a college degree. There are 96 Higher Education Institutions (HEIs) that offer ETEEAP in the country, 21 of which offer engineering programs. The study aimed to obtain the best practices being implemented by deputized HEIs offering college degree programs under ETEEAP, particularly, in the field of engineering and check its correlation to the number of graduates. Visitations, observations, and interviews were performed in two selected universities. Information about the enrolled and graduated students were collected. Data gathered were analyzed and tabulated. As an analysis, the policies of the two universities are in accordance of the CHED and, therefore, are similar. A significant increase in the number of engineering graduates under ETEEAP has been recorded. However, some students were not able to finish a program on time. The results of the study can be used as a guiding tool for schools aiming to offer ETEEAP or a reference for continuous improvement of the ETEEAP programs in sustaining the educational needs of the student-clienteles.

***Keywords*** **—** Engineering Education, ETEEAP, tertiary, alternative, descriptive design, Philippines

## INTRODUCTION

Education is an investment in human capital (Roxas & Urano, 2012). In all levels of education from primary to doctorate, it is important to implement quality learning. More importantly, Higher Education Institutions (HEIs) around the world are undergoing important changes (García-Araci & Palomares-Montero, 2010). Development of new strategies and methods in the curriculum and educational structures to cope up with the advancements are the main objective of HEIs. With this, students would be able to be globally competitive.

There are several factors why students leave school early. Key influences are social and economic factors such as socio-economic status, the desired pleasure to earn money and a host of school-related issues (McGregor & Mills, 2012). This paves the way to the formulation of new and alternative methods of teaching. Alternative education schools provide quality instruction and assistance to cater the needs of their students and improve students' academic skills and proficiency (Barr, 2013).

The Philippine educational system needs to address issues not only those which are related to accessibility and quality education (Durban, 2012). In June 2016, the Department of Education (DepEd) have implemented the K-12 program by including additional two years in the secondary education with the aim of providing adequate time for mastery of concepts and skills, cultivate lifelong learners, and prepare graduates for tertiary education, middle-level skills development, employment, and entrepreneurship. The said program will bring many advantages to the students, but still, the implementation will affect the number of enrolees for each university/college since there will be no incoming freshmen students for the next two years. Although the new system of education has some loopholes (Calderon, 2015), its implementation will certainly have a positive impact on the students.

In higher education, upgrading the curriculum, learning process and alternative education are continuously undertaken. In the Philippines, Executive Order No. 330 states that individuals will be given the opportunity to acquire work experience and expertise through non-formal and informal training and be awarded with appropriate academic degrees in higher education institutions by the Commission on Higher Education (Singh, 2015). Considering all the forms and strategies to shape an individual's educational perspective, a benchmark was conducted into two universities, U1 and U2. The purpose of the study is to gather necessary information about ETEAAP such as the procedures used to offer

it from various institutions. Furthermore, the gathered information will be used as a reference in offering ETEEAP programs.

## FRAMEWORK

In planning phase (see Figure 1), schools that offer ETEEAP were considered as source of information. Nevertheless, only two out of these famous universities were chosen to be the source of gathering information. The two universities were formally visited and an interview was conducted. In the analysis phase, the gathered information were further studied.

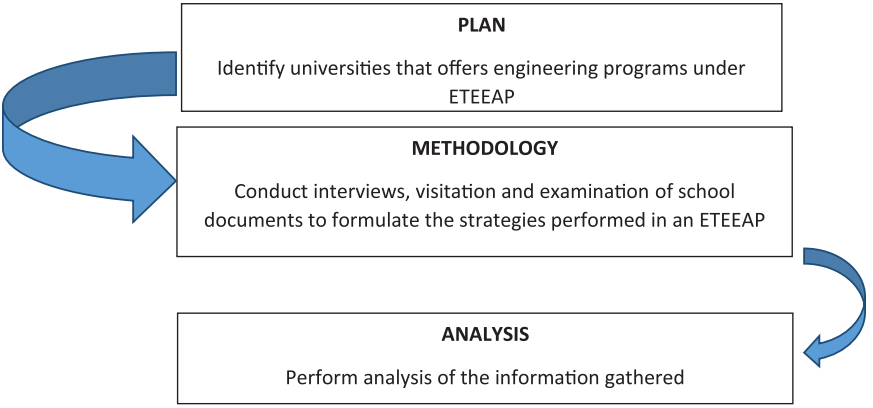


Figure 1. Theoretical Framework

## OBJECTIVE OF THE STUDY

The general objective of the study is to conduct a benchmark on the different policies and procedures being implemented by various universities and colleges offering alternative tertiary programs.

## METHODOLOGY

The study was conducted in two universities in the Philippines. Target respondents of the research study are the administrators and the organization implementing and maintaining the functional operation of the program. Data

collection was conducted through ocular visits and interviews during the summer of 2016. The location and the operation were observed. Analysis of the data was conducted by comparing the standards with what the two universities offer to the students.

## RESULTS AND DISCUSSION

**Definition of ETEEAP**

The ETEEAP of the Commission on Higher Education is an educational assessment scheme which recognizes knowledge, skill and prior learning attained by individuals from non-formal and informal educational experiences. Through this program, an individual may be granted a diploma for a degree after a competency-based evaluation from established equivalency competencies standards and comprehensive assessment system employing written tests, interviews, skills demonstration, portfolio and other creative assessment methodologies.

**Implementing Guidelines for Deputation of a Higher Education Institution (HEI)** *(www.ched.gv.ph)*

There are series of guidelines that should be followed for an institution to offer programs under ETEEAP as required by the Commission on Higher Education (CHED).

***Qualification of a Higher Education Institution (HEI) Applying for Deputation***

The HEI is eligible to apply for deputation if any of the following criteria is met:

a. The HEI is a Center of Excellence or Center of Development in the program to be offered thru the ETEEAP.
b. The HEI enjoys a valid autonomous or deregulated status from the CHED.
*c.* Its program to be offered through the ETEEAP has at least a Level II accreditation from any accrediting agency recognized by CHED.
d. The HEI is in category A under the CHED-IQuaME.

***Procedures for Deputation of an applying HEI***

1.1 All HEIs interested to be deputized must submit a letter of application and commitment to the CHED Regional Office. All the requirements must also be presented. The CHEDRO will evaluate the application and the HEIs will

then comply with the recommendations to the CHED Central Office.

1.2 An Evaluation Team shall conduct a visit to check the readiness of the institution and program for deputation. The Team will submit the evaluation report and their recommendation to the Director of ETEEAP. The deputation will be granted upon approval.

***Document Requirements for Application for ETEEAP Deputation***

A. Primary *Documents*

1. Letter of Application
2. Institutional and Program Profile
3. Certificate/s of Program Accreditation
4. Certificate of Award (COE/COD; Autonomous or Deregulated; IQuaME Category)
5. Board Performance of the Program to be offered through ETEEAP – 4 years before application (if applicable)
6. Mission and Vision of the Institution and Program valuing and recognizing alternative learning
7. Board Resolution endorsing the application for deputation (for SUCs applicants)
8. CHED Regional Office Endorsement

A. *Institutional Management and Support*

1. Annual Budget Plan
2. Marketing and Promotions Plan
3. Institutional development plans for ETEEAP
4. Organizational structure of the ETEEAP within the Institution
5. Schedule of fees

**Program Capability**

1. Curriculum of the resident program to be offered through the ETEEAP
2. Competency Standards
3. Assessment instruments
4. List of assessors (internal & external), their qualification and subject assignment in the ETEEAP
5. Criteria and procedure for selection of assessors
6. Assessment procedures with timelines
7. Enrichment/supplementation programs to be provided

8. Provision for research as a requirement for graduation

**Status of HEIs offering ETEEAP program**

From the official website of CHED (2010), there are ninety-six (96) HEIs that offers ETTEAP programs (See Figure 2). The National Capital Region (NCR) has the most number of HEIs offering ETEEAP programs. Universities and colleges were categorized as private or public institution as shown in Table 1. On the status of engineering programs being offered, only 21 HEIs offer engineering courses under ETEEAP (see Figure 3).

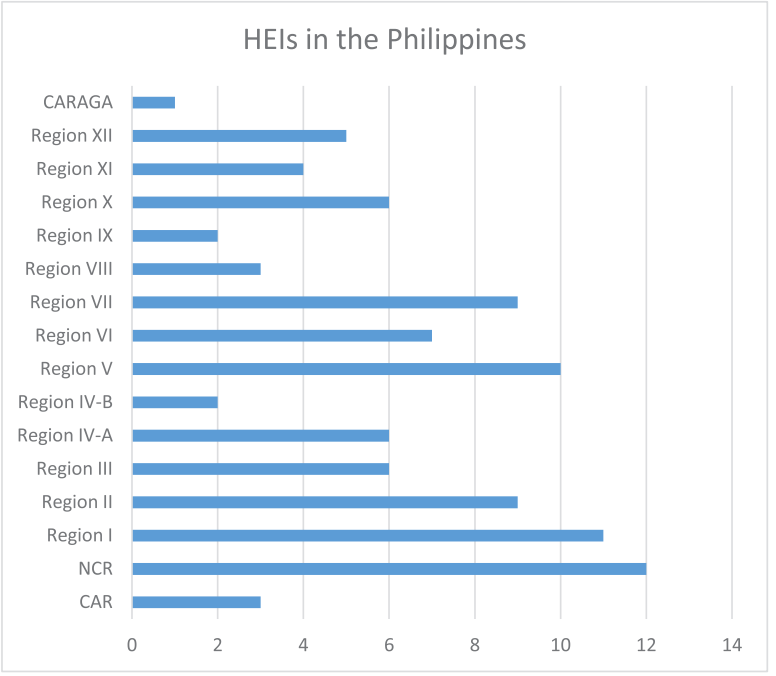


Figure 2. The number of HEIs offering ETEEAP

Table 1. Data on the number of deputized HEIs categorized as public or private institutions

| REGION | No. of Deputized HEIs | | TOTAL |
|---|---|---|---|
| | Public | Private | |
| NCR | 3 | 9 | **12** |
| CAR | 0 | 3 | **3** |
| I | 4 | 7 | **11** |
| II | 2 | 7 | **9** |
| III | 2 | 4 | **6** |
| IV-A | 1 | 5 | **6** |
| IV-B | 1 | 1 | **2** |
| V | 2 | 8 | **10** |
| VI | 2 | 5 | **7** |
| VII | 1 | 8 | **9** |
| VIII | 2 | 1 | **3** |
| IX | 0 | 2 | **2** |
| X | 2 | 4 | **6** |
| XI | 1 | 3 | **4** |
| XII | 2 | 3 | **5** |
| CARAGA | 0 | 1 | **1** |
| **TOTAL** | **24** | **70** | **96** |

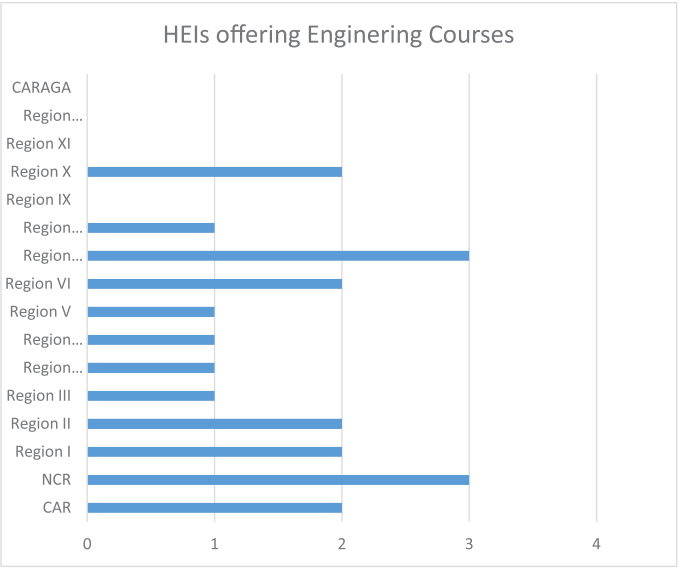


Figure 3. HEIs offering Engineering Programs

**Qualified Applicants** *(source: U2)*

To qualify as a student under the ETEEAP, the applicant must be a Filipino citizen, has completed his/her secondary education, employed for at least five years in the industry related to the course he/she is applying for and must be at least 25 years old.

**Procedures for Application**

1. Submit the application form and submit all the supporting documents.
2. The HEI secretariat reviews the application, interviews the applicant and give the results.
3. When the application has been approved, the HEI requires the applicant to submit a portfolio containing the evidence of the experiences based on the learning outcome. It must then be certified by the employer concerned.
4. A panel of assessors conducts an evaluation after receiving the portfolio.
5. The panel of assessors determines the equivalent credit matching the demonstrated trainings.
6. If there are some deficiencies in one or more competencies, subjects must be taken in the institution with the guidance of an adviser.
7. After achieving all the learning outcomes and proper assessments, the candidate will be awarded with the equivalent degree.

**Course offerings**

Both U1 and U2 offer technology courses that are relevant to the applicants' educational needs. U2 also offers engineering courses.

***ETEEAP Programs given by U1:***

- Master of Technology (MT)
- Bachelor of Science in Computer Science (BSCS)
- Bachelor of Science in Industrial Education (BSIE)
- Art Education (BSIE-AE)
- Computer Education (BSIE-CompEd)
- Home Economics (BSIE-HE)
- Industrial Arts (BSIE-IA)
- Electrical Technology (BSIE-ET)
- Electronics Technology (BSIE-EST)
- Bachelor of Technical Teacher Education (BTTE)
- Bachelor of Technology major in:

- Apparel and Fashion Technology (AFT)
- Automotive Engineering Technology (AET)
- Biochemical Technology (BT)
- Chemical Engineering Technology
- Civil Engineering Technology (CET)
- Computer Engineering Technology (COET)
- Electrical Engineering Technology (EET)
- Electromechanical Engineering Technology (EMET)
- Electronics and Communications Engineering Technology
- Electronics Engineering Technology (ESET)
- Foundry Engineering Technology (FET)
- Graphic Arts and Printing Technology (GAPT)
- Information Technology (IT)
- Instrumentation and Control Engineering Technology
- Mechanical Engineering Technology
- Nutrition and Food Technology (NFT)
- Refrigeration and Air-conditioning Engineering Technology
- Tool and Die Engineering Technology
- Welding Engineering Technology
- Power Plant Engineering Technology

***ETEEAP Programs offered by U2:***

- BS Secondary Education
- BS Elementary Education
- Bachelor of Arts

Broadcasting, Comparative Literature, Economics, English Language, General Science, History, Journalism, Literature, Mass Communication, Philippine Literature, Philosophy Sociology, Mathematics, Political Science, Environmental Science

- Business Administration
  Banking and Finance, Business Computer, Business Management, Industrial Management, Management Accounting, Marketing, Legal Management, Public Administration
- BS Civil Engineering
- BS Industrial Engineering
- BS Geodetic Engineering

- BS Electrical Engineering
- BS Mechanical Engineering
- BS Computer Engineering
- BS Electronics Engineering
- BS Criminology and Law Enforcement
- BS Information Technology
- BS Hotel and Restaurant Management

**ETEEAP School Fees**

The following data shows the ETEEAP fees by U1:

Application/Processing Fee (P900/ 20 USD)

1. Assessment Fee (P2,600/57 USD for baccalaureate and P4,100/89 USD for master's)
2. Tuition Fee (P600/13 USD per unit)
3. Development Fee (P700/15 USD per enrolment)
4. Miscellaneous Fees
    - Registration Fee (P150/3 USD)
    - Cultural Fee (P90/2 USD)
    - Athletic Fee (P150/3 USD)
    - Library Fee (P300/7 USD)
    - Medical and Dental Fee (P300/7 USD)
    - Student Privilege Fee (P30/ 0.7 USD)
    - Information Fee (P500/11 USD)
    - Identification Card (P150/ 3 USD)
5. Fees for Tutorial Services (PhP 1,600/ 35 USD per unit for baccalaureate and P1,900/41 USD for master's)
6. Adviser's Fee (PhP 1,900/41 USD for baccalaureate and P4,400/96 USD for master's)
7. Defense Fee (PhP 2,600/57 USD for baccalaureate and P8,200/178 USD for master's)

U2's payment scheme is different. There must be an initial payment of P500.00/11 USD for the pre-assessment. Upon approval of the applicant's application, an amount of P26, 000.00/565 USD must be paid to finish the whole program.

**Maximum number of units**

The maximum allowable number of subjects that a student must take for every semester is two subjects for U1 and 18 units subject equivalent for U2.

**Grading System**

Grades are the reflection of students' performance in a subject. Both U1 and U2 has a grading system patterned respectively with their undergraduates' grading system.

**Clients**

The two universities have different set of clients. Student clients of U1 are their previous students who earned already a three-year course, and most of them are Overseas Foreign Workers (OFW). On the other hand, clients from U2 are locally employed from nearby provinces.

**Teaching Approach**

U1 delivers the lesson to the clients through the modular approach. On the other hand, U2 offers regular classes for the students with a maximum of 2 hours per month.

**ETEEAP Graduates**

Table 2. Number of Graduates under ETEEAP from 1999 to 2010

| | |
|---|---|
| 1999 – 2000 | 13 |
| 2000 – 2001 | 39 |
| 2001 – 2002 | 270 |
| 2002 – 2003 | 720 |
| 2003 – 2004 | 404 |
| 2004 – 2005 | 501 |
| 2005 – 2006 | 656 |
| 2006 – 2007 | 1,012 |
| 2007 – 2008 | 892 |
| 2008 – 2009 | 1,814 |
| 2009 – 2010 | 919 |
| **TOTAL** | **7,240** |

To date, a total of 381 individuals have earned their degree through the ETEEAP programs in U1. Figure 3 shows a comparison of the number of graduates both from U1 and U2. In separation, with a little difference in the actual number of graduates and students who just enrolled. U2 has a total of 2,201 graduates as shown in Figure 4.

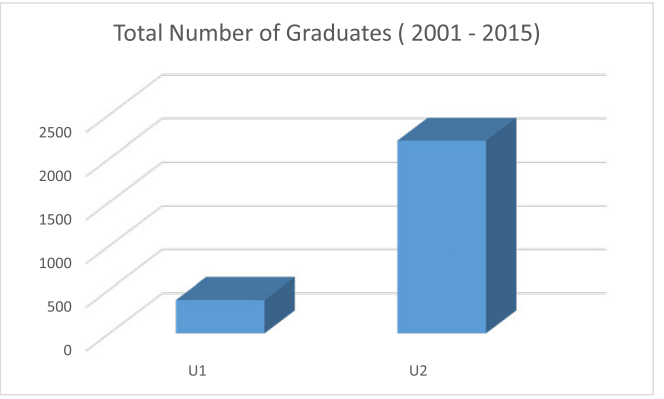


Figure 3. Total Number of Graduates (2001-2015)

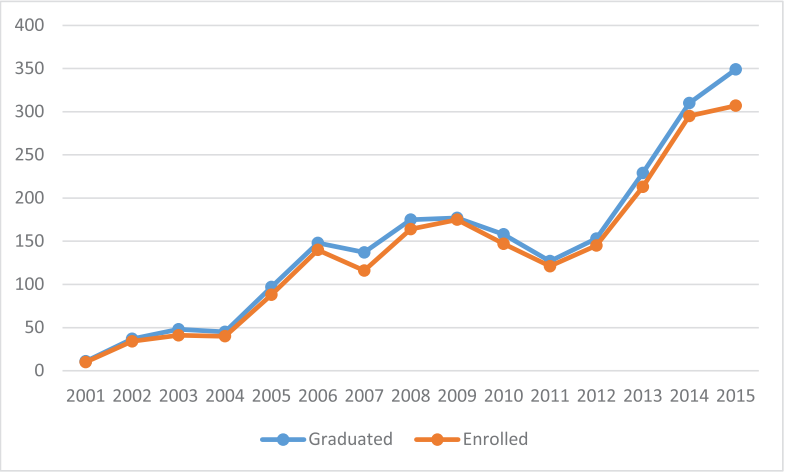


Figure 4. Graduates of ETEEAP programs from U2 (2001 – 2015)

Table 3. Deputized Engineering Degree Programs

| Deputized Engineering Degree Programs | Graduated |
|---|---|
| B.S. Civil Engineering | 54 |
| B.S. Geodetic Engineering | 80 |
| B.S. Mechanical Engineering | 314 |
| B.S. Electrical Engineering | 315 |
| B.S. Electronics and Communications Engineering | 311 |
| B.S. Industrial Engineering | 350 |
| B.S. Computer Engineering | 163 |
| **Total** | **1,587** |

Since 2001 (see Figure 5), there has been a dramatic increase in the number of enrollees in U2. This indicates that ETEEAP contributes to the number of graduates from U2.

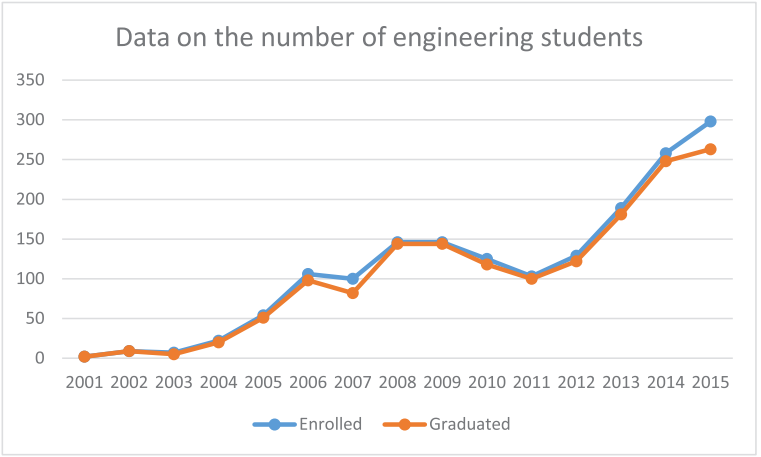


Figure 5. Data on the number of engineering students from U2 (graduated and enrolled)

There are several reasons why ETEEAP, as an alternative solution to education for college students is given a big consideration. This education system provides greater access to educational services particularly to those who have left school and worked. It recognizes knowledge, skills and prior learning obtained by

individuals from non-formal and informal educational experiences (De Guzman, 2003). The degree they will earn from the program can be used for promotion or advancement in their careers, like, if they want to teach, which can be opted when they are contemplating for their retirement, or for them to cope with the global standards. However, there are still students who were not able to finish a program because of few reasons - financial problems, conflict with the schedule in the company and some were sent abroad for training in the middle of the program. Despite these, the interest to finish a course is still an aspiration even while working (Roxas, 2012).

## CONCLUSIONS

The best practices in offering ETEEAP programs, particularly, in the field of engineering have been collected from U1 and U2. For U1, the best method to successfully implement the ETEEAP programs is to offer four-year degree courses related to the two to three-year technology courses they offer. In this manner, graduates from their institution would also be their captured target clients. On the side of academic personnel, U1 ensures that they hire the best set of assessors to evaluate the credentials of the applicants based on the interview conducted to the personnel in-charge of ETEEAP in U1.

On the other hand, U2 considers the time needed by the applicant to finish the degree though there is a one-time payment for the processing of the credentials of the student under the ETEEAP program. Students would want to earn a degree in a limited period of time even if the corresponding fee is high. U2 also schedules classes once a month for the convenience of the working students.

In addition, U2 offers the engineering programs with board exams such as Electrical Engineering, Geodetic Engineering, Civil Engineering, Electronics Engineering and Mechanical Engineering. Another best practice that U2 is implementing is to ensure that graduates of engineering courses who wish to take a board exam must have a review or refresher subjects to ensure an acceptable number of passers. Once the target number of passers is achieved, the university's ETEEAP program impacts current students and target clients. Thus, establishing confidence in the effectiveness of learning, particularly, in engineering will improve the level of education in the Philippines.

## TRANSLATIONAL RESEARCH

A handbook that includes guidelines and procedures as a reference in implementing ETEEAP was formulated. The handbook will be further checked for evaluation.

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