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The Employability Of Bachelor Of Science In Mechanical Engineering Graduates Of The University Of Rizal System Morong Campus School Year 2012 T0 2016

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ABSTRACT

Employability study of graduates is one of the measures required by the Commission of Higher Education Institutions to ensure that the quality of education provides answers to the needs of the industry and that the educational institution is effective as an instrument to develop students.

This research on the employability of BSME graduates of URS Morong Campus SY 2012 to 2016 aimed to determine the employability of the graduates. The descriptive and inferential research method was used, through a research-made questionnaire. The research was able to get eighty-four (84) respondents out of the one-hundred thirteen graduates (113). The statistical treatment used were correlation analysis, frequency, percentage, and weighted mean.

Findings highlighted the graduates have almost a hundred percent employability rate and are board passers. None of the graduates have ever been unemployed, only delays in employment after graduation. Generally, they prioritized taking the ME licensure examination.

Most of them started as a trainee and are now in regular status. As expected, most of them are in the business/manufacturing industry doing engineering work. At this point in their career, they are not yet earning satisfactorily.

Pieces of training/studies acquired by the mechanical engineering graduates, the corresponding course subjects and the professional industry practice it supports, and additional recommendation from the graduates, reveals that there is a necessity for the following; improvement in the delivery of instructions and curriculum, need for a resident Professional Mechanical Engineer, and improvement/additional in facilities such as laboratory, shops, equipment, tools and software application for some subjects

Factors on personality development and work attitude, curriculum, and school support are included and found to have significant contributions to the employability of the graduates.

Keywords: Mechanical Engineering, employability, curriculum, personality development, work attitude

INTRODUCTION

Education is the key component to development; it empowers humans and strengthens nations. It is one of the most effective gadgets for growing the monetary boom of a country by means of lowering poverty and inequality.

In the Philippines, through the Commission on Higher Education, the summit of the education and training pyramid is tertiary education. State universities and colleges have the major task of producing excellent graduates who certainly find a job after graduation. Lowe and Schellenberg (2001) pointed out that industries and different

enterprise establishments rely on the massive contributions of these institutions.

There are many factors that contribute to the idea of being employable. Some studies suggest, that it is a multi-dimensional concept, and there is a need to distinguish between the factors relevant to the job and for work. Knight (2001) further considers the notion of employability to be: "A synergic combination of personal qualities, skills of various kinds and subject understanding". This is true. Such that as technology is rapidly advancing, the jobs market, also, is rapidly changing. Most of which require a multi-skills, multi-intelligent workforce. Harvey et al., 1997, says that, "Employers are looking to recruit graduates who are fit into their organizational culture, utilize their abilities and skills to transform the company by facilitating innovative teamwork".

Similarly, Ross (2000) noted that the industries complained that new recruits or graduates coming from colleges, shows not even the simple capabilities that are required for employment. He emphasized that the intention of schooling is to equip youngsters to do a job for work.

Because of these, the researcher hopes to recognize what came about to the former college students in the Mechanical Engineering Programs. The result of the study is a device that will measure and will furnish records on the relevance of former graduates' coaching programs, the significance of the college curriculum, and other support programs to the graduates' employability.

OBJECTIVES

Generally, the study aims to determine the employability of BS Mechanical Engineering Graduates of the College of Engineering, University of Rizal System Morong Campus School Year 2012 to 2016.

Specifically, it aims to determine the following; profile of the respondent in terms of age, sex, civil status, professional examination pass, and training and advanced studies taken after graduation. Second, the employment information and current job status of the respondent such as being employed or not, reasons for not being employed, time spent getting employed, employment by type of organization and industry category, field of work and nature of the appointment, monthly salary, specific problems faced in the job, and reasons for delays and non-employment.

Thirdly, it aims to determine how the respondents rate the contribution of the school in terms of, personality development and work attitudes such as leadership, teamwor , human relation skills, result-oriented, communication skills, and sensitivity to details, and adaptability . On Curriculum, it aims to determine the following, professional academic knowledge, problem-solving skills, research and development skills, information technology skills, range of course offered to BSME, number of optional subjects, the relevance of the program to BSME professional requirements, extracurricular activities, inter-disciplinary learning, work placement linkage, teaching/learning environment, industry linkage, teacher-student relationship, library/laboratory equipment and the recommendations from respondents to improve the current program?

Moreover, it aims to determine if there is a significant relationship between the profile of the respondents and their employment status and information; the significant relationship between the employment status and information of the respondents and the school contribution in terms of personality development and work attitude and curriculum

HYPOTHESIS

The research study tested the following hypothesis, that there is no significant relationship (Ho) between the following, profile of the respondents and their employment status and information; profile of the respondents and the school contribution in terms of personality development, work attitude, and curriculum; the

employment status and information of the respondents and the school contribution in terms of personality development, work attitude, and curriculum.

The following alternative hypothesis (Ha) has been tested too. That there is a significant relationship between the following; the profile of the respondents and their employment status and information; the profile of the respondents and the school contribution in terms of personality development, work attitude, and curriculum; the employment status and information of the respondents and the school contribution in terms of personality development, work attitude and curriculum

LITERATURE REVIEW

In a growing aspect of industry and multifaceted employment, acquiring knowledge and skill is a need that can support equivalent employment. Currently, improvement in the need for educational and technical skills that match industrial needs is driven by rapid technological advances and global competition.

Thus, a number of efforts have been made through SUCs and college establishments to meet these recognized challenges in education. It is the most essential mechanism for the empowerment of humans for their socio-economic, political, and technological development. The school ought to be aware of structuring its programs. Employability is, understandably, the primary goal of university students.

Thus, the university should have an extensive spectrum of training that enable the graduates to possess employability skills and qualifications. The student's lifelong mastering of functionality and employability are more developed during their college experience. Hence a lifelong perspective for employment must be acquired by the graduates. It should include character development and personality development making them ready for the professional and expert society.

In connection with this, Mercado (2014) referred to the initiative of the Commission on Higher Education (HEI) in the Philippines to spearhead the habits of Global Training System (GTS) amongst chosen Higher Education Institutions in order to attain information that would exhibit if HEI's are imparting publications or applications that produce graduates to meet the wishes of industry and society. Likewise, thru the GTS, HEI's would be capable to align their efforts with the manpower desires of industry. (CHED CMO #s 38, s. 2006, 11, s. 1999).

In the study of Abas (Abas et.al. 2016), one imperative measure of success in an industry is an employee's capacity to use adequately the knowledge and skills that fit for employment, thus fulfilling the needs of his employer. Consequently, the end result should yield teamwork skills, especially the ability on working with others. This has been fairly correlated with employees' contextual performance in every work setting.

Personality development and work attitude is important in employability. According to Laguador (Laguador et.al 2020), results showed that engineering students have excellent internship performance ratings with regard to attitude, personality, knowledge, and, skills. Test of relationship showed that skill development needs in terms of literacy and numeracy, management skill, and work ethics have a significant negative correlation to the internship performance evaluation while a positive relationship exists between skill development needs in terms of critical thinking and system thinking skills and the internship performance.

A tracer study research (Raquel et.al. 2019), found that faculties play an integral position in making sure that college students are fitted with expertise and competency skills. Noted that, the communication capabilities are the most necessary capabilities in order for them to get employed in their first job applications. Among work-related values, love for God and perseverance are the most important. Findings also showed five elements of employability

capabilities, such as problem-solving and analytic learning; private employer and time management; creativity, innovation, and change; and non-public strengths. These abilities are very vital in employment. However, they saw decreased competency in the ability to fix problems, such as, figuring out indispensable elements of the problem, sorting out the applicable statistics to remedy the problem, and contributing to team problem-solving.

According from the data from the Philippine Statistics Authority (PSA, 2016) among the unemployed folks in January 2016, 63.4 percentage have been males. Of the whole unemployed, the age team 15 to 24 years comprised 48.2 percent, whilst the age crew 25 to 34, 30.9 percent. By instructional attainment, 19.7 percentage of the unemployed have been university graduates, 14.5 percentage had been university undergraduates, and 32.9 percentage have been excessive faculty graduates (Gagalang, 2016).

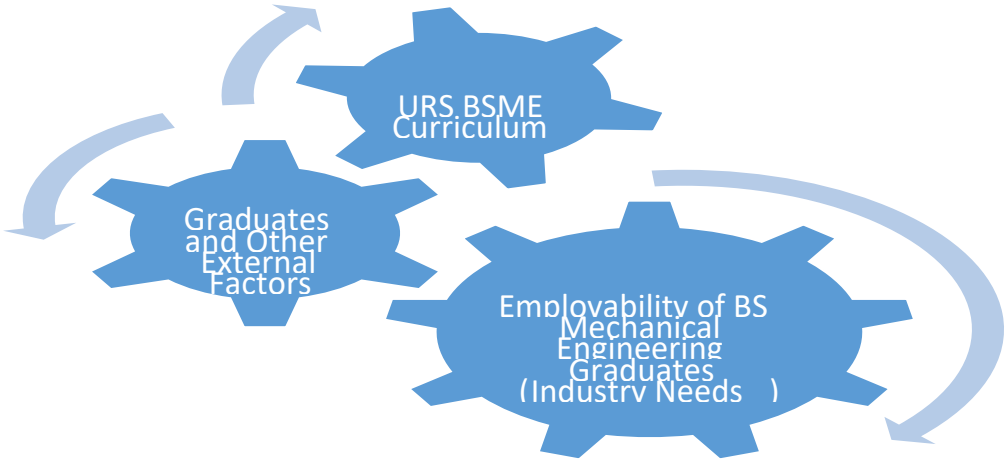
By virtue of RA 7722, says that Higher Education institutions should pursue an outcome-based quality assurance system. One specific concern implies that a core competency of Mechanical Engineering is to innovate curriculum toward outcome-based education. The practice of the Mechanical engineering profession explains that professional employment includes services such as consultation, investigation, planning, feasibility studies preparation, preparation of design and specification, installation and supervision, management, academe and research. Curriculum revision and enhancement have been carried out with the Mechanical Engineering graduates in the University of Rizal System.

Research study says (B.Javier 2018) that graduates are confronted with obtaining employment after graduation. Wherein in most cases, they lack enough abilities that fit in the industry. Findings recommend that employers frequently criticize the new graduates are lacking in feel and perception of the actual world.

Tracer study (Chavez 2016) can examine the relevance of the undergraduate curricula in mechanical engineering and can be obtained through the graduate's employment. Relatively, the mental abilities developed during their college years have contributed a great deal to their current employment. The work-related values most especially honesty and truthfulness had been viewed an important factor to the existing employment of the graduate.

CONCEPTUAL FRAMEWORK

The conceptual model is shown in the Figure below.



Paradigm for the Employability of the BSME Graduates

Moving gears in a circular motion signifies a machine working and they are part of a mechanical system that supports a function. The system is working because the BSME graduates are capable and qualified to be employed. That is how the researcher represent the subject of the study, the mechanical engineering graduates of URS and their employability.

The first gear represents University of Rizal System curriculum program for BS Mechanical Engineering Program. The second gear are the student and other external factors. It represents the student performance, his various activities to support his professional development to enhance his qualification for employment. The biggest gear represents the result of the study on the employability of the BSME graduates.

The framework is supported by different theories. The first theory supports the principle that support the acquisition of academic-skills. Walberg's,1981 (2014, McGrew) theory of educational productivity comprises variables representing the school's contribution on the students' qualification for employment such as ability, motivation, quality of instruction, and quantity of instruction given. It says that, "Classroom learning is a multiplicative, diminishing returns function of four essential factors—student ability and motivation, and quality and quantity of instruction—and possibly four supplementary or supportive factors— the social psychological environment of the classroom, education-stimulating conditions in the home and peer group, and exposure to mass media".

Hillage and Pollard, 1998 (2015, UKEssays) however, see employability as being capable of getting and fulfilling work through the ability to be self-sufficient within the labour market, to realise the potential through sustainable employment. This finding says that employability is about having the capability to gain initial employment, maintain that employment and if necessary find new employment.

Knight and Yorke, 2003 (2015, UKEssays), however, define employability as,

"A set of achievements, understandings and personal attributes that make individuals more likely to gain employment and be successful in their chosen careers."

METHODOLOGY

Procedure of the Study

This tracer study used the descriptive research. Data gathering was done through the researcher-made questionnaire.

The gathered data consists of profile of the respondents, professional trainings/advancement taken out of URS, relevant employment information and job status, problems faced in the workplace. In a general perspective, personality development and work attitude, school curriculum and other support programs were rated by the respondent. On the same purpose, respondents' recommendations on how the school can improve the BSME program in the future were asked too.

The data collected, using appropriate statistical treatment, was organized, analyzed, and interpreted.

VII RESULTS AND DISCUSSIONS

The following topics discusses the essential method and principles applied and used by the researchers in the conduct of the study. Findings and analysis of the results follows.

Research Method

The researcher used the descriptive and inferential research methods. The content of the questionnaire was validated by three research experts who are all experienced and knowledgeable in the field of research.

Data and results are kept with utmost confidentiality and privacy. All our communications with the respondents, research office and other relevant persons toward the

accomplishment of the research are dealt with honesty, privacy and transparency.

The Questionnaire

The research instrument is made by the researcher and was validated by research experts. The design of the **questionnaire** is divided into five parts, namely, respondents' profile, employment information, current employment status, personality development and work attitude and curriculum.

The respondents profile consists of the age, civil status, board examinations and trainings. In the presentation of findings for the trainings, the researchers provided their response which includes what BSME course subjects and professional industry practice are supported by the trainings received.

Employment Information and Current Job Status consists of all parameters as stated in the objectives. These are whether the respondent is employed or not, reasons for not being employed, time spent and means done to get employed, employment by type of organization and industry category, designation/employee rank and nature of appointment, monthly salary, specific problems faced in the job, and reasons for delays of and non- employment.

Personality development and work attitude consist of the perception of the respondents on the school's contribution in the development of their personality and work attitude. The various aspects of personality development and work attitude are made in a general form, such that the study is made to focus on the employability of the graduates. The researcher believes that this area is a factor in the employability of an individual and is likely developed and enhanced in school. The answers are described in terms of scales.

Curriculum and its strength consist of various areas of mechanical engineering student development and support as provided by the school. The respondent will rate the school support, programs and activities regarding curriculum. This section is included because the researcher believes that the response obtained in this section will provide an idea how significant the mechanical engineering program of study and its curriculum to the employment of the respondent. The responses are described in terms of scales, too. Lastly, the respondents are asked to provide recommendations, suggestions for the improvement of the ME program.

Sampling Method and Size

There are one hundred thirteen graduates (113) of mechanical engineering from year 2012 to 2016. The researchers were able to get a total of eighty four (84) or 74.33% as the research respondents. This is higher than the computed sample size of forty-seven (47).

The computed sample size of forty-seven respondents is actually, 41.49% of the total N of 113. Fortunately, the researcher is able to come up with 74.33% or 84 respondents. The greater the sample size, the higher the accuracy level of the result.

Statistical Treatment Used

The statistical treatments used in the study are frequency, percentage, rank and weighted mean. For the inferential statistics, correlational analysis through Pearson Correlation Method and statistical significance test, where significance level at $\alpha = 0.05$, were applied. The support of the URS Statistical Centre using SPSS provided the statistical results and computation.

The Findings and Discussions

The following are the summary of data gathered from a total of eighty-four respondents. This is 74.33% of the one-hundred thirteen (113) total graduates of mechanical engineering from year 2012 to 2016.

I. Profile of the Respondents

There are eighty-four respondents; seventy-four (74) are male and ten (10) are female. Respondents' age data shows that sixty-three percent or fifty -three (53) respondents are 20-24 years old; thirty-one percent or twenty-six (26) ages 25-29 years; and six percent or five respondents are the age 35 and above. On the civil status, 81% or 68 of the respondents are single;

1.2% or 1 respondent is in a live-in relationship, and 17.9% or 15 respondents are married.

For the Professional Examination Passed, sixty (69) or 82.1 % of the respondents pass the Mechanical Engineering Licensure Examinations; three (3) or 3.6% pass both the ME Board Exam and Master Plumber examination; and one (1) or 1.2% passes the both the ME Board and Sustaining Technical Engineer exam; and eleven (or 13.1%) have no answer (no examinations).

The following are the discussion of the pieces of training undertaken after graduation by the respondents and the researcher's response

The result shows that there are 29 kinds of pieces of training received by the 31 respondents. These are, "Tesda Shielded Metal Arc Welding (SMAW) NC 1", received by five (5) respondents where it is the highest in frequency; "Heating Ventilating and Air Conditioning (HVAC) Design, Installation and Maintenance", and "Basic Training course for Pollution Control Officer and Continuing Environmental Education Program for PCO" are received by four (4) respondents; "Basic Car Polishing Surface Top Coat,Basic Tig Welding (Mitsubishi Motors Phils. Corp)" , received by three respondents (3); "BOSH (Basic Occupational Safety Hazard)", "Computer-Aided Design (CAD) of HVAC and Sprinkler Design", " First Aid Training", "Instrumentation and Control", "Environmental Safety Mining Seminar", "Basic MEPT Training Program", and "Bearing, Welding (Solid Cement)" each has been received by two respondents.

More so, automotive engineering, energy engineering, heating ventilating, air conditioning, and refrigeration prove to be the best sought professional industry practice for mechanical engineers.

The results of training are further analyzed by providing the specific or corresponding major subjects of the ME curriculum it addresses. These will help to address the possible improvement needed in instructions. Moreover, this training provided the idea of what specific and significant knowledge and skills are needed by the various industries today (4th column). Previous research has thoroughly discussed antecedents of employability at the level of individuals including factors suc , education and job-related skills (Wittekind et al. 2010), and learning activities (Habets, 2012).

The training acquired by the respondents is in line with the provided subjects to the Mechanical Engineering Program from the CHED CMO. It is timely and relevant to the respondent's professional and industry practice.

2. Employment Information and Current Job Status

The employment status shows that eighty or 95.23% of the respondent are presently employed and four or 4.76% are not employed at the moment. None of them have never been employed.

Reasons for the Delays in and Non-Employment of the Respondents

The reasons for the graduates for the time gap between their graduation and their first employment are the following. The graduates prioritized taking ME board examination; all of them facilitated acquiring documents for employment (SSS, Phil health, Pag-ibig, TIN Number). Third, they developed more and practiced their communication skills in English, a very surprising answer because it is admitted explicitly. The fourth reason is that they helped their family first. Last, some have encountered a lack of financial resources to spend in pursuit of employment. A respondent at the moment is making advancements through studying.

The length of time spent finding a job after graduation shows that sixty (60) or 71.4% of the respondent have acquired jobs in less than six months; twenty or 23.8% of them have jobs in greater than six months to one year; one or 1.2% of the respondent had a job in greater than one and a half year to two years; one or 1.2% of the respondent had a job in more than two years. The

good passing rate of the respondents on the board exam, 82.1%, supported most of them (71.44%) to get a job in less than 6 months.

Current Employment Status

The employment status of the respondents shows that 81% of the respondents were employed in the private sector; 8.3 % are in the government; 3.6% are in the non-government organization; and unfortunately, 7.1% have not answered. The Employment by Industry Category shows that 45 or 53.6% of the respondents are employed in the industry, ranked as number one. Second in rank is for "others" not included in the specified categories; 3rd in ranking, are those that have not answered; 4th ranking goes for 4 respondents who are in the academe and another 4 are in the government service; there are 2 or 2.4% of the respondent are Overseas Filipino Workers. For the Field of Practice (based from Designation), it shows that 64 or 76.2% of the respondent are into engineering works; 3 of them are in the academe; and 2 or 2.4% are into general office works. The higher percentage of those respondent performing engineering works suggest that they can and are qualified to handle the job.

The Job/Designation Level shows that 3.6% of the graduates are already in the top management position; 26.2% are already in the middle management group position; 58.3% of them are in the operation level of the company. The reason why the majority of the ME graduates are in the Operational Level is that, they are mostly considered as new in the profession given their age, work experiences, and training; Few are in the top management level, because, generally the respondents are still young, ages 20-29. But some studies say that engineers geared their careers toward technical or functional-based job. They will grab every opportunity to further develop their skills in these areas and are consistently on the move to upgrade their skills to higher levels. They develop their sense of identity from the application of these technical skills (engineering works) and they love to face numerous challenges pertaining to these skills including managing people, but, in the areas of technical and functional management too. However, since general and top management includes not only engineering function, these engineers generally are reluctant or distance themselves from general management, as this will not allow them to demonstrate their technical and functional know-how, (D'Silva, JL., et al, 2014)

The stress to respond for an immediate, urgent and continuous work schedule; meeting deadlines ranked first. For example, in a company's electrical shutdown, where the air conditioning system needs to look into with urgency, hence, expertise is important and the demand to work in a straight 48- hour work schedule. That is really stressful, but, as a worker, they must accept it because it is a part of the job.

The attitude of the co-workers ranked 2nd. Dealing with various work attitude values and personal differences among workers has always been hard and reality in the workplace. The school regularly provides, the college of engineering, with a work attitude seminar and recollection to the students, but still is not yet enough to provide the respondent the awareness on this reality. Learning on how to deal with co-workers is a process that cannot be possessed at once by an individual, hence, the best advice is a sense of positivity in the workplace. When you implement a positive attitude at work, co-workers will likely follow the same. Being positive is contagious. Work demands can cause stress and anxiety. By changing your reaction to stressors at work, by thinking positively, you can become more productive, thus, eliminating further stress.

Their entry as trainees ranked 3rd. Graduates are expecting to be accepted as cadet engineers more than a trainee. The researcher believes the company has the right to accept and designate them in the manner they believe is suitable to the present skills and qualifications of the applicant. In fact, one answer presented by the respondent is the lack of information in the designing process.

The site problems ranked 3rd too. Problems at every kind of work are always there and inevitable, Problems in the site are an example where no one is exempted. The respondent's maturity to look at it in a more positive way, say as a challenge and an opportunity must be something to learn as an individual worker.

The communication skills in English ranked 3rd too. This finding showed up again. Part of student development is the much-needed attention on how the students could be provided with an enhanced English communication development program.

The researcher believes that individual initiative can be a very effective tool to enhance communication. For example, home English speaking practice, reading, and writing, and the strong implementation of English communication in the everyday classroom processes. Evidently, faculty members must take responsibility to be the leader in the said activity process.

Communication skills is a clear factor in employability. The curriculum has to realize the need for much attention on how these engineers in the future could be provided with an enhanced English communication development program.

The culture of the company ranked 4th. Company culture refers to the attitudes and behaviors of a company and its employees. It is evident in the way an organization's people interact with each other, the values they hold, and the decisions they make. The respondent being young and neophyte to such kind of challenging and stressful working environment and responsibility need to understand and know how to cope with it. Dealing with it in a less stressful manner is an experience to learn of individually.

The insufficient knowledge about civil works ranked 4th too. Civil works are a part and parcel of mechanical engineering work too. For example, plumbing systems, and air conditioning systems are part of the overall structural design. These are cases where other engineers like ME are assigned to the construction industry, especially in handling mechanical products/equipment. The problem is insufficient knowledge about other fields of knowledge is present because, the work challenge nowadays is, that various job and manpower requirements are for multitasking and multi-intelligent worker.

The 5th is the pressure of traveling and traffic. The problems presented could be an impacting example to discuss with the students in the next conduct of work attitude seminar.

All the problems above are just normal to encounter in the workplace. The graduates being young, ages 20-29, are still not aware of these realities. The problems presented could be an impacting example to discuss with the students on the regular conduct of work attitude seminar.

For the nature of the appointment, sixty-three percent of the respondents are in regular/permanent positions; thirteen percent are contractual; fourteen percent plus are provisional, and the other 10% are casual and other types of appointment.

In terms of monthly salary and their satisfaction, 47.6% of the respondents are receiving less than ₱20,000.00 salary per month; 35.7% receive salary above ₱20,000.00 to ₱30,000; thirty-six percent plus are receiving above ₱30,000 to ₱ 40,000, and twenty-seven percent plus receives a salary over ₱50,000.00. It shows that forty-one or 48.8% of the respondent are not satisfied with their salary; twenty-eight (28) or 33.3% of the respondent are satisfied, and the other 17.9% abstain to answer the question.

3. School Contribution to Respondents' Employability

Five-scale qualitative answers with corresponding numerical measurements serve as the respondents' choices to describe their satisfaction and the weighted mean is used.

3.1 Personality Development and Work Attitude

The results of the responses of the respondent on the various areas of personality development and work attitude they received. These are leadership with a weighted mean of 3.62, equivalent to a very satisfactory rating; teamwork, 4.04, very satisfactory; human relation skill got 3.84, very satisfactory; result oriented got 3.68, very satisfactory; communication skills, 3.50, very satisfactory; sensitivity to details, 3.59 and adaptability 3.94, very satisfactory. The general weighted average for this section is 3.79 equivalent to a very satisfactory rating.

It implies that the high board passing rate (82.1%); the current employment status,(95% are employed); and job/designation level, where most of the respondents are already assigned to middle management and top management level, are pieces of evidence of the **very satisfactory** results on the school contribution on the respondents' personality development and work attitude.

The results showed work attitude and values and personality development had able to help the employability orientation of the respondents. This depicts the importance of work values on career development and employability orientation as stated by Choi (2013). Furthermore, employability orientation can be further strengthened by the need to focus on individual characteristics toward employability as mentioned by Nauta (2009).

3.2 Curriculum

Respondents' Ratings In The School Curriculum

The results show that professional academic knowledge has a weighted average of 3.69 equivalent to very satisfactory; the range of course subjects offered for BSME got 3.79, very satisfactory; the number of optional subjects got 3.18 equivalent to satisfactory; relevance of the program to BSME professional requirements has a weighted average of 3.68, very satisfactory; problem-solving skills got 3.88, very satisfactory; research and development skills got 3.71, very satisfactory; teaching/learning environment got 3.39 equivalent to satisfactory; teacher-student relationship, 3.77, very satisfactory; information technology skills got 3.58, very satisfactory; library/laboratory equipment got 3.11, satisfactory; extracurricular activities 3.28, satisfactory; interdisciplinary learning got 3.67, very satisfactory; work placement linkage got 3.34, satisfactory; and the last industry linkage got 3.23 equivalent to satisfactory rating.

The general weighted average for this section is **3.6** equivalent to a **very satisfactory** rating. However, take note that there are four variables with satisfactory ratings. Hence, providing more sensitivity to the results, what could be the reasons why the ratings given were satisfactory?

Moreover, the following findings support the reasons, such as, results on the trainings; and exposure to laboratory, practicum, etc., speaking of the necessity of the learning methods with practicum/ actual exposure to understand the core ME subjects. This is supported by previous research where it has thoroughly discussed antecedents of employability at the level of individuals include factor such as **education and job-related skills** (Wittekind et al. 2010). Consequently, the concerned variables with satisfactory ratings (only) can be accepted to have a straightforward connection with employability, hence must be addressed by the curriculum. To summarize, the curriculum, personality development and work attitude as a factor of employability of graduates were adequately provided by the school.

4. Discussion Of Some Recommendations From Respondents To Improve The Current BSME Program With Researcher's Response

The first recommendation given by 52 respondents is to expose the student to more machine shop/ laboratory practices/ practicum; provide more tools and equipment, and

laboratory for M.E to enhance skills; lack of Instruments to teach major subjects. The three specific recommendations are put into one since they are related. The college admits there is still a deficiency in shop/equipment/ laboratories. Lack of financial resources is the main reason why provisions for such are delayed. Request for the tools, equipment, instruments, and laboratory facility is going on for Mechanical Engineering Program. At present, the university machine shop/ laboratory facilities (located in the College of Industrial Technology facility) are being used by the mechanical engineering program for its laboratory activities.

The second is to conduct seminars related to Mechanical Engineering. The school, the college of engineering is very committed to providing seminars whenever possible. As mentioned earlier, seminars and training were done and will continue to be implemented.

Other recommendations are, to hire or add Professional Mechanical Engineers instructor. The hiring of a Professional ME is a problem that is known to the college of engineering. They are experiencing difficulty looking for this fellow, who, despite of a not competitive salary, can commit to effective teaching and service. There are some PME known to the college and are actually an alumni of the school, and are interested (as part timer though) but reluctant too because of the low salary rate 180.00 per hour) as compared with their industry rate. Nevertheless, the current Mechanical Engineers Faculty at the university is at its progression earning their Professional Mechanical Engineers status license.

Strengthened the improvement of communication skills of students as it is needed in the job. This item has been considered in the personality development and works attitude section. The researchers agree with this recommendation that communication skills in English need improvement. As per observation, the communication skills of the graduates are developed based on the activeness of students to participate in the classroom. The more the students actively recite the oral recitation the more students are exposed a good communication skills.

Allow to conduct and implement plant visits. Plant visits help students to visualize actual machine works systems and experience the joy of exposure to real industry operations. That moment of exposure provides the start of bringing them in, in their professional life ahead. However, for quite a number of years plant visits were not made possible. The university was once offered Plant visits to Industrial and Power Plants since it is included in the CMO curriculum. But a presidential memo suspended the conduct of any educational tour in the university. In lieu of this, the ME Department conducts seminars and training inviting registered mechanical engineers to transmit knowledge and skills they learned in their industry/company place of work.

The graduate is suggesting being strict with the student. This is quite amusing. During their stay in the school as a student. They tend to be asking for leniency and yet now because they realize the importance of substantial learning, the tone reverses. At present, the faculty of the Mechanical Engineering Program balances the teaching approach to students through a democratic and authoritative system. The approach exercise is by giving the student's the freedom of expression to stimulate their ideas and discussion.

Suggested the Alcorcon Review center to feel the knowledge gap between URS and schools in Manila, because the training method is slowly but surely type of approach. The review centers offered a holistic approach of context in teaching Mechanical Engineering subject with certain style and techniques that is a fast phase and interactively coordinated with adaptation to various university within the National Capital Region, that is intended for students to pass the board exam. While the approach of the university is to deliver knowledge to students in

the context that is based on the approached of the CHED Memorandum Order (CMO).

Request for more learnings in AutoCAD, and other modern software and application. The Mechanical Engineering Program offered Computer-Aided Design (AutoCAD) necessary for the design and drawing of industrial parts. At present, the college is requesting for modern software and application on Computational Fluid Dynamics and Solid works.

Make programs that can improve the leadership of students. The university has organized the Philippine Society for Mechanical Engineer (PSME) -Student Unit which is active and participated by ME,students. They are the leaders and officers of the group.
Leadership can be harnessed even in small classroom activities.

5. Correlation Analysis and T-test (Statistical Significance Test)

The following are the results and discussion on the correlational analysis, significance test, and implication.

5.1 The Significant Relationship between the Profile Of The Respondents and their Employment Status and Information.

Age of the Respondents and Their Employment Status and Information

The result shows that age of the respondents has only a **negligible correlation** with the following variables such as, being employed or not, r= 0.026; time spent to find a job after graduation, r = 0.095; means done to find the current job, r= 0.083; type of organization, r= 0.139; industry category, r= 0.106; field of work, r= 0.061; job level-designation, r= 0.076; and nature of appointment, r = 0.203. In these, the results of r's are closer to zero and the corresponding results on ρ's are > 0.05, hence, it fails to reject the Ho.

On the other hand, age of the respondents has a **moderate positive correlation** with the respondent's monthly salary, r = 0.529 (halfway to 1), ρ = 0.000 < 0.05, hence, Ho was rejected. Therefore there exists a relationship between age and monthly salary.

Moreover, earlier findings showed that 48.8% (or 41) of the respondents are not yet satisfied with their present salary and 17.9% abstain to answer. This support **the moderately positive correlation** between the age (20-29 years old), and the satisfaction results on the monthly salary of the respondents.

At the moment, the respondents have not answered a positive result regarding their satisfaction on their present salary. Such that only 1 (1.2%,) of the respondent is receiving a salary above the median salary of ₱48,200 in the Philippines, and specifically, ₱42,800 average monthly salary for Mechanical Engineers.

Sex of the Respondents and Their Employment Status and Information

The sex of the respondents has only a **negligible correlation** with the following variables such as, being employed or not, r= 0.082; time spent to find a job after graduation, r = 0.073; means done to find the current job, r= 0.036; type of organization, r= 0.003; industry category, r= 0.044; designation, r= 0.206; level, r= 0.191; nature of appointment, r = 0.100 and monthly salary, r=0.008. All the results of r's are closer to zero and the corresponding results on ρ's are > 0.05, hence fail to reject the Ho. It implies that both male and female BSME graduates are both employable.

Civil Status of the Respondents and Their Employment Status and Information

The results show that the civil status of the respondents has only a **negligible correlation** with the following employment information (variables) such as, being employed or not, r= 0.025; time spent to find a job after graduation, r = 0.152; means done to find the current job, r=

0.074; type of organization, r= 0.065; industry category, r= 0.068; field of work, r= 0.206; job level, r= 0.040; and nature of appointment, r = 0.168. All the results of r's are closer to zero and the corresponding results on ρ's are > 0.05, hence fail to reject the Ho.

On the other hand, civil status and the monthly salary of r= .482, has **low positive correlation**; ρ = .000 < 0.05, hence Ho is rejected. It implies that the civil status of a person whether married or single has the same need for a satisfying salary. The results are parallel with the relationship of age and monthly salary.

Professional Examination of the Respondents and Their Employment Status and Information

The results show that the Professional Examination of the respondents has a **negligible correlation** with the employment information such as, presently employed, r= 0.063; time spent to find a job after graduation, r= .061; means done to find the current job? r= 0.113; type of organization r = 0.003; industry category, r= 0.104; nature of appointment r= 0.054; and monthly salary, r= 0.188. All the results of r's are closer to zero and the corresponding results on ρ's are > 0.05, hence failing to reject the Ho. Therefore, all the variables mentioned have no significant relationship exists with the professional exams passed.

However, the Professional Examination of the respondents has shown a **low positive correlation** with the employment information such as field of work, r= 0.248 and job level-designation, r= 0.381. The corresponding results on ρ's is < 0.05,
hence Ho is rejected. Therefore, there exists a relationship between professional examination passed by the respondent and their field of work and job-level/ designation.

The relationship is displayed by some earlier results such as, 82.1% of the respondent are board exam passers. Because of this, 80 or 95.2% of the respondents are presently employed; 76.2% of the respondent are into engineering works; 58.3% are in operation level and 26.2% are already in the middle management level, though are still young (ages 20-29); and 3 of the respondents are now in the top management level. These are remarkable employment records for the graduates.

5.2 The Significant Relationship between the Respondents' Profile and their Ratings on the School's Contribution that Support their Employability

a. Age of the Respondents and the School's Contribution

The age of the respondents and the school's contributions such as, on personality development and work attitude, r= .055, and curriculum, r= 0.160 **has a negligible relationship**. All r's are closer to zero and the corresponding results on ρ's > 0.05, hence, it failed to reject Ho. Therefore, there is no significant relationship that exists.

b. Sex of the Respondents and School's Contribution

The table shows that the sex of the respondents and their ratings on the school contribution in terms of personality development and work attitude, r = 0.040 and curriculum, r= 0.105 has a **negligible relationship**. All the results of r's are closer to zero and the corresponding results on ρ's > 0.05, hence, it failed to reject the Ho. Therefore, there is no significant relationship that exists.

c. Civil Status of the Respondents and the School's Contribution

The civil status of the respondents and the school contribution in terms of personality development and work attitude, r = 0.018 **has a**

negligible relationship. The corresponding results on ρ = .874 > 0.05, hence, it failed to reject the Ho. Therefore, there is no significant relationship that exists. However, the curriculum where r= 0.264 (almost equivalent to 0.3), shows that a **low positive correlation exists** with the civil status. The corresponding ρ= .006 < 0.05, hence, Ho was rejected.

The respondents whether single or married needs to get employed to have income. Note that the satisfaction result of the respondent regarding curriculum, such as on " work placement linkage", 3.34 and "industry linkage, 3.23 " have only satisfactory ratings. It implies that these areas of the curriculum have been perceived by the respondent to affect their employability.

d. Professional Examination Passed by the Respondents and the School's Contribution

The Professional Examination Passed by the respondents and the school contributions in terms of personality development and work attitude, r= 0.129, and curriculum, r= 0.070 **have a negligible relationship**. The results of r's are all closer to zero and the corresponding results on ρ's > 0.05, hence, it failed to reject the Ho. Therefore, there is no significant relationship that exists.

The suggestions of the respondents show that there is a content and teaching methodology gap between the curriculum of the school (as it is based on CHED CMO) and what the review centers in Manila taught (with the objective of making the students pass the board exam).

The school might have some weaknesses in the methodology, laboratory, machine shop/practicum, and equipment facilities that can provide realistic instructions and learning, but still, it can be accepted that the school has provided the foundation to make them capable to learn what more is needed to be learned of (if it lacks). This foundation in particular is that the respondents were able to understand and cope well with the standards and requirements of the review centers in Manila. If not, the board exam passing rate would not have been 82.1%.

The high passing rate also is a factor in the employability of the respondent, such that variables "field of work" and "job level" have a significant relationship with Professional Examination Passed. It implies that employers are looking into the board examination results, hence, it supersedes somehow the weakness of the school curriculum. In fact, these employers are very willing to provide specific training to suit their skills and manpower requirements.

5.3 The Significant Relationship between the Respondents' Employment Status and information and the School's Contribution that Support their Employability

Relationship between the Respondents' Employment Status and information and the School's Contribution

The variable "type of organization, r = 0.252 shows a **low positive correlation** with the curriculum, hence, Ho was rejected. The value of ρ = 0.026 < 0.05 suggests that there exists a correlation between the two.

It implies that the private business industry, 81%, that employs the respondents are looking into the strength of the curriculum offered by the school. And in support of this curriculum received, they provided specific training to enhance the quality of the respondents as well as to suit their requirements. Relative to these, findings on the high board passing rate of the graduates (95%) make them believe that the URS BSME graduates are trainable and capable to perform engineering work. And notable too at present, the results on "job/designation level" of the employed respondents which has a significant relationship with the high passing board exam rate (95%) too, also support the positive relationship that exists.

Moreover, the rest of the variables for employment status and information posted values of r's closer to zero, hence, all have a **negligible relationship** with the school contributions, hence, it failed to reject Ho. All the corresponding values of ρ's > 0.05, therefore, there is no significant relationship exists among those variables.

It implies that the variables such as "means done to find the job", being employed at present" and "reasons for delays in employment" relies heavily, on the respondents, themselves. Whereas, the variables, "monthly salary", "nature of appointment "," job level", and "industry category" are on the hands of the business organization or the employer in particular, though, however, their decisions are based from the important profile of the respondents, like, board examination. This statement is guided by a study, that, over the years the concept of employability orientation has remained an important issue, and generally according to Van Dam, et al., (2006), there are three distinct perspectives that employability, such, in terms of the individual, organizational, and the economic-social perspective.

VIII SUMMARY AND CONCLUSIONS

The research has eighty-four respondents, dominated by men; aged, 20-29 years old, single; and are ME board examination passers (95%). The respondents, though board passers, went through training periods as part of the employment requirement. They are mostly employed in the private business industry, 85 % are in the operation level and middle management group position and 58.3% are in regular/permanent positions. These indeed are conclusive that our graduates are capable and have almost a hundred percent rate of employability.

Findings such as low satisfaction in their earnings, and various challenges in the job, workplace, and co-workers are normal and reality. The respondents being young are coping well with the challenges in the job and workplace because of their adaptability, and with positivity, they appreciate the experiences as an opportunity for learning.

For curriculum, the various pieces of training acquired by the respondents are in line with the ME course subject and professional industry practice. Hence, these could be used as input for improvement. The school contribution such as the development of the respondents' personality and work attitude and the curriculum received supports the high employability rate of the respondents.

However, still, curriculum content and implementation must be revisited because of the various recommendations from the respondents. These are the need for Professional Mechanical Engineers instructors; programs to improve communication skills and leadership of the student; implementation of plant visits; more seminars relevant to mechanical engineering programs; shop/ laboratory practices/ practicum; provision of more tools, instruments and equipment, and laboratory for ME major subjects; and modern software application in the instruction.

In all of the summary of findings, the researchers concluded therefore that the mechanical engineering graduates, batch 2012 to 2016 posted a very high employability rate. The school, its curriculum for the mechanical engineering program, the conscious effort given, through programs and various activities to engage and develop students, supported their employability.

IX IMPLICATIONS AND RECOMMENDATIONS

The following are highly recommended;

The high rate of employability of mechanical engineering graduates and the high rate of board passers implies that mechanical engineering programs could be a center of development (COD) in the future. Hence the

acquisition of financial sources to gradually fill in the lack of laboratories, shops, tools and equipment, and modern software applications are necessary. Likewise, consider increasing the hourly rate of Professional Mechanical Engineers from ₱180.00 to ₱350.00 to make the job more appealing.

The problems experienced by the respondents are all normal and reality in the workplace. However, the need to enhance awareness and acceptance of the various situations/problems adherent to employment could be possibly improved during the regular conduct of the work attitude seminar. A very good speaker should be chosen.

To improve communication skills, the best practical way to accomplish it is, through the implementation of a school-wide English-speaking university. Faculty members should take lead. A simple but strong implementation of English communication in the everyday classroom processes could help awaken the tongue and the language skill of the students. Indeed, skills in English communication are an important factor in employability

The policies and guidelines on the conduct of plant visits should be revisited. It is allowed, but the tough requirements to make it through are so tedious to acquire. The responsibilities of the school and the faculty are defined with so many risks.

In cases when a plant visit is not made possible, the faculty should think of a practical, even virtual, type of plant visit/ exposure. For example, relevant video instructional materials on YouTube and other media platforms or the faculty/ME department could prepare their relevant video instructional materials.

The pieces of training received by the respondents, its course content, and the corresponding course subjects it supports, imply the need for real improvement in the delivery of instructions.

From all the findings, especially in the field of work, job-designation level, monthly salary, and curriculum which have significantly affected employability, it is recommended that research on how employers assess the URS BSME graduate's employability should be undertaken.

Lastly, in light of all the findings, the efforts spent in the conduct of the research, and the sentiments felt during the process, it is truthfully recommended that the curriculum content and its execution must embed employability.

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