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SKILL DEVELOPMENT MODEL FOR ENHANCING PLACEMENT OF ENGINEERING GRADUATES

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ABSTRACT

     Placement of the engineering graduates is the major issue in the country. Recruiters from various industrial sectors are not satisfied with skill acquired by the engineering graduates. Skill gap among the engineering graduates are not fulfilling the needs of the corporate world. Not only the individuals but organisation and nation are also suffering from the skill issues among the engineering graduates. To overcome the skill gap among the engineering graduates an attempt has been made by the researchers in this paper to study the year wise skill requirement for the engineering students. Based on this study, a training and placement model for the enhancement of the students' skills and placement has been designed and developed. This training and placement model is divided into five phases during graduation period. By implementing training and placement model, engineering institutes can be able to develop the needful and specific skills among students, which ultimately lead for placement of the students.

KEY WORDS: *Placement Model, Engineering Graduates, Training and Development, Skills Gaps etc.)*

I. INTRODUCTION:

     Engineering education is going through drastic changes in the country. Recent researches on the placement of engineering graduates have shown poor placement ratios. Only 25% of Indian and 20% of professional in Russia are at present employable by multinationals *(world economic forum, 2011).* An inadequate skill among the students is the major problem faced by the placement officers for placing the engineering graduates. Because of the skill gaps not only the individuals or organisations suffer but even the nation have to pay heavy price. It is also found that employers are not satisfied with the skill set and quality of the engineering students. Even Governments and engineering institute policy makers have realised the importance of the skill development among the engineering students. Curriculum of engineering students has to be designed and implemented in such a way that it will not only enhance the technical skills but also students' overall employability skills. Skill development among the engineering graduates is the foremost need, Government, Industry and technical institutes together have to plan, decide and implement the innovative skill development activities for engineering graduates. Attitude of the stake holders of the engineering institute towards the students have to be changed. Focus has to be given for student's skill development and placement of the students from the day one of admission. In current study an attempt has been made to understand the engineering students' skill development requirement and year wise training and development needs. As per the training need assessment, year wise skill requirement of the students has been identified. Based on this skills requirement a four year detail program has developed for enhancement of skills and placement of the students.

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II. OBJECTIVE:

To identify the year wise skill requirement for engineering students and to develop a training and placement model for enhancing engineering graduates placement.

III. METHODOLOGY:

For fulfilment of the above objectives, a study of engineering institutes under Shivaji University, Kolhapur has been carried out. Both primary and secondary data source of information has been used for the study. Through structured interview schedule an intensive interview of training and placement officers of institute has been taken to get the details of year wise skill requirement of the students and to develop the training and placement model. The training and placement model has been developed in five Phases, from admission of the students to his final year of passing. Hari Prasad N. and Parasuraman. [1], in their study, have found three key training secrets, campus placements training, campus readiness training and basic employability skill training. These three key training requirements have referred and further studied in details in study area. Based on this study researchers have developed training and placement model for both skill and final placement improvement of the engineering graduates.

IV. FIVE PHASES OF TRAINING AND PLACEMENT MODEL
FIRST PHASE -Admission to engineering: *Employability Index Assessment Test (Institutes level / University Level)*

In the first phase of this model it is suggested to institutes that, employability index assessment test should be conducted. Employability index test can be conducted manually or online. This assessment test will be based on the basic skills set and criteria expected by the corporate world. An Average number will be calculated based on the employability index of the students. On basis fixed number of index on which the level of employability of the students analysed. Either by Institutes or by university can conducts this assessment test through online or even it can be conducted manually. It will be a unique model if university conduct this test through their portal. Based on their report generated skills gap analysis of individual can be prepared. This calculated employability index give clear directions to the faculties of the institutes as well as to the students. According to the skills gaps directions should be given to the students for skill enhancements. Along with the academic goals students can set their skill enhancement targets in this phase.

1. *Online Assessment:* it is suggested that, with the help of the computer department of the institutes / university, employability index assessment test can be prepared and easily implemented. With consulting the employers, HR Executives, Faculties and experts in the area employability index should be prepared and marking for each parameter should assigned.

2. *Offline Assessment:* If it is not possible to conduct online test, then this test can be also conducted manually. In offline test, assessment forms, Questionnaire and test will be prepared and conducted to get the employability index of the students.

SECOND PHASE (1st Year of Engineering): *Campus Awareness Program (CAP)*
1. Skills Gap Analysis Report Generation (based on employability Index): Based on the employability Index assessment, skill gap need to be analysed and the reports can be generated. In this report training need identification and skill set in which training is needed for the students identified.
2. Campus Awareness Program (CAP): Campus Awareness program is the first training program which will be given to the all students in which following points will be covered:
1   Awareness on Percentage Requirement by the corporate from the students
2   Awareness of Gaps in the examination and its impact on employability of students
3   Basic Technical skills and Generic Skills Set needed
4   Criteria of the companies
5   Aptitude test, Interview Skills, English Fluency requirement
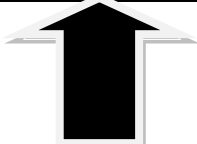6   Current market demands and supply situation

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7   Passing without backlogs

*3. **Individual Training Need Identification:*** Generally training need identification of the students in the engineering institutes is being done. Even though it is asked to the students about their training needs, training need assessment is done commonly. In the first year of the engineering, training and placement department of the institute essence to conduct individual training need analysis. Based on the reports which are generated from the employability index assessment, personal individual mentoring should be done for motivating the students.

THIRD PHASE (2nd Year Engineering): *4 Quadrant Classifications of Students- (A, B, C, D)*
        After Individual training need analyses of the students are done, Students need to be bifurcated according to below mentioned four quadrant classification (A, B, C, D,). For each quadrant training module should prepared and it should be implemented. According to skills assessment, students should be divided in to four quadrant classification and then training should provide to each one of them as per the classification. It will help institute to divide students in to groups and then focuses as per their individual requirement instead of giving general training. Four Quadrant classifications of the students not only help to focus on each students but it also save time, money and efforts. Ultimately it is possible to get maximum placements and output.

Four Quadrant Classification (A,B,C,D,)	
A	Students with good skills
B	Students with average skills
C	Students with poor skills
D	Students with very poor skills

- **Basic Employability Skills Training (BEST)**

After classification of the students, each students need to provide basic employability skills training. These basic skills are essential and demanded by the corporate, which are needed to give the students. It is given below

1. Emotional Intelligence (EQ)
2. Leadership
3. Entrepreneurship
4. Flexibility
5. Global Mind set
6. Time Management
7. Self-Assessment
8. Self-Motivation
9. Willingness

        With the help of both in-house experts and external trainers above mentioned training model   need to implement.

- **Basic Module of Aptitude test:** It is found in the study that most of the students are rejected in the aptitude test, which is the first screening test adopted by various companies while recruiting the engineering students. There is need to give intense training on aptitude test to the engineering students. According to this aptitude test should be given continuously.
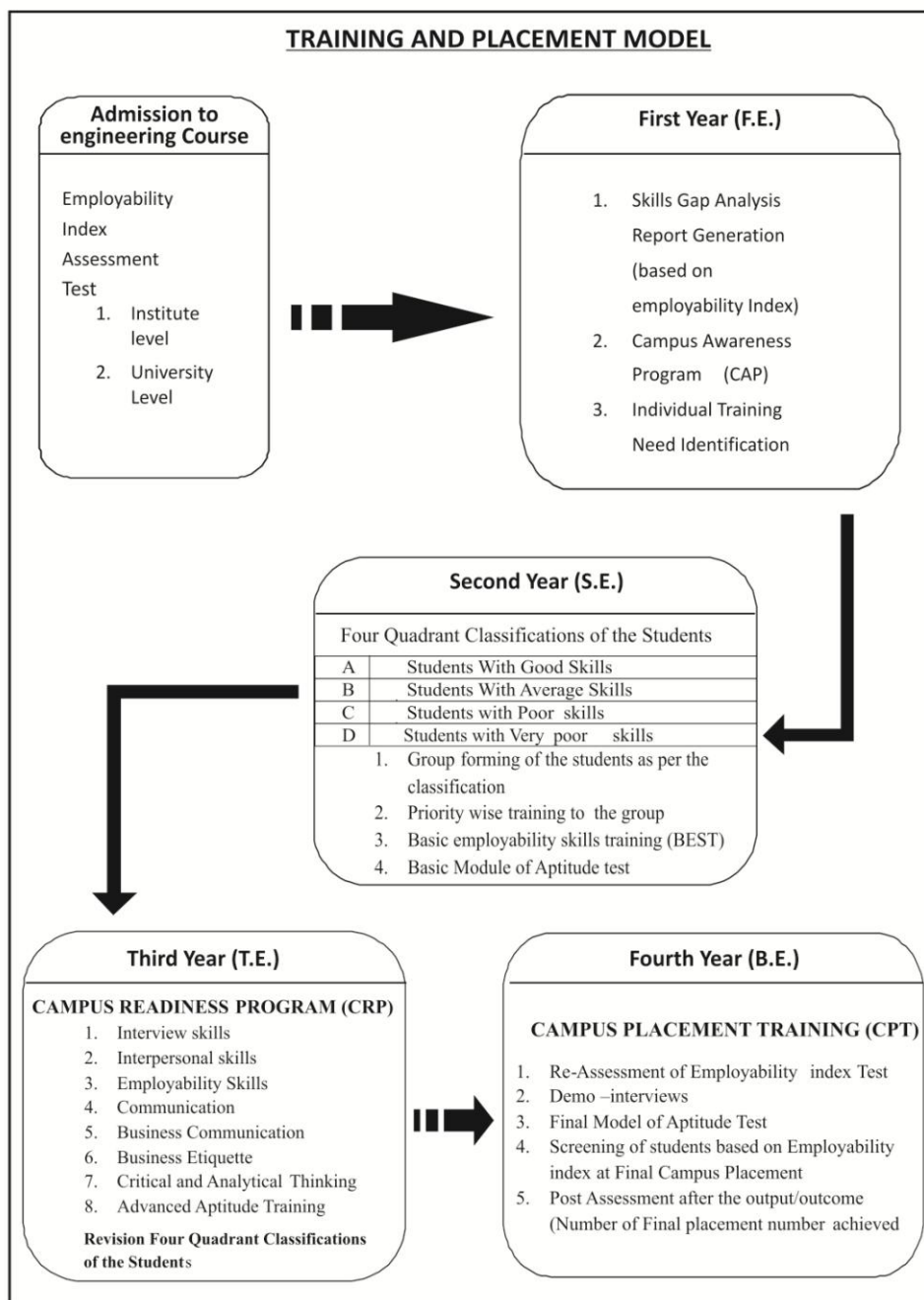
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TRAINING AND PLACEMENT MODEL

Admission to engineering Course

Employability
Index
Assessment
Test
1. Institute level
2. University Level

First Year (F.E.)

1. Skills Gap Analysis Report Generation (based on employability Index)
2. Campus Awareness Program (CAP)
3. Individual Training Need Identification

Second Year (S.E.)

Four Quadrant Classifications of the Students

A	Students With Good Skills
B	Students With Average Skills
C	Students with Poor skills
D	Students with Very poor skills

1. Group forming of the students as per the classification
2. Priority wise training to the group
3. Basic employability skills training (BEST)
4. Basic Module of Aptitude test

Third Year (T.E.)

CAMPUS READINESS PROGRAM (CRP)
1. Interview skills
2. Interpersonal skills
3. Employability Skills
4. Communication
5. Business Communication
6. Business Etiquette
7. Critical and Analytical Thinking
8. Advanced Aptitude Training

Revision Four Quadrant Classifications of the Students

Fourth Year (B.E.)

CAMPUS PLACEMENT TRAINING (CPT)

1. Re-Assessment of Employability index Test
2. Demo –interviews
3. Final Model of Aptitude Test
4. Screening of students based on Employability index at Final Campus Placement
5. Post Assessment after the output/outcome (Number of Final placement number achieved)

Fig.1: Training and Placement model

FOURTH PHASE: 3rd Year: *Campus Readiness Program (CRP)*

Third year of the engineering course is very crucial. Additional preparation for the placement activities need to be increased. In the third year of the student's campus readiness program should be given to students and it includes below topics.

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- *Campus Readiness Program (CRP)*
1. Interview skills
2. Interpersonal skills
3. Employability Skills
4. Communication
5. Business Communication
6. Business Etiquette
7. Critical and Analytical Thinking
8. Advanced Aptitude Training

Campus readiness program will enhance their employability, professional as well as communication skills of the students.

- *Revision of Four Quadrant Classifications of the Students*

After completing all above process up to third year, the four quadrant classification should be revised as per the skill sets of the students. If the employability index of the students is not increased and matching with the corporate expectation, then students should suggested follow the process once again. Separate training can be organised to increase the employability index.

FIFTH PHASE: Final Year Engineering (BE): *Campus Placement Training (CPT)*
1. Re-Assessment of Employability index Test
2. Demo –interviews
3. Final Model of Aptitude Test
4. Screening of students based on Employability index at Campus Placement
5. Post Assessment after the output (Number of placements)

In fourth year, students need to attend the final placements drive and required to face the interview in various companies. In the starting of the fourth year Re-Assessment of Employability index Test has to be done. Intensive demo interviews to be conducted for practice and final module of aptitude test should also be implemented. Finally Screening of students should be done, based on Employability index at Final Campus Placement. And lastly the post assessment can be done.

Above training and development for placements Model will help to the engineering institutes for proper planning of the training and development activities in the institutes. This model will also help to understand the skills gap among the students. It will support to training and placement officers and department to construct strategy on the enhancement of the skills set of the students. It also useful for the students to increases their individual skills and knowledge. Finally with its proper implementation institutes can increases their placements numbers and corporate can get the skill full candidates.

V. CONCLUSION:

Lack of skill possessed by engineering students is a matter of concern. Gap between knowledge and skill need to be bridged. An attempt has been made in this paper to develop a model for skill development which will enhance placement of engineering graduates. Training and placement model has been developed after taking intensive inputs from different engineering colleges affiliated to Shivaji University, Kolhapur, Maharashtra State. Five phases of training and placement model has been presented. Employability Index Assessment Test, Campus Awareness Program (CAP), four quadrant classifications of students, basic employability skills training (BEST), campus readiness program (CRP) and campus placement training (CPT) has been explained. Thus the model developed, if implemented properly, will enhance placement of engineering graduates thereby adding quality engineers to technical pool of the country.

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