Teaching Employability Skills to Engineering Students: A Case Study of BPUT, Odisha.

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ABSTRACT: Today engineering graduates face a major issue of successfully placing themselves in a good job soon after they finish their engineering education. Employers around the globe seek for graduates who are not only competent and excellent in their own field of forte and technical skills but also who posses special abilities to meet the progressively increasing demands of the employers thus making themselves stand away from crowd. Soft skills otherwise termed as employability skills relate to special abilities which make an engineering graduate employable. This paper emphasizes on specialized courses designed by Biju Patnaik University of Technology, Odisha to accommodate engineering students learn, develop and practice employability skills. The paper also focuses on the teaching methods of employability skills through theory, assignments and presentations thereby providing a natural setting to develop and inculcate employability skills in details to develop over all personality of the engineering students.

Keywords: Employability Skills, Engineering Education, Specialized Syllabus, Teaching Methods, Personality Development

I. INTRODUCTION

Engineering education has always been strength for the development of not only the society but also a nation as a whole. A massive shift has been witnessed in the field of engineering education from imparting only hard skills to comprehending the need of soft skills in the recent decades. The current scenario upholds engineering graduates to furnish new and creative ideas, take decisions and be top- notch leaders chiefly contributing to the global economy of the current century. Therefore, engineering graduates today are expected to be ready for variable work places for employers in multifarious sectors. Engineering as an education and as a career has always attracted students from all communities in India. A simple demonstration can be noticed each year when millions of engineering aspirants appear differ entrance examinations and qualify to study engineering under an engineering trade. Four years of engineering education provides subjects including theory and practical thus specializing in the chosen field of engineering education. Students acquire an engineering degree and believe that is enough to get through an interview to get a favourable job. However, today's economy stir around the world stimulated by rapid technology transfer, progressive competition, globalisation and increasing demand of customer's satisfaction has paved a widespread way towards developing a set of universal skills along with a wide range of technical skills. These generic skills are termed as employability skills which make the graduates employable. Such skills include personality traits such as communicative and interpersonal skills, problem solving, management skills, teamwork, following work ethics and many more thereby maintaining a balance with the foundational skills acquired during engineering education. This balance boosts competition among the fresh engineering graduates, finally letting the employers choose the best among the lot to work for them.

Chaita explains employability skills as "thinking skills such as logical and analytical reasoning; problem solving; capacity to identify access and manage knowledge and information; personal attributes such as imagination; creativity and intellectual rigor; values such as ethical practise, persistence, integrity and tolerance, problem solving, team working, communication, leadership". (Chaita, 2016, p. xi-xii) He provides recommendation for success by developing employability skills and provides guidance on topics of relevancy to the employment environment.

Dorsey asserts soft skills as employability skills as a pill which one has to swallow or else face the consequences. He believes employability skills "are often times the area that will determine failure or success for many in the workplace in personal life as well as individual contractor. Some of the most important people

in the world are failing, because though they have mastered the hard skills, they can't cope with the world that is fuelled by soft skills." (Dorsey 14). In another review Klaus holds the view that employability skills are make candidate versatile. She claims, "Today's organizations value people who are versatile. Presumably, if you've moved around from job to job—within reason, of course, and with good recommendations—you've been exposed to a wide range of situations and have demonstrated your ability to succeed in a business climate marked by constant change. Sometimes we work ourselves up into such a dither that we box ourselves in and fail to see the possibilities" (Klaus 26) Makkar writes, "The employee needs to acquire the requisite technical, managerial, administrative and interpersonal skills to fulfil his/her commitment towards the task. In addition to these, value creation requires commitment towards the organisation, which demands the employee to respect the organisation's vision, mission and goals and also, understand the role of his/her organisation towards society and the nation (…)" (Makkar 20)

Thus, it is important to understand that engineering students must have ample employability skills, which makes them competent and more particularly employable. Besides having technical skills, employability skills must be taught through theory and practice at engineering institutions. The engineering institutions not only propose to develop lifelong lessons to engineering students but also distinguish and recognise the gap between the varying engineering practices and employer expectations, and the engineering course of studies. On this accord Biju Patnaik University of Technology accentuates the need and significance of employability skills among its students and takes serious measures to inculcate these universal skills among them boosting the overall development in their personality. Biju Patnaik University of Technology has designed its syllabus purposely for its teaching staff that can educate and train the students who will soon enter the job world. This paper emphasizes on the teaching methods of specialised courses on employability skills like communication and interpersonal skills, team work, creativity, problem solving skills, using correct body language mainly during presentations which are sectionalized with an objective to accommodate the engineering students learn, develop and practise the above mentioned employability skills.

II. SPECIALIZED SYLLABUS

Peeping into the window of job world which is replete with opportunities, today, engineering aspirants need to be trained both with considerable amount of professional knowledge and trained to be well equipped with employability skills. This is a very vital feature which most of the engineering institutions aim at, to produce proficient graduates by coming up with specialized syllabus catering the need to augment necessary skills among them. Biju Patnaik University of Technology, Odisha has designed its syllabus to teach soft skills and practice employability skills very appropriately among its engineering students. The syllabus is constructed and is highly perceptive in a way which enables the teacher to organize precisely about the teaching. The teacher confines confusion and accesses towards producing a learning environment. The syllabus is designed to assist the students perceive from the very beginning what the teachers expect from them and how the students reciprocate.

2.1 SYLLABUS FOR THE 1ST YEAR

According to the new syllabus of BPUT for the 1st year the syllabus has English Communication Skills with a credit theory of three and a credit practical of one and neatly developed into four modules (8 hrs, 12 hrs, 12 hrs, 8 hrs respectively) intended to teach and give basic knowledge and importance of communication which includes theory and practical assignments. The teachers are supposed to develop on improving writing (emails, notice, letters, circulars, reports, proposals), speaking fluently in English during presentations both power point and general presentations and listening skills (learning IPA symbols, stress patterns, intonations) among students. The syllabus also focuses on understanding business world and provides chapters to comprehend communication across cultures. The syllabus also assists teachers to provide fundamental knowledge on soft skills, its importance in the contemporary world and develops teaching methods step by step with different aspects of soft skills and their relative significance in today's world.

2.1.1 OBJECTIVE OF THE SYLLABUS

The objective of the syllabus for 1st year is to make the students
a) Develop communication skills among students.
b) Learn correct pronunciation and use of voice during communication
c) Aware of the importance of body language during presentation.
d) Attentive about the importance of audience and purpose during presentation.
e) Understand the basic knowledge about soft skills and their aspects.
f) Practice business writing skills.
g) Comprehend cross cultural communication

2.1.2 WHAT STUDENTS LEARN
a) Students get a basic idea about the importance of communication in English at the present time and the basic factors which influence communication.
b) With the help of IPA symbols students get to know about words with correct pronunciation. The students learn about the intonation patterns during speech.
c) The students understand about the right and wrong usage of body language and the effects of both on communication and interpersonal relationships.
d) Students understand in details about different kinds of presentations and the significance of body language in presentations. Students also understand the difference between hard skills and soft skills and each aspect of soft skills is important from getting interview call to facing interview to maintaining a secured position in job world.
e) Students understand the meaning of cross cultural communication and the barriers which cause problems while communicating cross culturally.
f) Students learn about the various format for writing business related material and their importance in each case.

2.2 SYLLABUS FOR THE 2ND &3RD YEAR
The syllabus of 2nd and 3rd year according to BPUT two years back i.e. before 2016 was planned to teach communication and interpersonal skills for corporate readiness. The lab hours scheduled for this part is of totally 30 hours and comprises of seven practical assignments in which students are given the back ground knowledge about the assignment for 1 hour and the rest of the three hours to practically carry out the session.

2.2.1OBJECTIVE OF THE SYLLABUS
a) The first assignment consists of writing job application using professional form of English in which the teacher makes the students aware of the difference between plain, simple English and professional English and states clearly the objective of each paragraph in the application.
b) The second assignment is about writing a resume. The teachers give the students a basic idea on the difference between writing a CV and a resume showing in power point slides examples of a minimum of five best and five worst resumes.
c) The third assignment is about group discussion in which the teachers speak about the dos and don'ts, the correct voice and the right body language to be used during a group discussion session.
d) The fourth assignment is preparing the students to sit for interview. In this assignment the teacher instructs the students to be dressed formally and make the students attentive about body language including correct body gestures, postures, facial expressions and clothing and appearance during the session. Students are then asked the most frequently asked questions during the interviews. This total session is recorded. Then the teacher shows the original videos of interviews.
e) In the fifth assignment the teacher divides the students into various groups and sub groups and provides different situations of business world. The teacher then asks the students to do role play under the respective positions they carry. This assignment is mostly done in a very formal way being a replica of communication in business organizations.
f) The sixth assignment is based on team work. The students are divided into short groups. Each team is given a topic based on the branch the students belong to and are asked to prepare power point slides. Depending on the number of students in a team the power point slides are prepared and the students deliver the presentation three slides each before the teacher and the audience. The best team is then felicitated and provided bonus marks. Judgments are done based on positive collaboration within the team, applying correct body language during presentation and clarifying audience on the topic.
g) The seventh assignment is based on problem solving. Students are divided into teams and each team receives a case related to business world. A time span is given to them and then the team is asked to solve the case in that given time. The faster problem solving team receives bonus marks and the team members receive a considerable amount of marks.
h) The eighth assignment is on creativity. Students are informed before hand to bring newspapers, scissors, chart papers and glue but the reason to get things like this are not revealed. The students are given a topic and time to be as creative as possible cutting words from the newspapers and arranging them on the chart paper with glue thus creating on spot paragraph on the given topic.

2.2.2 WHAT STUDENTS LEARN

The teachers get maximum time with the students to make them understand the importance of each assignment and how they can be useful in the coming years. The assignments conducted under this session not only are constructive but also are fun-filled. Students learn the greatest when taught in a light, stress free atmosphere. These assignments are planned in a way to bring the best out of the students.

a) Job application enables the student to know the correct format of writing an important document. The students learn about the number of paragraphs to be written in an application thus avoiding too much or distortion in the information as provided by the students.This helps the students avoid confusion on numbers of words to be written in a professional application. The students also learn about the importance of each paragraph in the content. Hence, they learn to write a perfect, crystal clear, impressive job application maximizing chances to receive an interview call.

b) Resume building facilitates the students to get a good job or takes them a step closer to it. Resume contains all the important prompts that include objectives, educational qualifications, internships, projects, occupational skills, web presence and many more that can make obvious the values a candidate possess required by almost all the companies. Students also learn to prepare error free resume, perfectly aligned and correct fonts used in the resume.

c) In group discussions the students learn to develop ideas and thoughts instantly. Group discussions enable students to know and collect more information from their counterparts. Group discussions build up listening skills and also enhance speaking skills as most effective communication skills. This assignment makes the students conscious about the current issues and also helps to learn in stress management during ego clashes.

d) The interview assignment makes students aware of different kinds of questions put forward to students enabling them to grasp the interview techniques and answer questions wisely. The recorded sessions with the students are showed which help them to understand their body language and other mistakes minutely. Thus students learn to modify every tiny detail in their mistakes which enhances their sharpness while facing interviews.

e) In the role play session students get a feeling of real business world and students learn to use their common sense or brain to tackle with different business situations. The students learn to adjust themselves according to various situations and develop interpersonal skills among themselves.

f) In the team work assignments the students learn two things. Firstly they learn how to prepare professional power point slides and secondly they learn to work together in a team. Felicitations and bonus marks act as a motivation towards giving their best to the assignment.

g) The seventh assignment of problem solving within a limited period of time fosters students to solve different cases social or managerial thus boosting the students to be smart enough to use time efficiently. This assignment acts as a two way benefit for the students.

h) In the last assignment students learn to practise creativity by using basic tools.

BPUT has designed pre- placement training for the final year students where they undergo continuous training to enrich the upcoming professional career. The pre-placement training operates as a springboard and overlays the path for a promising career, developing the overall personality of the students. The pre placement training for engineering students under BPUT has been constructed in such a way to strengthen their strengths and weaken their weaknesses. The course has been specially designed to help students recognise their positive sides focusing on fields they are best at so that it can uplift the soft skills they have in them. The course is designed to enhance confidence, motivational skills, code of conduct, professional ethics and many more. Trained, dedicated professionals experts in the contemporary field give best of the training to the students with a purpose to help students utilize the same and make best use of it.

III.   CONCLUSION

The study finds that the elements of employability skills carrying more weight are skills that prepare engineering students to be more employable or at least a step closer to employability. The entire syllabus of Biju Patnaik University of Technology, Odisha , India, focuses on proficiency in not only core engineering subjects but also develops techniques to encourage its students to understand the gravity of learning and possessing employability skills. The syllabus besides technical skills stresses on specializing in communication and interpersonal development, ability to perform in group discussions, building professional resumes, stress management skills, creativity, problem solving skills, team working spirit and many more. Universities around the country must have higher order soft skills courses beneficial for engineering students so that business organisations recruit them soon after they finish the four year engineering degree. It is an undeniable fact that sometimes the students are hesitant to show what they really have power over. Hence, trained professionals and faculty experts in the field of soft skills and personality development must impart quality training to engineering students creating a comfortable, stress free ambience for them so that the students express their inmost ideas and suggestions in the form of reciprocation. In view of the fact that employability skills are imperative for

engineering graduates to achieve success in professional career, it is essential that the skills be incorporated in teaching in technical courses so that the engineering graduates are well resourced with both hard skills and soft skills.

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