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Employability of engineering graduates in Nepal: Employers' perspectives

Amrita Sharma
amritasharma012@gmail.com

Abstract

A huge number of graduates are seeking employment opportunities, whereas employers hardly get the suitable employees with the set of skills and competencies that they are looking for. In this context, this paper highlights the employers' perspectives towards employability, especially on the part of engineering graduates in Nepal. To meet the purpose of this paper, 'single case study' research design was adopted. The employers from private companies who employed engineers were interviewed to obtain their perspectives and/or opinions. The employers perceived that the proactiveness of the graduates along with their practical and enterprising skills as well as learning aptitudes were important as a part of employability. Current examination and evaluation systems in the engineering colleges do not exactly help the students in equipping them with those skills. They are rather dependent upon memorization creating an adverse and undesired effect to their employability. This paper reveals that all the expectations of the employers may not be fulfilled; however, the ideas and recommendations derived from the study on improving employability can bridge the gaps between the graduate's academic performance and the employers' expectations. Social and cultural environments also contribute to building such skills and attributes among the engineering graduates. Only having academic degree is not a gateway to the job markets in the present scenario of the country. The paper concludes that, in the perspective of the employers, the engineering education must integrate important practical skills into the academic courses in order to make the graduates more employable.

Key Words: employability, skills, attitude, enterprising skills.

Introduction

It was an evening in the month of April 2015, I was in my family gathering. It was very hot and my family members and I were on the roof of the house. We were talking about our children, their academic progress in schools and recent vacation trips. Most of us were busy eating; chatting and making sure that our kids were in front of us. I realized that we were not playing any music. I noticed my cousin, who is younger than me, was not talking much that day. She looked different that day. She normally has a real sense of humor; and she is a jolly entertainer for such gatherings. I was surprised by her silence that day. I asked her to come to the kitchen to help me prepare some smoothies for kids. I had a chance to talk with her alone. She had completed her graduation (bachelor degree) in engineering a year ago. I asked her what she was doing then and what her future plan was. She replied in frustration, "*I do not have any job, so I will continue Master's Education or will try for going abroad*."

One day in September, 2017. I was busy in a meeting with the finance officer, manager and human resource officer in my office followed by another meeting with a member of industries' network in Nepal. The person shared with me about the struggle the corporates and industries in Nepal were facing to get 'capable' and skilled human resources, especially in the engineering sector. I had a similar experience while I was working as an Operation Director in an international organization in Nepal. I was the head of Human Resource Department; and I had to employ a team of engineers for constructing houses for people living in substandard living condition. I was enquired many a times whether there were any vacancies in my office by the graduates who had completed engineering degree recently. I used to receive resumes and curriculum vitae from some aspiring candidates through email which was a normal phenomenon for me. Whether they were professional meetings or social gatherings, job inquiry was one of the major agendas. We used to announce job vacancies for engineers and I used to be one of the interviewers in the selection process. Some of the interview sessions I attended in our office were frustrating because suitable candidates were not found who had possessed the desired basic skills. I was disappointed to see the quality of the graduate engineers, especially those who approached us for the job. They could not demonstrate the desired employability skills despite the fact that they had successfully passed the engineering examinations.

The employability skills that are required while transitioning from student to worker status in engineering field are in high demand. This need has clearly reflected the current gap between academic education, training and the job-sector requirements. More than 21 percent of engineering students are unemployed because practical basics and minimum personal attributes are not met (Shakya, 2009; Sharma, 2022). This is not just an unemployment problem but a broader issue of employability where engineering graduates are lagging behind (Kaushal, 2016). Engineering education has been questioned by employers from the viewpoint of major employability skills needed by each engineering stream such as knowledge of coding for software engineers and hands-on experience with machine for mechanical engineers, and innovation, creativity and learning aptitudes (Karki, 2013) for all engineering graduates, in general.

My own experience working with engineers and my informal discussions with employers made me realize that engineering education is not at the level of industries' expectation due to the lack of the basic employability skills. On the one hand, engineers are expected to perform at

the higher level, on the other hand their competencies are questioned by the market (Sharma, 2022). Engineering degree in Nepal is highly recognized as skill-based education with the depth of knowledge, technical skills and competencies to enter into job market, but in reality, even their competencies are questioned (Pahari, 2011). Engineering education is also expected to be linked with societal priorities and economic growth. The engineering certificates will not be valued if the students do not have productive engagement in their concerned field of work, for their life, economic growth and society.

In this context, it is important to understand the employer's perspective on what they are looking for from engineering graduates. The number of researches on the employability of the engineering graduates is limited in Nepal. Academic institutions are focusing on theoretical base and evaluation of their academic achievements is also based on the theoretical knowledge and less on required practical and employability skills. This is keeping engineering graduates from being more employable with skills that are needed in the market (Pahari, 2009). When the engagements and exposure of the students are limited, competencies of the engineering graduates may not be at the expected level and the culture of proactivity may not be flourished (Sharma et al., 2022). Similarly, innovation and creativity may also not flourish in this sector. To capture the insights from the employers, this article focuses on the research question: how (or what) are the perceptions of the employers towards the employability of engineering graduates?

Literatures on the employability of engineering graduates in Nepal

The gaps that are observed in the current scenario of engineering education in Nepal can be reflected into a bigger picture of employability. In my experience, if our engineering education system focuses more on passing the examinations, getting higher grades and going abroad or getting an employment, then the concept of employability skills and traits required by the industry such as interpersonal and professional skills, creativity, innovation etc. must be integrated into the engineering education to bridge the existing gap. The concept of employability is broad and includes a wide range of proficiencies needed to function effectively in the work environment and the society; and is not just limited to employment. It is the achievement of a set of core skills, understandings and personal attributes that make graduates more likely to gain employment and be successful in their chosen occupations, which ultimately benefits themselves, the workforce, the community and the economy (Anicic et al., 2021; Boden & Nevada, 2010; Byrne, 2020;Yorke, 2004). Employability here refers not only to being employed and doing the employer's job, but also refers to self-employment capabilities. Overtoom (2000) defines employability as a transferable core skill which reinforces knowledge, skills and attitude for the success in his/her career. When the notion of employability is brought to light, one must know its various aspects. When it is directly linked with employment, its roots relate to education (Nielsen, 2018). Therefore, it can be portrayed as the input related to employment outcomes (Govender & Wait, 2017) and be a university-work transition connected to graduate outcomes.

Employability plays an important role in economic development of the youth. The constitution of Nepal has provided a statutory mandate for education and the Ministry of Education has put remarkable efforts on ensuring the right and access to education. The Government of Nepal (2014) has also stressed on the decent employment opportunities for the youth. Although our education system has failed to provide meaningful employment opportunities; the issue of employability is

not prioritized and discussed at policy level (Sharma et. al, 2022), due to which, the engineering graduates are deprived of the opportunity to achieve practical skill-sets needed for employability.

Reforms, that are needed, on the current engineering education system to introduce practical skills and knowledge are discussed among educators, employers and politicians. In my experience, it is necessary to ensure that the employment or work environment should match the learning ability and aptitude of the students and prepare them with the knowledge and skills that they need to apply at the work environment. The modern workplace requires new sets of skills from employees to enable them to adapt to such workplace demands in any given occupation and to manage their own career opportunities (Aryanti & Adhariani, 2020; Naanda, 2010). Due to innovations and development of more advance technical and practical skills in the world, engineering education has become more advanced and technology-based. The skills now used in the engineering sector may become obsolete in a few decades because of new technologies; and therefore, updated information and trainings are needed for the graduates to meet the market requirements.

The employability skills such as core skills, personal creativity, technical skills and intellectual attributes among engineering students are tremendously important. Productivity is enhanced at the workplace if an employee possesses the right skills (Tymon, 2013; Ehiyazaryan & Barraclogh, 2009). It is important to determine the impact of improved skills to achieve greater prosperity, but (Naanda, 2010) further argues that educational reform should interlock with macroeconomic, industrial and labor market reforms so that their combined efforts could better meet the new conditions for global competitiveness. Highly skilled and highly productive workforce with an emphasis on the interdependence between education, industrial policies, and the broader economy will support on contributing to the overall economy of the country (Government of Nepal, 2015).

Engineering graduates are aware that the set of skills they have developed during their academic journey is not enough (Shakya, 2009). Engineering students, as portrayed by the society, think that they will get an employment or can create their own enterprise as soon as they complete their academic course, but they, themselves, are not able to determine their competency level against the market requirements. Engineering education needs to be compatible with the development sector as a backbone of the human resource pool (Pahari, 2011). The Engineering education curricula are being revised and updated with time and technology advancement, which also demands the graduates to increase their technical knowledge and skills and be updated accordingly. Technical knowledge and skills are primary but there are additional skills that are needed for the graduates to be employable. The knowledge and skill gaps perceived by the industry in the graduates are: poor technical skills, poor communication ability, inability to work independently and solve problems, lack of innovation and creativity and doing just what is asked to do, (Indo Universal Collaboration for Engineering Education, 2017).

Engineering education further demands the graduate to be a job creator rather than a job seeker (Pahari, 2011) and they are required to demonstrate their professional skills. Employers also look forward to the combination of academic knowledge and skills meeting the higher expectation of the sector (Kaushal, 2016; Kajale & Shaikh; Rayner & Papakonstantinuous, 2015 (missing in reference); Sharma & Bhattarai, 2022). Engineering graduates are required to validate their professional skills to be commissioned under practical circumstances (Creasey, 2013). Royal Academy of Engineering

(2010) states that the skills like creativity, innovation, and business skills are expected to be possessed by the engineering graduates in addition to academic skills. Engineering education is anticipated with additional skills along with the academic degree. To look at it from theoretical perspectives, Social Cognitive Career Theory implies that environmental factors can have a major influence on the career courses. The environmental factors, as most academic institutions emphasize, coordination and support, provided by industries, highly influence the employability of the graduates. They also affect the learning process through which self-efficacy, outcome expectations, and skills are formed. It also impacts the choice options that are made available and encouraged (or discouraged), and the career advancement opportunities that are manifested (Lent, et. al., 2002). In this connection, learning process, outcome expectation, formed skills and choices, and opportunities are embedded in the perceived employability of the graduates that help to construct the useful conceptual connections.

As the global and national expectations from the engineering education is higher than other streams of education, employability of engineering graduates can be enhanced to meet the market expectations. The expectations of the employers are important concerns for the enhancement of the skills which the engineering education should address. In such a scenario, there is a need to explore the perspectives of the employers which will help to understand more about their expectations from the engineering graduates.

Research approach

This study follows qualitative research methods. I had a role of a case study researcher that helped me identify issues related to the perspectives of the employers. I have followed the guideline of Yin's (2014) case study methods for collecting information through cases consulting with the employers of the engineering sector. Interview is the main source of information collection. A set of probing questions was developed on the basis of my main concerns on the perspective of employers. I further elaborated these research questions to gather more information in an easy manner. The participants of this study were employers who had more than 25 engineers in their companies and were experienced in providing training and grooming the fresh graduates (engineers).

The single case study design helps to explore several cases to increase insights into a central phenomenon (Creswell, 2009). The study was conducted following the single case study design to explore cases from the employers' perspective as a unit of analysis. Prospective participants were sent an email with the purpose of the research and a special request for their appropriate available time. As employers were mostly busy, I allowed them to choose the date and time according to their convenience and preference. Follow up phone calls were made prior to the interviews to set an informal and friendly environment and to remind them to be prepared for the interview. I purposefully selected the participants who could understand the problem and the research questions in a broader way (Creswell, 2009). I got deeply engaged to gather information in detail. By this, information was saturated to a desired extent (Patton, 2002). I conducted face to face interviews and captured the perspectives of the employers in manufacturing sector, Information Technology Industry and corporate sector, who employed engineering graduates the most. Cross case analysis (Stake, 2005) method was adopted for the analysis of the cases. I used pseudo names for maintaining the anonymity of the participants. I examined the transcripts and analyzed the

data with themes abstracted from the interview data. Findings are reflected upon and presented along with my personal standpoint.

Findings: Employers' perspective

The employers' expectations were ready and promptly expressed as, "able engineering graduates with practical skills, learning aptitude, enterprising skills and innovation and creativity." Most of the skills are not a part of the current academic curriculum. Some of the perceptions of the employers are summarized below with three major cases:

Employability in an industrial system

Ms. Amina, a very hard-working lady in her mid-60s, is an ideal person on human resource capacity enhancement sector. I sent an email and explained to her about the objective of my study over the phone and got appointment after a week. I have known her for the past one decade. Her company employs more than 25 engineers. On the date of appointment with her, I reached and entered her office; and I experienced the same warm welcome that I used to receive every time I visited her office. I was waiting at the reception but could clearly see her through the cubicle, lively and with full of energy.

Ms. Amina came to receive me and took me to her room that was well maintained. She prepared a cup of coffee and offered me with some cookies. To save time, I switched our conversation from the country's current political affairs to the main issue and started the conversation about the employability of the engineering students. She started the conversation with some frustration on her face. She shared her struggles on training engineers as they lacked practical knowledge and skills and hands-on experience required for the field work. She further said that the outputs from newly hired technical human resources were very poor; and they allocated at least six months just to train them. She elaborated *"It is not the problem of an individual but the system where no one knows what they should be doing in the real field situation. We, as employers, always expected higher level of skills and performance which was very difficult to find".*

Ms. Amina further explained the importance of additional skills in addition to the academic course in the engineering education. She expressed her opinion that the current skills and competencies that they possessed were not really contributing to their employability skills. She further opines that engineering students are expected to be more innovative and creative; and problem-solving skills are also expected, because each company has its own philosophies, values and expectations from their employees. Her focus during the interview was on the academics as the base and the employability skills that the graduates needed to develop further. She further said, "*Graduates need to plan and be clear on what they want to do in their life*". She also stressed on the need for career counselling and additional efforts from the students. She also appreciated a few exceptional graduate staff who were doing much better than their expectation. They had a remarkable learning aptitude because they would not just wait for the instruction and command; rather they would think and act beyond their expectation. With a smile on her face, she highlighted a few good qualities of engineering students such as positive attitude, hardworking and learning aptitude. She shared her good experiences with me about the transformation observed in the practical skills and individual performance of the staff even after 15 days of crash course or 3-6 months of job training.

Ms. Amina emphasized on the need for the graduates' exposure to the real work situation and practical skills on the job. She also stressed on the importance of innovation, creativity and learning aptitude of the engineering students. After a brief conversation with her, I was reflecting on what she meant by the skills at the real work situation for engineering graduates and tried to connect her experiences with mine. It is clear that such skills to perform the job tasks are, indeed, vital for engineers because they are expected to bring about the results immediately. Theoretically, they learn how to do things, but if they are not given exposure to real work situation for enough hands-on practice of the skills, they may not be able to demonstrate the expected performance, and thus their learning may become meaningless. Furthermore, engineering graduates need to be updated on the recent technology and innovations related to the engineering field. If the graduates lack inner learning aptitude, and if they just rely on their academic degree, they may be categorized as non-functional or non-performer by the employers.

The essence of the insightful conversation with her was that she emphasized the need for enhancing practical skills and technical knowledge according to the real work situation; and also the need for providing opportunities to develop their innovative skill, creativity and learning aptitude.

Employers' expectations from engineering graduates

Mr. Govinda, the Vice President of the network of Industry and Commerce, advocates for the skill enhancement of the engineering graduates in private sector. He represents the voice of the employers in media sector and other engineering sectors that provide employment to the engineering graduates. His major concerns were mostly about the lack of desire technical skills and the inability to prioritize tasks at the workplace. He gave a few practical examples which basically indicated the lack of practical hands-on skills required at the workplace. Mr. Govinda further stressed on putting more efforts on developing self-competence and confidence. He gave some more examples of the lack of simple communication and presentation skills as expected by the employers. He also shared the fact that some industries were bringing human resources from neighboring countries due to the lack of desired technical competence and practical skills in the Nepali engineering graduates. He further said, "It is not good for the country to bring human resources from outside; however, the employers intend to utilize competent human resources to earn profit immediately".

Mr. Govinda agreed to the fact that it takes time for the graduates to be experienced, however his worry was that the engineering graduates lacked even simple skills like interview and presentation skills which one can learn easily. He further remarked on the present competitive labor market situation and the struggle that the fresh graduates would have to face in the future. He suggested that the employers should invest some resources on building the capacity of the human resources to bridge the existing gaps. Similarly, the graduates need learning aptitude, develop employability skills and prepare themselves according to the market needs. He further said, "The graduates feel proud of their certificates but they don't even understand the basics of work environment". He was also concerned about the condition of the unemployed graduates in the country, and seriously explained why there were fewer jobs in the market and why the graduates were not employed. He remarked that corporate sectors and industries were also not getting appropriate and skilled human resources.

Other important factors he stressed were personal initiatives from the graduates and the enterprising skills associated with engineering. Enterprising skill refers not only to having business skills but also refers to other integrated skills such as interpersonal skill, creativity and leadership which every employer expects from the technical graduates like engineers. He further suggested that the employers should be linked with the universities via the network of Chamber of Commerce and Industries as one of the ways to improve the employability of the engineering graduates. He also emphasized that the engineering graduates should have positive attitude, hard work and creativity which are basic requirements. He further said, "*We don't need someone who waits for our command; we need someone who can challenge us as a team member and bring new perspectives*."

Mr. Govinda highlighted some critical necessities such as possessing required practical skills and learning aptitude on the part of the graduates; and also making additional efforts from the employers to develop the graduates into competent workers. It shows that there are limited opportunities in the country, however, due to the lack of skills, motivation and exposures, unemployment situation in engineering is increasing. Engineering education needs to incorporate real time practical skills into the academic course with special focus on the employability skills of the learners. The major insight from the interview was that certificates were important for students but they alone would not ensure the future career after graduation.

Roles of employers in enhancing employability

I have known, Mr. Abhinav, a charismatic person, for the past one decade. His presentation skills are exceptionally good. He presents his ideas with logics, so he can influence people easily. He has been providing employment to more than 100 engineers in Nepal in Information Technology (IT) sector. He feels proud that the fresh graduates, whom they further train on additional technical skills, are eligible to apply for the competitive jobs in international market as well as IT companies in Nepal. They have become a transitional training center for the graduates.

Mr. Abhinav has a different opinion and feels that it is the responsibility of the concerned industries to prepare competent human resources. He further suggests that the current assessment system of student's achievement/evaluation in Nepal needs to be revised to encourage students to focus more on learning and understanding rather than memorizing. Modern tools need to be adopted or developed to ensure creative engineering at the workplace. He also stated that university course was providing just foundation knowledge to the graduates, so the requirements of the industries were far from the academic course. He further mentioned that the graduate youth should also focus on their *vision* and direction and plan accordingly. He said, *"The culture of being proactive is what we need."* Mr. Abhinav further shared a fact that some proactive employers were already coordinating with academic institutions to revise and improve academic courses. *"They are organizing some events such as job fair providing information on many areas in which students can work in the future, sponsoring some competitions and providing useful insights about the engineering sector as guest speakers. If all these initiatives are carried out in a coordinated manner, they will be helpful for the graduates as well as the employers (industry)".* His idea helped me reflect on the need and importance of this sector. From the interview with him, I came to realize that our academic institutions were not adequately focusing on industry-based technical skills and life skills for the personal development of the graduates as qualified human resources or

as efficient employees. The major insights derived from the interview were that, on the one hand, it was important to engage students in the field of their interest and on the other hand, it was equally important to understand the market to develop the required skills accordingly.

Discussions

Requirements of the labor market are vast and priorities are constantly changing. The prediction is difficult, however general understandings are quite clear that current academic degrees or certificates are insufficient to fulfill the requirements of the job market. The knowledge and skills of the graduates are questioned by the employers, as expressed by the research participants. Analyzing the perceptions of the employers, the basic skills, which they are expecting from the graduates, can be categorized broadly. Practical job skills, learning aptitude, innovative skill, creativity and enterprising skills are under broad categories which are highlighted and stressed by most of the research participants. In addition to that, due to our traditional assessment and evaluation system of the academic achievements, the students tend to focus more on passing the exams rather than understanding, learning and acquiring practical skills needed at the real work situation which has adversely affected the engineering graduates' employability.

In addition to the knowledge and technical skills related to engineering, employability skills are also the key expectations of Mr. Govinda, Mr. Abhinav and Ms. Amina. They clearly stated that there were fundamental gaps between the expectations of the employers and the graduates' employability skills and qualities such as proactiveness at the workplace, creativity, innovation, engagement and interest to enhance their job performance. Practical skills are key to enter into the engineering industry, but the current level of education is not sufficient for engineering graduates to be prepared for the job market (Pahari, 2011). Engineering sector demands hands-on experience and practical skills which are the basic requirements of any engineering streams (Creasy, 2013). The prevailing learning culture in the context of Nepal, where study means reading books, not practical work or exposures (Regmi, 2017), needs to be changed; and as stated by the research participants, the engineering graduates should be developed and prepared with the set of skills according to the market expectations.

Other major skills or qualities that the engineering graduates should possess according to the research participants are: enterprising skills, learning aptitude, proactiveness, innovation and creativity. Firstly, employers mostly seek entrepreneurial skills in applicants (Higher Education Academy, 2017). The enterprising skill is also highlighted by Mr. Govinda as an essential trait of the graduates. As private sectors mostly rely on the marketing and business strategies, enterprising skills are also important for engineering students. Similarly, learning aptitude and proactiveness can strengthen the capacity of the engineering graduates to be employable. Attributes such as innovation and creativity are complex and multi-faceted in nature and can be developed in many ways. Expertise, motivation, flexibility and imaginative approach are important; and broad range of social and cultural environment can create it (Sternberg, 1997). All these abilities are important, however equally important are the social and cultural environments to cultivate these qualities in the graduates. In the present context of Nepal, there is a need for wider discussion among the employers, policy makers, academicians and other concerned stakeholders to address this issue.

Career development can be looked upon critically, not just as a journey to get across the level and achieve good grades or marks, but should also be looked upon as a critical time for shaping the future career and preparing it with passions and motivations (Cai, 2013; McGowan & Shipley, 2020). Yorke (2006) has stated that higher education is not only the symbolic representation of the upper scholastic achievement in education, but it also denotes that higher level of skills are achieved for lifetime and also contributes to economic development of the graduates. The current practice of examination system, where the students mostly depend on memorization, is not desired and expected by the employers. As Mr. Abhinav mentioned in his interview, *"If our evaluation systems are reformed, students might shift their focus towards learning, gaining knowledge and experience rather than memorizing the text for exams."* The employers have perceived that these practices of giving importance to just test scores and grades, where majority of the students spend time, are not needed at all, rather the graduates should focus on the required set of skills and other employability traits. Furthermore, the phenomenon of career development of the engineering graduates can be connected well from the perspective of social cognitive career theory (SCCT) which influences variables like interest, abilities and values interrelated with contextual factors. Reforming assessment methods where students can focus more on learning and understanding than memorizing can enhance the employability of the engineering graduates. Similarly, institutions and government also need to focus on the sectorial human resource needs analysis annually which will help the youth choose the right path. The culture of the competition among the peers for scores/grades and the pressure from their families to obtain higher scores than to enhance learning (Bhandari, 2017) is providing less preferences to understanding the knowledge and mastering the required skills.

I think, employers are just expecting 'ready-made' engineers to provide outputs immediately without providing any trainings to them. To address this issue, there is a need for the employers that they invest in training or sensitization programs coordinating with the concerned academic institutions. Mr. Govinda accepted most of the facts that employers are also not putting adequate efforts to develop new graduates, however he focused more on the efforts from the graduates themselves to develop adequate skills. According to SCCT and the larger social cognitive theory, a person's engagement in activities, the efforts and the persistence they put into them, and their ultimate success are partly determined by both their beliefs and outcome expectations (Lent et al., 2013). So, holistic efforts are necessary to address such gaps.

An academic institution is expected to guide individual students from the very beginning based on their strengths and weaknesses and provide them with a clear overview of the scope of the study. Academic institutions can also be proactive and work together with private sector employers and government agencies to increase the number of employment opportunities for the educated youth (Husain et al., 2010; Govinda & Wait, 2017). As mentioned by the research participants, the problem of unemployment may be due to an oversupply of the graduates as well as the unmet skill requirements (Rahmat et al., 2012; Sebastian, 2021). The number of unemployment cases can be reduced only by increasing the relevant knowledge and skills (Cai, 2013) required to perform the job tasks competently. The introduction of employability skills in the current education system may bridge the gap or at least mitigate the current challenges but there are additional issues of cultural aspects of the society which cannot be ignored.

Delimitations

This study covers the views of employers and does not explain the perspectives of a specific branch of engineering students.

Conclusions

There is a serious gap between current engineering education and employability in the job market. The gap is seen between the skills that the graduates carry and the expectations of the employer. There is a clear need for the development of essential skills under different categories such as pro-activeness, practical skills, enterprising skills and learning aptitude that enable the graduates to be employable. Whether one chooses to join the labor market or creates his/her own work and starts an enterprise, the most important thing is to be proactive and this quality is the one which most employers expect; and they also try to find the best match between the needs of the company and the available skills. The current engineering education system, curriculum including testing and evaluation methods can be reformed that can encourage creativity among students. Individual students, on their part, can focus on developing their knowledge and skills as permanent assets in addition to the academic degree to ensure a successful career in the future. The socio-cultural environment for grooming such skill sets is equally important as they are the veins and blood for the individuals. Likewise, the education system as a whole should be supportive of the individual's overall growth. This research has primarily focused on the comparative study among different stakeholders as employers, academic institution, policy makers, parents/guardian and students.

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