

# Education

Your window to the world of learning

## Making engineers job-ready

**TO THRIVE IN WORKPLACE** Mohan Babu G N discusses what engineering colleges can do to produce graduates with the right skills and attitude

**A** renowned Kannada poet urged students not to be the bags collecting paddy, but rather be the fields growing paddy. The current Indian education system is accused of drying out inquisitiveness that is natural in children. Consequently, students are finding themselves less competent to solve societal and industrial problems. This is more conspicuous in technical programmes like engineering.

Technical education and research, the backbone of Indian economy, is provided by institutions identified under tier I, tier II and tier III categories. Although, tier I and tier II institutions are known for high quality education, they account for a tiny proportion of technical manpower supply to Indian economy. It is the Tier III institutes, which are mostly university-affiliated institutes, that supply more than 90% of the human resource. Thus, they determine the quality of technical core of our economy. However, some of these institutes are blamed for producing graduates who may not have the necessary knowledge and skills. Why is it so?

National Association of Software and Services Companies (NASSCOM) has remarked that only about 15% of the graduates, certified by universities as employable, have the necessary skills to thrive in a workplace. Then, why do universities certify others? If we don't think and act on this with all seriousness, it could be fatal to the economy. Colleges often blame it on the quality of students getting admitted.

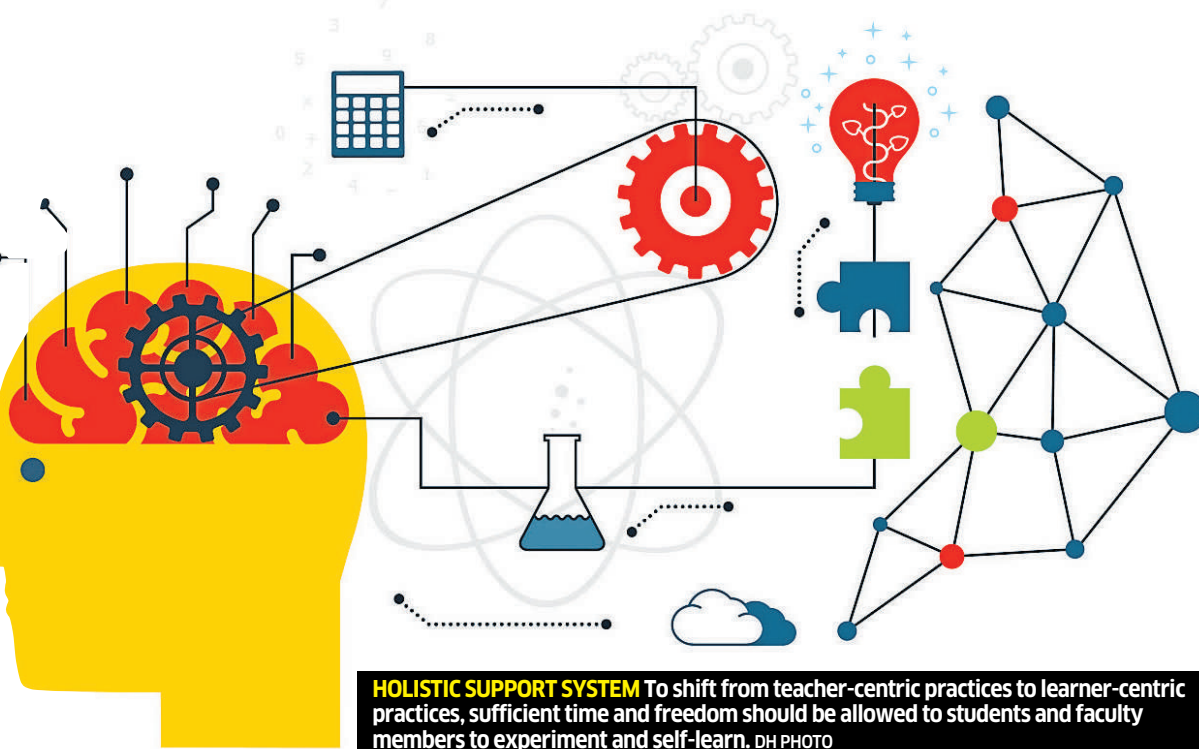
How correct is it? For instance, in Karnataka, about 75% of the students are admitted to engineering courses based on their performance in competitive exams conducted by the Karnataka Examination Authority and the Consortium of Medical, Engineering and Dental Colleges of Karnataka (COMEDK).

### Well-rounded development

Hence, we can say that many students have the interest and potential to do well in engineering provided they are properly trained. Then, where are the pain points? What can be done to ensure that the graduating engineers are of acceptable quality? Let's take a look.

■ **Peer and parental pressure:** Some of the students enter the field of engineering either on the insistence of parents or due to peer pressure. When the course is not their preferred choice, they either drop out of the course or finish it with substandard technical competencies. As a result, they either settle for a non-engineering job or would be professionally less productive.

■ **University system:** The university curriculum, which is normally revised once in four years, has failed to catch up with the rapidly advancing industry. While engineering fundamentals do not get outdated so fast, technology applications and developments do. Hence, universities can involve industry associations and re-



search laboratories to frame a curriculum that is relevant.

Evaluation in universities should happen on a continuous basis with a great stress on original thinking, creative problem solving, and project-based learning. Intensifying project-based learning and bringing in research orientation are the needs of the hour. For institutions to make a paradigm shift from teacher-centric educational practices to learner-centric practices, sufficient space, time and freedom should be allowed to students and faculty members to experiment and self-learn.

■ **Quality teaching:** A majority of faculty members in the engineering colleges are occupied significantly in the completion of university curriculum. They hardly have any time for creative and innovative work. Many enter and continue in the profession without any industry exposure or pedagogical training. They solely bank upon learning by experience.

Added to this, they are bombarded with various tasks that are in no way related to their profession. Further, some institutions find it hard to pay the prescribed salary to teachers. This has resulted in shorter tenures of teachers and has affected quality and continuity of teaching.

■ **Industry partnership:** As engineering is a practice-intensive profession, institutions which embed industry experience in their teaching-learning process would do much better than others. A joint survey of engineering colleges in the country in 2016 by AICTE and Confederation of Indian Industry (CII) revealed that more than 90% of the colleges failed to secure even 35% marks with regard to their engagement with industry to make student employable.



Additionally, 73% of them did not conduct even two industrial visits in a year. Hence, AICTE should find ways to rope in professionals for strategic partnerships with institutions. However, the participation of professionals in the development of the curriculum and enabling the institutions to ensure industry readiness among graduates is low. If professionals can contribute more proactively in this process, the quality of learning for engineering students can be continuously monitored to meet the industry requirements.

■ **Government policies:** The quality of education in some engineering institutions is not great. Inability to check illegitimate practices and failure to make engineering colleges subscribe to the grand vision of national development are all responsible for the present scenario.

Fortunately, the union government and the state governments have been imple-

menting the Technical Education Quality Improvement Programme in selected engineering colleges with the support of World Bank over the last 10 years. However, its spread and reach is very limited. If governments allow market forces to determine the quality of education, it would go a long way in building a strong foundation.

■ **Accreditation for quality education:** AICTE's move to make it mandatory for all engineering programmes to earn the accreditation by National Board of Accreditation (NBA) is a welcome move. NBA, being a signatory to Washington Accord (an international agreement between bodies responsible for accrediting engineering degree programmes), accredits only engineering programmes that ensure adequate learning outcomes in terms of engineering knowledge, skills and attitude in its students.

However, getting an NBA accreditation is not an easy task for engineering colleges as there are several parameters that are looked into. Hence, policy makers and administrators at the national, state and institutional levels should seriously focus on creating and sustaining a conducive ecosystem to empower institutes to earn the accreditation.

Passionate engineering colleges in a high quality ecosystem can make a huge difference to the nation in terms of employability, entrepreneurship and research.

Hence, it becomes important for institutions to extend their support to students and enable them to reach their full potential and contribute to the society in a meaningful manner.

(The author is principal, BMS Institute of Technology & Management, Bengaluru)

## Importance of case studies

Gireesh Yarakattimath and Mahantesh Jakaty

**T**he most fundamental component of management education is to develop and foster the students' skills to analytically evaluate information. The prime objective of an MBA course is not only to train the students in management but also to prepare them to administer key positions with appropriate skills that can help them in their workplace. Hence, it is essential that MBA students be trained on live organisational settings with the help of case studies.

Using a case from the present industrial scenario would be of immense relevance and importance in the context of functioning as a standpoint for envisaging different situations and learning by practicing. While the recommended course material assist the student in gaining more knowledge, case studies facilitate in developing business wit and wisdom. Cases provide an ample of scope for application of information. Business cases direct the minds of the students in a particular situation and enable them to nurture the art of making astute decisions.

### Learning from real-life scenarios

Case studies present realistic, complex, and contextually rich situations and often involve a dilemma, conflict, or problem that one or more of the characters in the case must negotiate. Discussing cases in classrooms facilitate exchange of views among students and relate theory to practice. Case discussions facilitate a vehicle for reconsidering the lessons learnt, sharing them with others and gaining valuable knowledge by doing so.

How can you learn from a case study? Here are a few ways that can help:

- As you read the case study, ask yourself, 'What is the case study about? What do I need to analyse?'
- Go through the case very carefully and highlight the case's crucial facts as you read.
- Empathise with the manager who is being discussed in the case and to develop a sense of involvement in his or her problem.
- Identify the relevant areas for analysing, noting each one on a separate sheet of paper.
- Focus on the case's facts you have highlighted and go over the qualitative and quantitative evidence carefully. Note down your conclusions.

■ Review your conclusions, and then verbalise a set of recommendations directed at the issues you have identified.

During this process, the role of the instructor is valuable. In class, an instructor usually allows students to take the case where they wish. He or she then stimulates the students to make their own observations based on the ideas they have developed and leads the students to consider areas they may have missed. Once a case has been studied thoroughly, it is the instructor's accountability to encapsulate the discussion and draw out the useful learning and observations that have been drawn out. The actual use of a case as a means of learning depends deeply on class participation. Through exchange and constructive discussion, students will be able to build analytical skills and gain conceptual understanding. It also encourages rigorous thinking and helps students improve their communication skills. Contributing one's own views — expressing and defending — becomes one of the best learning outcomes.

### The downsides

The case study method demands thoughtful participation both from the instructor as well as students. Unless this is taken intently, the purpose of a case study will never be served and instead, be counter-productive. While case studies can help students arrive at solutions, here are some things that need to be remembered while discussing them:

- While every case is unique, the solutions for it are even more so. Hence, it is impossible to generalise the outcomes and apply them universally.
  - Solutions are always contingent on resources available at that point of time. Decisions may need to be altered at a future date because there might be some change that occurs in the availability of resources.
  - It is a known fact that it is always easier said than done. It is very easy to recommend on actions which do not disturb us directly. But is considerably difficult to conclude on even simple issues when we are jittery. Having more pressure on our mind may not work at times of actual crises.
- So, it is of no wonder that case studies are often used in classrooms to show how employees work together to arrive at solution. However, it is important to use it effectively and help students make the best use of it.

(The authors are with Siddaganga Institute of Technology, Tumakuru)



**VALUABLE LESSONS** Discussing cases in classrooms enables students to relate theory to practice. DH PHOTO

## Opportunities galore in medical coding

**EMERGING SECTOR** With the growing influence of technology on the medical field, a career in medical coding is worth looking into, writes Guruvayurappan P V

**T**he healthcare industry is undergoing a technological growth worldwide. The major reason behind the growth is adoption of newer technologies to meet the rising demand of the patients for accessible and affordable care. According to a report, the size of the healthcare industry is predicted to reach USD 280 billion by the year 2020. It is also one of the top 10 growing industries in the world. As a result, this sector sees a huge potential for further growth.

This growth has opened up a variety of career opportunities for students, one of which is medical coding. Medical coding is one of the fastest growing career options for fresh graduates whose strength lies in

skills and training. In tier II and tier III cities where the professionals would want to have a white collar jobs without having to migrate to metro cities, coding is helping shape their future.

What is medical coding? It is the process of converting healthcare diagnosis, procedures, medical services, and equipment into the universally accepted, industry standard codes. Medical transcriptions from hospitals and clinics are converted to universally accepted codes in diagnosis, procedure and drugs. The codes are then referred to medical billing and insurance purposes. The codes also help countries in maintaining health records and statistics to study the disease burden and thus



**HUGE POTENTIAL** Medical coding is one of the fastest growing career options for graduates whose strength lies in skills and training. REPRESENTATIVE IMAGE

give a path for authorities to draft health policies.

It is easy to start a career in medical coding since this field doesn't compulsorily require a clinical or healthcare degree. However, a basic knowledge of anatomy and physiology will help one

get a better understanding.

Medical coding is done based on codes set by International Classification of Diseases (ICD), Continuing Professional Development (CPD) and The Healthcare Common Procedure Coding System (HCPCS) which help coders document

medical procedures for the patient. There are many medical coding courses available at affordable costs. Some of the skills required to enter the field are:

- **Analytical ability:** A coder should be capable to read and analyse medical records and patient details, use the right codes for the billing procedure and forward the claims to insurance companies.
- **Coding software:** A coder needs to have a basic knowledge of the coding software, in addition to database management and Microsoft Office.
- **Accuracy:** This is an important aspect in medical coding. The coder has to understand every detail of the patient's medical history. Even if there's an error, he or she should have an eye for detail to fix it.

### Positive growth

The healthcare services outsourcing industry is evergreen. There is an increasing demand for medical professionals across the globe which means there is good job stability and security. India is emerging as the hub for healthcare outsourcing where coding is the most preferred option by professionals. In fact, 80% of US companies outsource to India. With exposure to both

IT and healthcare, the coders find a new avenue to polish their careers. Professionals are able to work in a secured environment with plenty of growth opportunities.

The industry has created abundant job opportunities, particularly for Life Science students. It will continue to see positive growth in terms of job opportunities. The industry is growing at over 18% year-on-year and it is currently the fastest in the IT or ITES space. The demand and supply gap of certified medical coders is approximately 40% and has been increasing over the last two years. This will mean faster career growth for people who have the right skills.

Basic communication skills backed by a certification in coding will help students be part of one the leading industries. With a growing influence of Information Technology in the field of healthcare and with a need to have alternate career options, in next five years, India would perhaps see a growth of about 30-35% in number of professionals who would want to explore their career in medical coding.

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