

Assessing Communication Skills for Employability among Engineering Students

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Abstract

In recent times, the placement scenario has become very alarming, hitting the biggest institutes of the country. As per the data made available by IITs to the Ministry of Human Resource Development (MHRD), only 66% of the students who have registered for campus recruitment landed a job offer in year 2016-17 as against 79% in year 2015-16. One of the major reasons for poor placement and employability is the poor and limited communication skills of students. Realizing the imperative need of communication skills which will enhance job readiness, these engineering institutes are now seeking external help from corporate firms which offer some short term and customized programs. Aspiring Minds is one such assessment firm that helps the government institutions, organizations and the corporate world to measure and identify the required talent through the assessment and employability test. The present paper discusses the placement challenges of an engineering college of Guru Gobind Singh Indraprastha University, New Delhi, and analyses how far the assessment done by Aspiring Minds is useful in preparing the students for placements.

Key Words: Communication Skills, Placements, Employability Skills, Engineering Institutes

1. Introduction:

India's higher education is the third largest in the world after the United States and China.¹ Some institutions of India such as the Indian Institute of Technology, Indian Institute of Information Technology and National Institute of Technology are the most prestigious institutions for science and engineering and have been globally acclaimed for their standard of education and excellence of knowledge. Six Indian Institutes of Technology were listed among the top 20 science and technology schools in Asia by Asia week.² These Institutes have provided world class engineers at the UG level and have created a glorious image of India globally.

Despite the growth in International demand, the premier institutes of India are grappling with unemployment among its engineers. According to the National Association of Software and

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¹'India country summary of Higher Education' World Bank

² 'Asia's Best Science and Technology Schools'

<http://www-cgi.cnn.com/ASIANOW/asiaweek/features/universities2000/scitech/sci.overall.html>

Services Companies (NASSCOM), only 25% of the graduate engineers are employable.³[13] The increasing number of unemployed engineers in India has been attributed to their poor and limited communication skills.

2.Communication Skills:

The British rulers set up engineering colleges in India to train Indians to become Public Works Engineers. They were supposed to do technical work behind stage and therefore didn't require any higher level of proficiency in English. Hence, the earlier engineering curriculum didn't give any emphasis on communication skills. With increasing globalization and internationalization, English has become the language of global business and the Indian companies are focusing on the language skills of candidates seeking employment.

As per a report published in The Times of India, Mumbai on July 14, 2014: "The third edition of the National Employability Report, Engineering Graduates - 2014, released by a private employability solutions company, revealed that though 18.33% of the engineers are employable, 18.09% actually get a job. Of the 1.2 lakh candidates surveyed across multiple states, 91.82% lack programming and algorithm skills, 71.23% lack soft and cognitive skills, 60% lack domain skills, 73.63% lack English speaking and comprehension skills and 57.96% have poor analytical and quantitative skills". In August 2015, National Spoken English Skills (NSES) Report 2015 was released by Aspiring Minds. As per the Executive Summary of the report: "Of the six hundred thousand engineers that graduate annually, only 2.9% candidates have spoken English skills (SES) for high-end jobs in corporate sales/business consulting. These candidates show capability to understand and speak English fluently to both natives and non-natives with ease. Around 3/4th engineers do not have SES required for any job in knowledge economy.97% engineers in India cannot speak English required for jobs in corporate sales/business consulting. Around 61% engineers possess grammar skills no better than a class VII student. Not more than 7.1% engineers can speak English with fluency that renders speech meaningful. Pronunciation and fluency are the major barriers in effective Spoken English."

Given below are few sector wise skills required of engineering graduates for jobs:

Table .1 Type of Sectors and Required Skills in India

Type of Sector	Required Skills
Core sector Product based companies Eg. Mechanical, Civil Automobiles, Textiles etc.	Soft skills, Technical awareness Strong oral communication skills Strong written communication skills
Service sector Eg. TCS, Wipro, IBM, Infosys etc.	Team-building/Team-leading Skills Interpersonal skills Strong communication skills Sound technical skills

³The AICTE chief states that NASSCOM had taken database of candidates coming for the interviews in 500 IT companies and arrived at these conclusions

Out sourcing Sector ITES like voiced and non-voiced, technical support: HCL-BPO, IBM-BPO, Infosys-BPO etc.	Strong Oral communication skills Strong written communication skills Soft skills, Technical awareness
Hardware and Networking Eg. Microsoft, Intel, D-Link etc.	Problem-solving skills/ communication skills Moderate

3. Literature Review:

The need for communication skills has been emphasized by researchers across the world. The research findings of Rajsekaran and Rajasingh (2009) emphasize that the perception gap between industry and academia must be bridged to improve the employability of students and enhance the quality of higher education [2]. Lowden et al., 2011, define soft skills as “a range of broader skills and attributes that include team working, communication, leadership, critical thinking, problem solving and managerial abilities.” The UK Commission for Employment and Skills (2009) claims that soft skills should not be considered as a substitute for specific knowledge and technical skills but rather as something that “can make a difference between being good at a subject and being good at doing a job.” Rao (2010) states that “Current Indian system focuses too much on facts and figures which does not support creativity, analytical and reasoning power among the children.” [7] Paliwal (2009) has emphasized the need of coordination among the efforts of academia, industry and the government [6]. In a similar study, Knell, Oakley and O’Leary (2007) also emphasized that employers are continually asking for a workforce rich in creativity, communication skills and cultural understanding [4].

Blom and Saeki (2011) studied the skill gap for Indian engineers through a survey of employers conducted in 2009. The study classified all skills into three skills groups: core employability skills, communication skills and professional skills [1]. The results showed that overall employers were dissatisfied with the quality of engineering graduates. Employers considered all skills important. However, soft skills (core and communication) were ranked more important than professional skills. On the basis of the results, the study recommended that educational institutions should focus on enhancing the communication skills of engineering graduates through special initiatives by the faculty.

4. Methodology and Data:

This paper is based on both primary and secondary data. Primary data is related to our first hand experience as placement coordinator in Delhi Technical Campus, Greater Noida, one of the affiliated Engineering Institute of Guru Gobind Singh Indraprastha University, New Delhi. The secondary data has been taken from media reports and newspapers. The structure of the paper is as follows. The 1st part analyses the assessment of communication skills done by Aspiring Minds in Delhi Technical Campus, Greater Noida, an engineering institute affiliated to Guru Gobind Singh Indraprastha University, New Delhi and the 2nd section analyses the feedback given by the next batch of students who took the test. The 3rd part suggests a few recommendations based on both the assessment test and feedback.

5. Significance of Research Problem:

Gone are the days of grades when impressive scores alone could land one a job in multinational firm. Just being a top-ranking engineer from a premier institute like IIT, IIIT, NIT is no longer enough to bag a plum job. They can crack the toughest math and solve the complex equations,

but when it comes to the job market, they have to pull up their socks and sharpen their skills. A professor said “Qualifying for JEE or JAM and getting a good job are two different things. Employers have their own selection procedure to judge the candidate on a range of skills apart from academic knowledge” “Our students are good in technology and engineering but communication is vital in the real world. Whether they become CEO; CTOs, or entrepreneurs, they need these skills”, said Prof. Uday Desai, IIT Hyderabad. 4

As per the latest media reports, one of every three IITians who graduated this year didn’t find a suitable job or wasn’t found suitable for a job through campus recruitment. The official data points to shrinking employment opportunities for India’s large pool of engineering talent. The records shows that out of 9,104 students in 17 IITs, who applied for job this year, only 6013 got jobs. 5 Similarly, the other engineering institutions are also got poor placements. Telangana has 377 engineering and technical colleges. As per the data procured from the All India Council of Technical Education (AICTE) and the statistics reveal that of the total number of engineering students who graduated from the state of Hyderabad between 2012-2016, only 21 percent managed to secure a job through campus recruitment [6]. Employers are now offering very limited jobs and demanding more specific skills set. Hence, soft skills take the hard-hitting role in modern job market.

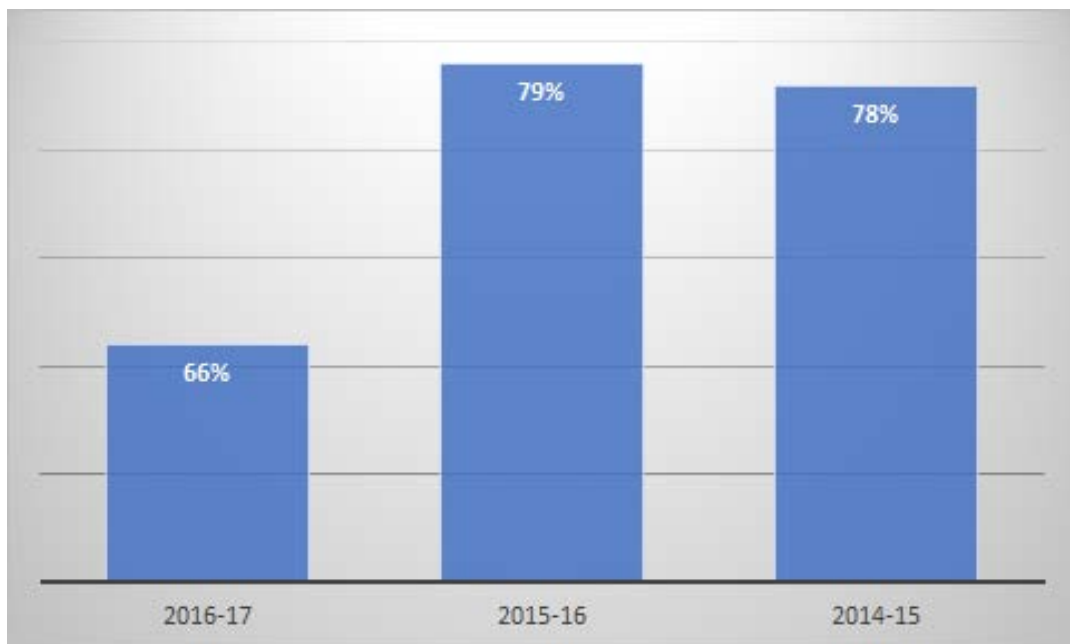


Figure 1- Current Placements in IITs

Source: e paper- News 18

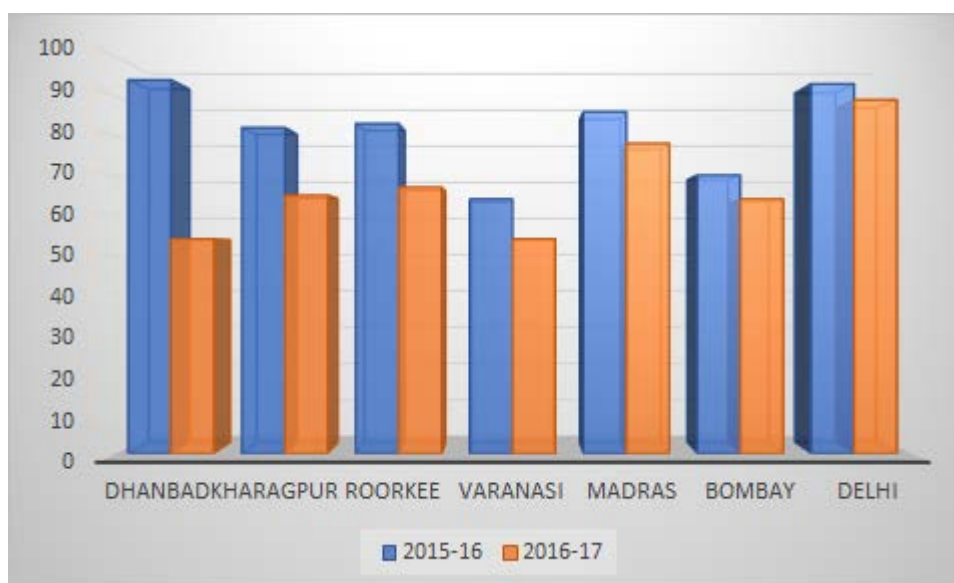


Figure 2 Placements in IITs in the years 2015-16 & 2016-17

Image Source: HT, July 19, 2017

5.1. Corporate Firms

Realizing the imperative need of communication skills which will enhance job readiness, these engineering institutes are now seeking external help from corporate firms. IIT Hyderabad has tied up with IT skilling firm Talent Sprint for 36 hours remedial coaching programme on body language, professional communication, listening and paraphrasing and articulating thoughts. IIT Bombay has hired three service providers to improve the soft skills of their students. Sunil Mehta, Officer, Training and Placement Cell, IIT Bombay said, "Since the last 3-4 years, efforts have been made with the support of external organizations to improve the soft skill assessment and guidance for graduating students." IIT Kanpur is utilizing its internal resources and roping in its vast alumni network for helping the students, "It will help us improve our negotiation skills and also give us a better idea of what the industry demands of us", said Amit Saraswat, Placement Coordinator, IIT Kanpur.⁴[10] According to Archana Ram, managing director, Smart Training Resources India, "Last year, we trained about 2000 students from IITs. IIT students are mathematically strong. However, quite a few of them lack communication skills. They wanted to know how to get a resume in order and what to say in interview."⁵ [11]

6. Case Study

The college under study is affiliated to Guru Gobind Singh Indraprastha University, New Delhi. Guru Gobind Singh Indraprastha University, New Delhi, has been established by Govt. of NCT of Delhi under the provisions of Guru Gobind Singh Indraprastha University Act, 1998. The University is recognized by the University Grants Commission (UGC), India under Section 2 (f)

⁴<http://www.thehindubusinessline.com/news/education/iits-hone-students-soft-skills-to-make-them-jobready/article5254573.ece>

⁵<http://www.deccanchronicle.com/nation/current-affairs/300916/iit-students-have-communication-problems-archana-ram.html>

and 12 (b) of the UGC Act. It is an affiliating and teaching University which aims at facilitating and promoting studies, research and extension work in emerging areas of higher education with focus on professional education, for example engineering, technology, management studies, medicine, pharmacy, nursing, law, etc. There are 19 Engineering colleges, 4 government and 15 private, affiliated to Indraprastha University. The students are admitted to these colleges through a common entrance test conducted by the university, IPUCET. The college under study has 5 streams - Mechanical Engineering, Computer Science, Civil Engineering, Electrical and Electronics and Electronics and Communication Engineering.

Part: 1

AMCAT Test: Assessment by Aspiring Minds

The firm Aspiring Minds consists of a strong in-house research and development team with alumni from IITs and MIT, Harvard University etc. Based in India, Aspiring Minds serves more than 2000 corporations, including some of the world’s largest multinational companies, and 4,000 higher education institutions.

Aspiring Minds delivers AMCAT - the world’s most widely-used employability test and the only standardized test designed for job matching. AMCAT provides a scientific and comprehensive solution that uses patent-pending technology to help companies dramatically improve their hiring while enabling job seekers to evaluate and certify their skills and find appropriate career opportunities. More than 2 million candidates have taken the cloud-based, data driven test, resulting in 400,000 job matches and awarding of millions of credentials.

Communication Skills: e-assessment score in 2017

Level	Scored response %	Frequency [n=65]
Excellent	Above 90	09
High	Between 81 -90	10
Medium	Between 61-80	13
Average	Between 40-60	14
Low	Below 40	19

An e-assessment data sample has also been given in appendix I.

Of all the 5 streams including MBA, 65 students appeared in the test. The test was taken on computer for 3 hours, and it assesses logical reasoning, aptitude and communication skills. The communication skills section had 600 marks, and the marks scored by the students have been analyzed in the above given table. Out of 65, maximum number of students failed or scored less the 40% marks. Similarly, a very less number of students scored more than 90% marks. However, our concentration was more towards the students who failed the test. The objectives of the assessment test were:

- To know the level of communication skills of the students, and identify the ones who need help
- To know the specific areas/topics where the students need help and improve
- To make the students aware of the industry requirement of communication skills
- How far the university course curriculum was relevant

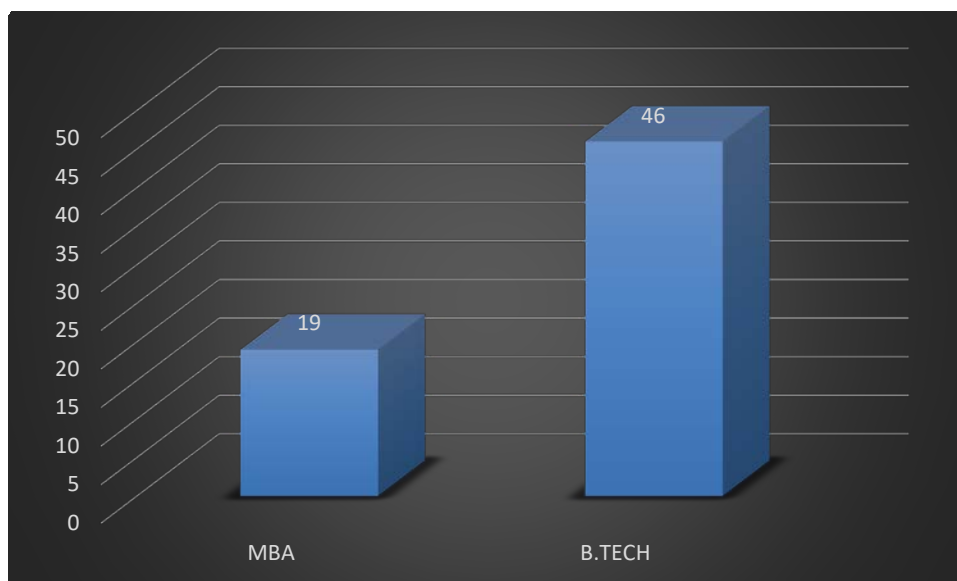


Figure 3. Number of students who appeared in the test

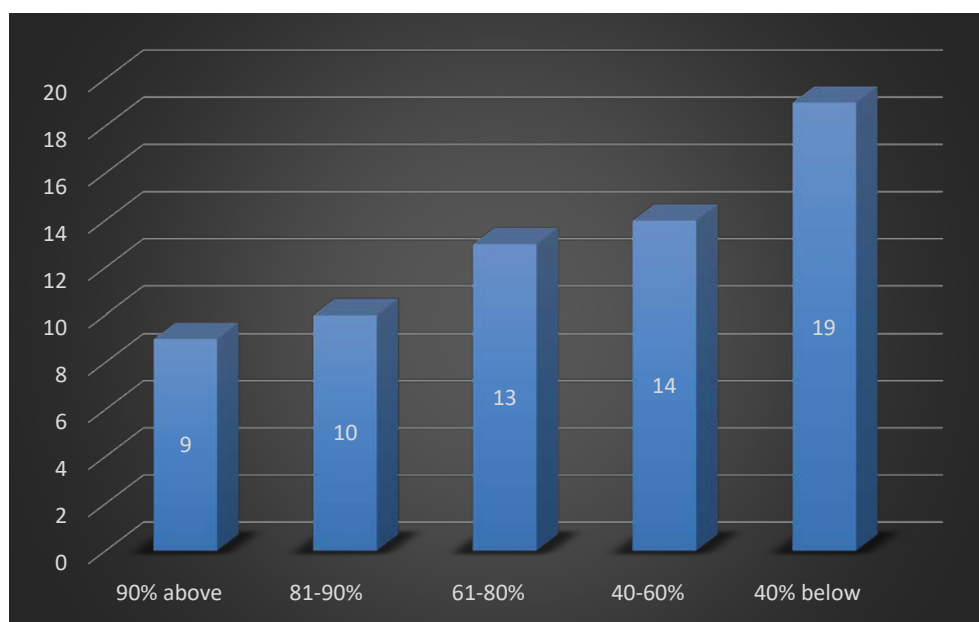


Figure 4. Marks scored by the students in communication skills

Part: 2

In March 2018, 72 students of BTech 3rd year appeared in the AMCAT test. The objective of this test was to train and prepare the students for placements next year. Based on the assessment result of communication skills, students are expected to identify the areas where they need to improve. In addition, the test will give them a very appropriate idea of industry requirements in terms of communication skills. Hence, after the assessment test, a questionnaire was given to the students for feedback on the topics such as:

1. Which topics of Communication Skills did you find difficult and challenging in the test?
2. On the basis of test, which are the topics of communication skills where you need to improve yourself.
3. Could the test help you to understand the industry requirements of communication skills?
4. Based on the test, did you find your University Syllabus of Communication Skills relevant?

The students provided interesting responses which are analyzed with the help of visuals:

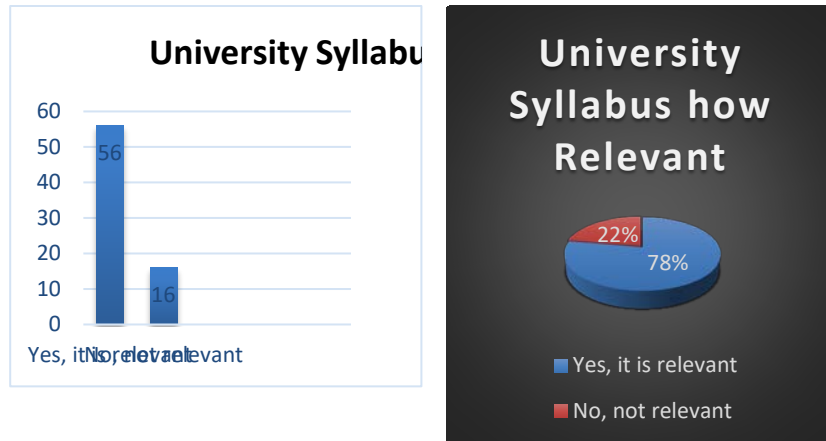


Figure 5. How far the students find the university syllabus of communication skills relevant?

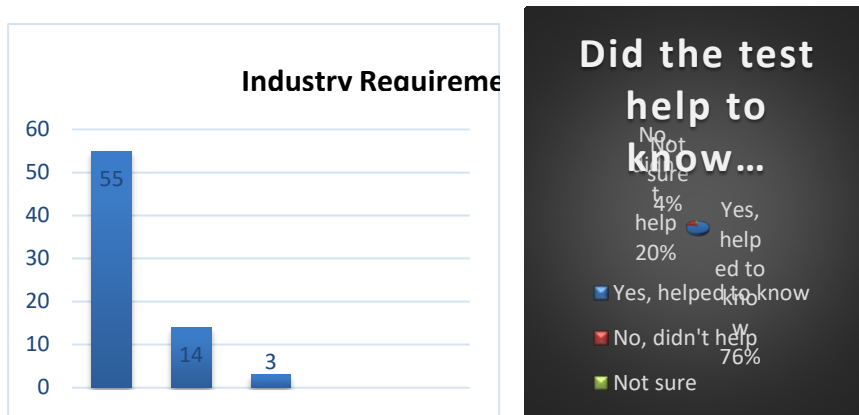


Figure 6. Did the assessment test help them to understand industry requirement of communication skills?

Topics where the students need to improve

Improvement Topics	
Comprehension	15
Essay Writing	10
Vocabulary	29
Grammar	4
Nothing	14
Total Students	72

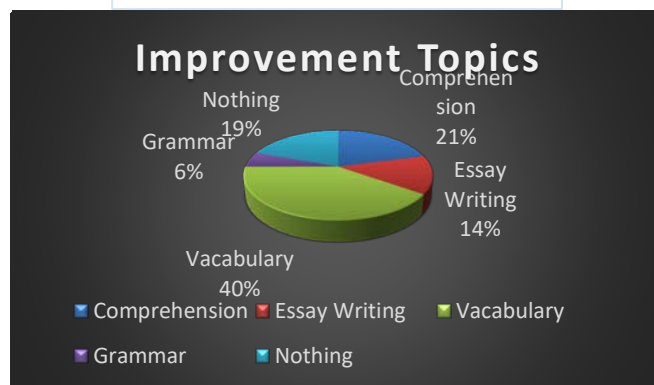
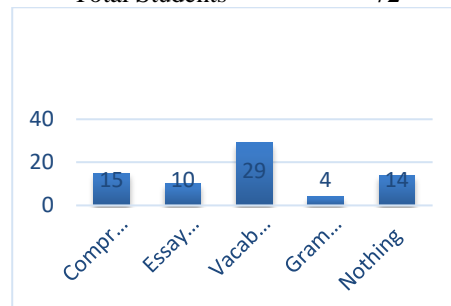


Figure 7. Topics of Communication skills where the students need help and improvement.

Result Analysis

- Out of 72 students, 76% students said that the assessment test helped them to understand the industry requirements.
- 78% students found the university course curriculum of communication skills relevant.
- Vocabulary, comprehension, essay writing were the major areas of communication skills where the students need help and improvement.
- Almost all the students found the test useful for placements and it motivated them to learn and perform better.

Part – III Recommendations:

Based on the performance of students, assessment score and feedback, the following suggestions are recommended:

- Rather than assessing the students in final year, the AMCAT test should be taken in 3rd year so that the students can improve and perform better in the final year.

- The assessment test not only helps the students, but also the teachers to identify and help the students who need improvement.
- The test helps in identifying the problem areas.
- Since the test is reputed and recognized at the national level, it helps in placements and finding appropriate jobs.
- The test also provides experience and exposure to the students.

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