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Ten point strategy for private engineering colleges: Need to evolve, change and improve

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Abstract
In India, the technical education is divided into three categories. One is Institutes of Technologies (IITs), second is government aided colleges and third and most important category, private colleges. IITs are considered as mark of quality technical education in India. Government aided colleges have many advantages in terms of funds and infrastructure. These government colleges and polytechnics have tremendous potential for growth. Private engineering colleges are facing very critical problems. These colleges are being blamed many times for quality of technical education. It should be noted that they are working with limited resources because of admission problems and hence fund generation. To build an education system with effective results, it is necessary to focus on all dimensions of technical education. Primarily, the author has discussed and proposed ten point strategy for improving technical education in private colleges in India and Maharashtra to be specific. Few points in of the strategies are being implemented already on paper but are found ineffective because of improper implementation. The ten points in the strategy are namely admission, quality of teachers, views of management, research facilities, infrastructure, salary structure of staff, evaluation system, placement, institute-industry interaction, and syllabus.

Keywords: syllabus, projects, selection, salary, management, interaction, autonomy

1. Introduction
Technical education in India is going through transition phase. This transition needs to be slow and effective. Most of the time the transition phase is neglected and only two phases are present in the transformation, Initiation and completion. The decisions taken at highest level can have many implications. There should be enough thought process involved while taking such decision.

In India, the technical education is divided into three categories. One is Institutes of Technologies (IITs), second is government aided colleges and third and most important category, private colleges. IITs are considered as mark of quality technical education in India. Government aided colleges have many advantages in terms of funds and infrastructure. Few institutes of technologies and government engineering colleges are doing commendable work in higher education (Subbarao, 2013) [1]. The intake capacities of IITs are also increasing. Adoption of new methodology for teaching is important in changing scenario of engineering education (Chaubey *et al*., 2018) [2]. Good teaching is result of qualification, motivation, ethics and socio-economical background of teachers and students. Lack of qualified faculty is major concern in many institutes. Government has taken some initiatives for improving the teaching methods and also filing the gap between industry and institutions. Contribution from all the stakeholders is required to produce employable engineers (Pawar and Prasad, 2018) [3]. Government is also taking steps to improve research facility. Formation of National Research Foundation (NRF) is one big step towards this (National Education Policy, 2019) [4]. India has potential to become global leader in technical and engineering education provided that it adopts new accreditation criteria without any reservations. New delivery mechanism can help the teachers to fulfil aspirations of students and society (Vishwas *et al*., 2010) [5]. National board of accreditation was set up in 2010 for ensuring quality in technical and engineering education (Manual for Accreditation of Undergraduate Engineering Programs, 2012) [6]. Outcome based system is adopted by the National Board of Accreditation in order to make it equivalent to the system adopted by signatories of Washington Accord. It is necessary that the growth of education, training and skilled programme is balanced with the hiring and job availability in the related field (Sahu, J. and Sahu, M., 2016) [7]. These government colleges and polytechnics have tremendous potential for growth. Private engineering colleges are facing very critical problems. Privation is considered as the effect of breakdown of state and government systems on one side, while on the other side it has become necessary to meet the demand of the large population. Governance of the private institutes is a major weakness in higher education industry (Kapu and Mehta, 2004) [8]. It is a high time that we redesign the syllabus and teaching methods rather than making cosmetic changes in the curriculum (Mohanti and Dash, 2016) [9]. Our engineering education need to address the global competition and increasing student expectations (Singh, A. and Singh, S., 2014) [10]. Average and below average quality of most of the pass out engineers is cause of concern. These private colleges are being blamed many times for quality of technical education. It should be noted that they are working with limited resources because of admission problems and hence fund generation. To build an education system with effective results, it is necessary to focus all dimensions of technical education. Primarily, the author has discussed and proposed ten point strategy for improving technical education in private colleges in India and Maharashtra to be specific.

2. Ten point strategy
Author has proposed ten point strategy for the private engineering colleges.

- Admission
- Quality of teachers
- Views of management
- Research facilities
- Infrastructure
- Selection and salary structure of staff
- Evaluation system
- Placement
- Institute-industry interaction
- Syllabus

Each of these points is discussed in detail in the paper.

A. Admission

This is the most important problem, the educational institutes are facing. This problem needs to be understood on the basis of background. There are more seats than candidates. It is very natural that private engineering colleges in remote place are facing admission problems. This is directly related to economy of the institute and more importantly staff salaries. If we look at the need of the students, they need cutting edge and modern education, knowledge and tools. Most of the students considers engineering graduation as a mandatory degree which is not supposed to give any cutting edge knowledge. This approach is developed due to wrong approach towards ten points noted in this article. Many students attend private learning centres for learning industrial design tools, soft wares, platforms and skills. There is urgent need for the universities to come out of the syllabus system and implement on-demand education system. The colleges should be given limited autonomy, which can be termed as academic autonomy. According to market and demand, short term courses should be given preference. The graduate learning programs should be modified on yearly basis. Teachers should get enough time to acquire new teaching materials on yearly basis. The clerical work and unnecessary documentation should be done away with. If institutes have academic autonomy, they can change intake and float new courses, even on yearly basis. Student will opt for such course and admission issue can be partly solved. The concept of foundation courses can be very helpful. Suppose, student is learning chemical engineering, then initial two years should include all the basics of chemical engineering termed as foundation course in chemical engineering. Then industrial chemical engineering should be taught for two years. This will make then ready to fulfil industrial requirements.

B. Quality of teachers

Teaching learning process is backbone of the engineering education. The quality of teachers talk about intellectual and educational standards. The teachers solely should not blamed for so called deteriorating quality of engineering education. The same educational system has created these teachers. Every year teacher should be given opportunity to introduce some new concept, subject or short course. Refresher courses should be arranged every year for understanding new developments in the subjects. Training should be provided to the teachers. In most of the private engineering college, teachers are facing salary problems. Most of the regulatory bodies, authorities overlook the salary problem due to reasons best known to them. Many time balance sheets of the educational institutes are manipulated. The colleges need apex regulatory authority to manage them. This authority need to have financial powers also. This can be done by having centralized funding system. All the admission fees of all the students should be collected by this regulator. Based on requirements, funds should be allocated for working expenses of the institutes. Salary should be directly credited to the banks. Based on overall fees collection in the region (Maharashtra), the salary structure for the financial year should be decided, which will be uniform. This can be termed as 'Normalization of funds'. Many colleges in urban areas have surplus funds, which is very often misused by the local management. This fund will come handy for the colleges which are remote and can't afford to pay enough salary to the staff and facilities to the students. This will help towards fulfilling the basic motto of our education system 'Education for all'. Most of the teachers from remote colleges migrate because of salary issue. This migration can thus, be stopped. This will have positive effect on admission. Improving the overall standard of the technical education and improving quality of teaching are simultaneous processes and strongly related to teacher welfare. Unless private teachers are paid at par with government teachers, it is unfair to expect them to comply with all new government initiatives, although in this difficult circumstances also they are working hard to survive. The selection process for the teachers in private colleges should be centralized. Most of the time regional aspects and personal relations overtake the quality and rational selection process.

C. Views of management

views of management are very important for successful operation of an engineering college. The job security of the staff is very important and tricky factor. Many managements invest the money from the fees in their business interests. The relatives of the management people are many time occupying the plum posts with considerable amount of salaries. Centralized selection process can overcome this problem. The administrator should be appointed for the period of three years to implement these changes. There can be difficulties but it will be right step towards stopping malpractices in the balance sheet of the colleges. It is unfair to force the faculty to implement the government programs and initiatives unless they are paid proper salaries. The regulatory bodies have ignored the salary issues or found helpless to solve this problem. While we talk about quality education in higher educational institutes, there is an urgent need to look into facilities provided to the teachers by the managements of these colleges. Management of the engineering colleges runs on two wheels namely staff and students. If one wheel is being punctured by then it cannot drive the vehicle. Summarizing the discussion, the managements of these colleges should be run by court appointed administration for initial three years and government should be directly accountable for welfare of staff and students.

D. Research facilities

Teachers are intellectual human beings. This should be considered while taking policy decisions by the governments. The grass root teacher who actually implements the policies has no clue of why certain thing is being done. The ground work should be proper before

taking any big decision on changing the educational system, syllabus, structure of education etc. In the case of degree of doctor of philosophy (PhD), all the guidelines should be made clear at the time of admission and no change or undue hike in fees should be done or allowed. It is always unfair to put new guidelines and rules every year and disturb the mindset of the researcher. Also the teachers doing PhD should not be allowed to take undergraduate or post graduate student for guidance. The fees should be regulated and not more than ten percent rise should be allowed every year. Regulatory bodies are publishing list of the journals approved by them. The quality of research should be given more importance than quality of journals. Many time inferior research paper are published merely because of big names in author lists. This can be avoided by directly reviewing the papers of PhD students by the research centres as is done with thesis. The quality or indexing of the journal should not be a factor. Evaluating the paper directly can have many advantages. Then it can be send to the approved journals. The paper publication should not be made mandatory as the paper has already passed the scrutiny so work is already approved by outside experts. Many times difference of opinions in referees affects the candidates. It is human tendency to walk on easier path. First, to allow them to walk, and then fine them for walking on the path as you later declare it no-entry road, is very much injustice with the candidates. Whatever changes are to be done should be conveyed at the time of admission and no changes should be done for that batch of candidates till they are passed out. Arbitrary timing of the implementation of decisions has negative effect on the candidates. Examination systems, approval systems for the PhD admission and evaluation should be centralized.

E. Infrastructure

Many colleges in metropolitan cities face the space problem. The regulatory bodies should act as helping hand and motivational factors for the institutes. They should rise above sheer regulatory activities and take part in infrastructure development. They should not work as fault finding committee. The experts from these bodies should have representation in the college governance on regular basis. These members should be from other universities. The formation of various committees for evaluation, affiliation and expansion of colleges should be done on state level. The experts from the same universities should be avoided for evaluation of the institutes. These people hide each other's lacunas and that affects quality improvement process. 'Conflict of interest' clause can be put into action where the person in the same university cannot evaluate the colleges and also cannot perform duties in the same university which are related to selection of staff, PhD evaluation etc. Working in the same university causes conflict of interest very frequently. Personal likes and dislikes overtake the principle of equal justice and rational evaluation and selection process. Many private engineering colleges do not provide basic facilities such as drinking water, canteen, clean toilets etc. The apex body for technical education should have sudden visits to these institutes. The visit of these committee should not be a managed show with a planned script. There is urgent need to improve infrastructure of engineering colleges. There is need to run educational trusts like a trust and not a private limited companies. Other facilities such as playground and health clubs should also be given importance. Honest intentions from the trust and government coupled with staff efforts can fulfil students' aspirations.

F. Selection and salary structure of staff

The salary structure of private engineering colleges is uniform but salaries are different. The difference in dearness allowance has made a big difference in the salaries. The admission issues have direct effect on salary. As discussed earlier the excess fund from some colleges can be utilized for rural engineering colleges through central admission and fees distribution system. The staff selected by selection committee should be transferable and every time approval should not be required. Thus staff will not lose jobs due to lack of students. Also rules should be modified for staff selection to avoid favours and conflict of interests. Many time guides of PhD students are on panel, who will prefer their candidates. The candidate can be competitor of the selection committee member, who obviously will avoid selection of equally strong candidate in same university. This can be done away with by having selection committee members out of university and the colleges should not have say in selecting such members. All the interviews should be held in camera. These are important factors, as many times, personal bias, opinion, relation and likes overtake the criteria of quality, qualification and experience. These thing badly affect the prospects of good candidates and the message spread through these practices is very bad. Regular salary, proper selection procedure are rights of all the eligible faculties which can inculcate ethical and moral responsibilities among them.

G. Evaluation system

Evaluation of student's potential is done based on practical and theory examinations. This practice has many drawbacks. First thing to be done in this, is to make all the examination process online and remove the system of manual evaluation of answer books. More emphasis should be given on objective type questions. This will help reducing the errors of judgments from evaluators and many other discrepancies. The syllabus and hardness level of the curriculum and the examinations should be uniform. Efforts should be done to carry out all the undergraduate and post graduate examinations at the same time simultaneously under one authority. Evaluation process should also be changed accordingly. Answers books should be distributed randomly to the examiners for evaluations. Results, obviously will be declared at a time for all the students in the state. This has become necessary as many institutes have internal evaluation system, which account for more than forty percent of the marks awarded throughout four years. There is natural tendency to try for better results and this give rise to incompetent evaluation. Also it must be compulsory for the paper setters to submit the solution to the question papers and answers book must be checked on the basis of this solution.

H. Placement

Placement is the most important factor in analysis of performance of an engineering college. Most of the placements in the colleges are done through campus drives. The institutes and other firms are finding it difficult to select suitable candidates for their requirements. Industrial training should be given importance. Industry institute interaction

has a big role to play in making the students industry competent.

I. Industry institute interaction

Guest lectures, outhouse projects, industrial visits, training, internships are some of the convenient and effective ways of the industry institute interaction. Regular involvement of the industrial people in evaluation of the projects and syllabus framing can help to fulfil the gap between academia and the industry.

J. Syllabus

Syllabus should be designed according to the industry requirement. Fifty percent of the members of the syllabus committee should be from industries. Also it can be made compulsory for the teachers to complete at least one training program in the industry every one or two years. This will make the teachers more competent to fulfil the need for practice/industry oriented teaching.

3. Conclusion

Honestly following the rules and regulation in letter and spirit can improve the quality of education. There is need to have a process for uniform evaluation system for the students. Also uniformity in the syllabus across universities is required. The centralized admission and centralized fund allocation can solve the salary problems. The faculty position should be filled through centralized body such as service commission. Limited autonomy which can be termed as academic autonomy can help the colleges to have change in the syllabus based on geographical factors, requirement of industries in the near vicinity and the demand of manpower. It can be concluded that there is urgent need to take these measures to meet the need of the industries and more importantly the survival of the private engineering colleges.

4. References

1. Subbarao EC. India's Higher Engineering Education: Opportunities and Tough Choices, Current Science. 2013; 104(1):55-67.
2. Chaubey A, Bhattacharya B, Mandal SKD. Attributes Of Good Teaching in Engineering Education In Indian Subcontinent, Sadhana. 2018; 43(188):1-12.
3. Pawar RV, Prasad JR. Scenario of Engineering Education In India, International Journal Of Development Research. 2018; 8(3):19552-19554.
4. Draft of National Education Policy 2019, 1-484, Https://Mhrd.Gov.In/Sites/Upload_Files/.../ Draft _Ne P _2019_En_Revise D.Pdf
5. Vishwas G, Chopra KL, Jha CS, Singh DV. Profile Of Chemical Engineering In India, Status, Concern And Recommendations, Narosa Publishing House, 2010, 1-256.
6. National Board of Accreditation. Manual for Accreditation of Undergraduate Engineering Programs, 2012, 1-39. www.nbaind.org/Files/engineering-programs.pdf
7. Sahu JK, Sahu M. Sustainability of Engineering Education in India, International Journal of Engineering Development and Research. 2016; 4(4):492-495.
8. Kapu D, Mehta PB. Indian Higher Education Reform: From Half-Baked Socialism to Half-Baked Capitalism, Working Papers Center for International Development at Harvard University, 2004, 1-37.
9. Mohanty A, Dash D. Engineering Education in India: Preparation of Professional Engineering Educators, Journal of Human Resource and Sustainability Studies. 2016; 4:92-101.
10. Singh A, Singh S. Private Engineering Education in India: Past, Present and Future, International Journal of Management and Social Sciences Research. 2014; 3(11):39-47.