Techniques for Improvement of Students' Performance in Examination

Arpita Gupta[1]*, Somya Rout[2] and Abhinav Goel[2]

[1]Dronacharya Group of Institutions, Greater Noida, Uttar Pradesh, India

[2]Under Graduate Students, Dronacharya Group of Institutions, Greater Noida, Uttar Pradesh, India

Case Report

ABSTRACT

Student performance in university examinations is of paramount importance to students, their parents, teachers, administrators, university and the country as a whole. For self-financing institutions, this factor assumes higher importance because the reputation of these institutions and their long term existence largely depend on students' performance in the university examinations and consequently on placement of graduates in job. As such managements of such institutions should show great concern about improving students' performance in examinations because everybody measures the performance of the institutions through this yardstick.

INTRODUCTION

Factors affecting student performance

- Quality of students
- Quality of teachers
- Quality of infrastructure
- Quality of teaching learning process
- Quantum of learning by the students
- Quality of internal evaluation of students' learning

Causes of Poor examination results in this college

- Poor quality of students admitted
- Lack of senior, experienced and motivated faculty
- Inadequate physical infrastructure
- Poor teaching learning process
- Inadequate learning by students
- Poor quality of internal assessment process

GENERAL RECOMMENDATIONS FOR IMPROVEMENT

Improvement in academic performance does not happen by chance nor can it be accomplished overnight through a magic stick. It is a result of planned, consistent, coordinated efforts of a qualified, experienced, committed, dedicated team of academicians. Also, quality of students admitted matters much for this purpose. The various initiatives to be taken by institutions for improvement of students' performance are mentioned below [1].

i) Attracting students of high merit

Institutions must put maximum effort for attracting students of high merit for improving the academic culture which goes a long way in improving the quality of education [2]. Meritorious students are in a position to select institutions for their studies which they do on the basis of the following considerations

- Good infrastructure e.g. campus, laboratories, library, computer centre etc.
- Good hostel facilities for boys and girls
- Transport facility for students for commuting from their residence to the college
- Good faculty
- Good examination results
- Excellent placement
- Scholarship to poor but meritorious students
- Good reputation and academic ambience

It is important that institutions concentrate on the above factors in order to succeed in their above mission

ii) Attracting qualified and experienced faculty

Well qualified and experienced faculty choose to join an institution on the basis of following criteria

- Reputation and academic ambience
- Quality of students
- Infrastructure
- R & D facilities
- Development opportunities
- Remuneration package
- Performance linked career advancement and awards.

Unless the institutions improve considerably in the above aspects, attracting really good faculty will remain a dream for them.

iii) Dealing with fresh and junior faculty members

There is no dearth of junior faculty members but the institutions cannot flourish if they bank on the services of such faculty without developing their potential [3]. It is dangerous to send newly appointed faculty members to the class without providing any training and preparation time, which is a current practice in most of the institutions. Following measures will help in developing the competency of the faculty members

Institutions must have a tie up with NITTTR for training of their teachers. Fresh faculty members should be sent there for training immediately after joining the institution. After completion of training, they should be allowed to interact with the students in theory/ practical classes but should be thoroughly guided and monitored by the Head of the Department (HOD) or a senior faculty member for at least two semesters [4-10]. In many situations this may not be possible because the HOD himself may be a junior person requiring lot of guidance and support. In such cases, the principal himself has to do this job.

Faculty members must be encouraged to attend seminars/ conferences/ short term training programme (STTP) organized by various institutions to gain specialized knowledge in their area of interest. Faculty members must be given ample opportunities for improving their qualifications during their service. Institutions must organize industrial training for their faculty in reputed industries to expose them to industrial environment and practices that will help them to learn the practical application of engineering knowledge and develop experimental as well as problem solving skills which in turn will make them effective teacher.

iv) Dealing with poor quality students

Revised admission policy has opened the doors of several engineering institutions for extremely low merit students. It cannot be ruled out that a minimum level of knowledge in Science, Mathematics and English and aptitude of learning must be present in the admitted students to pursue engineering education. Institutions facing problem of sub-standard quality of students may resort to the following measures for overcoming the problem to some extent. Although, it may create substantial financial burden to the institutions but will provide viable solution to this problem which will pay back in the long run otherwise the institutions will run the risk of closure.

Through an aptitude test (based on the syllabus of class XII) in the beginning itself, identify and segregate the weaker students [11].

- Conduct make up classes in three subjects (English, Mathematics and Physics) by experienced teachers for 2 hours every day beyond normal college hours throughout the year. The institutions may charge separate tuition fees from the students for these make up classes.

- The class size should be reduced from 60 to 30 in theory and from 20 to 10 in practical in order to increase personal attention to the students.

- For teaching First year students, services of senior and experienced faculty members should be utilized as far as possible.

- Students must be kept busy by way of practical work, assignments, class-tests, field / industrial visits, co-curricular activities etc.

- Higher emphasis has to be put on learning than teaching for which oral interaction with individual student with all subject teachers is necessary.

- Problem solving skill has to be developed in the students in tutorial classes.

- Continuous assessment of students' performance should be done throughout the semester and term work/ sessional marks should be awarded on this basis.

- Frequent internal examinations in all the subjects including subjects taught in the makeup classes should be conducted to monitor the progress of students and their performance should be displayed on the notice boards and also be communicated to their parents.

1. They should be sent for counselling and guidance (a cell to be started in the institution) for understanding their academic problems and designing ways and means to improve their performance.

2. Their parents should be contacted to seek their advice and guidance to overcome their problem.

v) Academic planning and monitoring

Academic activities must be properly planned and monitored efficiently. Following guidelines will be helpful [12, 13].

- An academic calendar must be prepared in the beginning of the semester showing various curricular, co-curricular and extracurricular activities planned during the semester with date and person responsible for the activity. While preparing academic calendar, co-curricular activities should not be allowed more importance than curricular activities as it is harmful to academics which is the primary purpose of the institution.

- Availability of faculty members appropriate to the teaching load must be ensured at least two months before the start of the semester.

- Distribution of subjects to all faculty members should be done two months in advance to allow sufficient time for them to prepare lesson plan and teaching material.

- Preparation of laboratory should be done well in advance with regard to adequacy of equipment, experimental set ups, components and various documents e.g. list of experiments, lab manuals and schedule. Experiments should be designed in such a manner that gives the students the opportunity to understand the objective, procedure, data collection through measurement, data presentation, analysis and drawing important conclusions i.e. interpretation of results. It should generate interest and spirit of enquiry in students. It is a common observation that practical classes are not assigned due importance by management, faculty, and students.

- Occasional inspection of instructional work in the lecture theatre and in the laboratories should be conducted by HODs / Head of the institution in order to assess the quality of instruction.

- Analysis of adequacy and quality of class tests conducted in each subject vis-à-vis performance of students should be done by concerned faculty/HOD/principal and corrective action in case of discrepancies should be taken.

- Analysis of consolidated monthly report on the attendance of students(class wise) should be done so as to identify students with shortage of attendance and to deal with them

- Analysis of consolidated monthly report on performance of students in various class tests should be done so as to monitor their academic progress and to deal with non-performing students

- Analysis of report on industrial visits conducted for students by each department to ascertain adequacy of this activity and its usefulness on the basis of students' and faculty feedback should be done.

- Analysis of report on expert lectures organized by each department to ascertain adequacy of this activity and its usefulness on the basis of students' and faculty feedback should be done.

- Students' feedback on faculty performance and course experience at the end of each semester should be collected, analysed and acted upon.

- Analysis of students' performance in the semester end university examination should be done and remedial measures taken in case of discrepancy.

- Maintenance of high level of student discipline is required.

vi) Administrative planning and monitoring

Administrative policies must be planned to support academics. Following guidelines may be helpful in administrative planning and monitoring [14-17].

- Planning of number of faculty required as per teaching load and recruiting at least 20% extra faculty to handle extra load on account of makeup classes, laboratory classes and continuous evaluation should be done at least 2 months before the starting of a semester.
- Senior faculty search and recruitment drive should continue round the year.
- Framing and implementing appropriate service rules for faculty and staff should be done aimed at their growth in career and retention in the institution and also to get best out of them.
- Planning and implementing a robust performance appraisal system for faculty and staff should be done.
- Monitoring and maintenance of discipline of faculty and staff should be done.
- Disbursement of salary and other dues to faculty and staff should be done on time.
- Prompt fulfilment of all requirements proposed by Principal / HODs pertaining to academics should be done by management.
- Planning and implementing schemes for augmentation of faculty motivation and career advancement should be done.
- Proper documentation in respect of faculty appointment, admission of students, examination results and analysis, actual expenditure vs. budget, meetings of G.B., academic committee meetings etc. should be done.
- Maintenance of institutional infrastructure and utilities in order to eliminate academic problems should be done.
- Operation of grievance cell for faculty, staff and students should be done.
- Prevention of sexual harassment of women at work place should be done.

vii) Industry Interaction and placement of Students

Training of students and faculty as well as placement of students who are on the verge of completion of their studies are the important activities benefiting both students and institution, which goes a long way in establishing the reputation of the institution [18]. The training and placement cell must be organized strongly with adequate manpower and facilities. The activities of the cell must include.

- Creating a directory of industries who may be the potential employers of the graduates of the institution
- Interacting with the Managing Director and HRD manager of each industry.
- Creating rapport with the industry by inviting eminent persons for expert lecture and deputing faculty and students for visits and training.
- Identifying areas of mutual interest e.g. consultancy, testing and students project work etc.
- Associating key persons from industry in curriculum design and examinations
- Inviting HRD managers for campus interviews well before the completion of the course.
- Documenting the outcome of the campus interviews.

In most of the institutions, training and placement cell is not well organized because this activity is not being given its due importance. Management of fairly large number of institutions consider that industrial training to students and faculty are not useful and arranging job for the students is the responsibility of students themselves [19]. Training and placement activities are generally put under a faculty as an additional responsibility with no support just to fulfil AICTE norm.

viii) Counselling and Guidance

Students with variety of family background, temperament, strengths, weaknesses, tastes, habits, likings and preferences, academic performance, and achievement are required to study and live together for a considerable period when they join an engineering institution. Many of them who do not adapt themselves to the new environment start suffering from one problem or the other. Some suffer from emotional problem being separated from their family and friends, some from health problem due to change of food and water, yet others may have problem with class mates, teachers, subjects, academic load and performance. These problems of the young and new students need to be addressed urgently by someone, on whom the students can have trust. Counselling and guidance cell set up in the institutions can handle students' problems in an effective manner. The role of such a cell is to help the students to settle them in academics by listening patiently to their problems, analysing them and finding an appropriate solution. At times, they have to strengthen them psychologically to overcome the problems [20]. In the present circumstances, academically weak students feel insecure on account of lack of performance for which they will be accountable to their parents, counselling and guidance cell may provide their valuable services by motivating and arousing interest of those students in studies with the help of academicians.

ix) Internal Quality Assurance Cell (IQAC)

The quality of technical education has become the prime agenda of the nation, the institutions offering technical education cannot ignore this vital aspect. External quality assurance mechanism aimed at maximizing institution's potential for quality education is in place through accreditation process of National Board of Accreditation (NBA). Assuring quality in the educational offerings provided by an institution is the responsibility of the institution itself for which all institutions must start IQAC with adequate manpower and facilities. Since quality enhancement is a continuous process, the IQAC should form a permanent feature of an institution. Quality of educational offerings is crucial to survival and growth of the institution; hence this aspect has to be given highest priority. Quality of education is ensured through continuous monitoring of various institutional activities and taking corrective action for improvement.

The prime objective of the IQAC is to develop a system for conscious, consistent and catalytic improvement in the performance of institution. The work of the IQAC is the first step towards the internalization and institutionalization of quality enhancement. Its success depends upon the sense of belongingness and participation it can inculcate in all the constituents of the institution. The IQAC has the potential to become a vehicle for ushering in quality by working out intervention strategies to remove deficiencies and enhance quality. Quality circles in industries operate on similar lines [21].

The basic purposes of the IQAC are similar to an external quality assurance agency with the difference that IQAC is made up of members internal to the institution and operate round the year [22]. The basic purposes of IQAC are listed below.

- To ensure continuous improvement in the entire operations of the institution, and
- To assure stakeholders connected with technical education namely students, parents, teachers, staff members, prospective employers, funding agencies and society in general - of the accountability of the institution for its own quality and probity.

Some important functions of IQAC are:

- Development and application of quality benchmarks/parameters in various activities of the institution.
- Dissemination of information on quality aspects to various stakeholders
- Organizing discussions, workshops, seminars, and promotion of quality circles.
- Recording and monitoring quality measures of the institution.
- Acting as a nodal agency of the institution for quality-related activities.
- Preparation of the Annual Quality Assurance Report and such other reports as may be decided from time to time.

Specific Recommendations and Action Plan

Student admission

- Do not admit students of poor merit because this deteriorates academic culture of the institution. Some seats remaining vacant may lead the institution to economic difficulty but filling vacant seats with undeserving candidates creates irreparable loss to the institution in due course of time.
- Such students lack discipline, interest in studies and do not abide by prescribed academic standards and norms. Their attitude and behaviour demotivate the faculty members to an extent that they too can't function properly [23].
- Such students adopt unfair means to pass examination without any preparation and even bring in political pressure to succeed in their ulterior motives.
- Such students organize mass absenteeism and strikes etc. in the college thereby lowering the performance of one and all in the institution.

Faculty appointment/ availability/retention/ development

- Appoint faculty of appropriate quality through rigorous interview that should examine candidates' oral and written communication skills, depth of technical knowledge both in theory and practical, understanding of fundamentals of science and mathematics, understanding of design principles, understanding of latest technical developments in the relevant field, creativity and capacity to work in team. Higher salary and perks should be paid to faculty with outstanding merit and academic accomplishments [24]. Substandard teachers are responsible for spoiling academic culture which is an irreparable loss to the institution. As such merit should be the only criterion for faculty appointments at all levels.
- Appoint faculty in excess of the norms prescribed by A.I.C.T.E. because these norms take into consideration that the quality of students and faculty is appropriate. When quality of both students and faculty is mediocre, a workable solution is reduction in class size to 30 from 60 for theory and batch size to 10 from 20 for practical. For effective teaching and learning to take place, students must be taught and examined efficiently and regularly which is not possible unless faculty number is not increased beyond AICTE norms.
- Pass outs of this institution should not be appointed as faculty because this practice hinders institutional growth. In extremely unavoidable circumstances, this may be waived.

- Appointment of faculty on adhoc basis should be discouraged. Where such appointments become absolutely necessary, appointments should be made 2 months before start of the semester so that the faculty gets sufficient time for planning and preparation of teaching materials and do justice with his work [25].

- Short duration appointment of faculty should be discouraged. Minimum duration of faculty appointment should be of 11 months during which they should be trained and monitored properly.

- Newly appointed faculty on adhoc basis should be given orientation training in teaching methodology and related matters by the faculty development cell to be started in the institution.

- Availability of faculty in the campus is very much essential during pendency of semester to ensure timely completion of academic and related work. Faculty absence from college results from availing different kind of leaves e.g. Casual Leave/Sick Leave/Compensatory Off/Duty leave/Maternity – Paternity leave etc. Except in most unavoidable circumstances such leaves should not be availed by faculty during semester. Awards/ incentives should be given to faculty for not availing leave during the semester. Such system has brought tremendous improvement in staff availability in industries. Compared to industries, teaching institutions have more holidays, hence need for other type of leave should be minimized. In addition, encashment of unveiled leave should be allowed at the end of each calendar year which will prompt faculty to avail leave only in unavoidable circumstances

- Faculty instability is a big cause for deterioration of quality of education that has to be addressed urgently. Analysis of various causes of faculty instability needs to be done and measures implemented to deal with this problem [26].

General recommendations to reduce faculty instability are

1. Incentive for faculty who continue in service for five years in the form of one special increment after completion of every five year of service.

2. Faculty career development scheme such as QIP and scheme for paper presentation at national / international conferences, participation in STTP, workshop etc. should be launched.

3. Faculty friendly policies should be brought into force. Policies such as salary deduction of newly appointed faculty and service bond etc. should be done away with because such policies have failed to serve the intended purpose of faculty retention. Unsatisfied faculty does not perform well and faculty retention under force is not congenial to institutional development.

4. Sitting rooms of HOD/faculty should be well furnished and decorated to give them a feeling of self-respect and provide an atmosphere congenial to deliver good quality work.

Infrastructure Development

Condition of class rooms and laboratories needs immediate attention. Blackboards, furniture, window panes, electrical fittings in classrooms/labs must be repaired during each vacation. Large number of lab equipment's is lying in defective condition in various laboratories either on account of mishandling by students or as a result of normal wear and tear process. Such equipment's must be got repaired urgently. New equipment's must be purchased from time to time as per recommendations of concerned HODs. Utilization of the equipment's should be optimum to be decided by HOD and the subject teacher. In technical institutions, laboratory teaching assumes very high priority which will totally suffer without adequate equipment's. Spending in lab equipment's will always pay back in the long run because this helps in changing the work culture and improves in students' learning outcome [27].

Improvement in teaching-learning process

First year teaching has to be managed more carefully and effectively because students must be handled properly in the first year itself. Good habits and discipline imparted in the beginning goes a long way. Generally, students in the absence of proper teaching, learning and evaluation system become slack in studies and develop casual attitude towards attending classes and all academic work. Following recommendations are made in this regard [28].

- A coordinator must be appointed to monitor and control academic activities of first year with the help of 2 class counsellors for each division.

- Services of senior faculty of all departments must be utilized. This will improve course experience by the students and work culture.

- Class size should be reduced suitably to enhance students' learning.

- Formation of divisions should on the basis of merit list and not on the basis of engineering discipline. This will reduce heterogeneity in student population which has several advantages.

- Laboratory teaching has to be strengthened by defining the learning outcome, teaching and evaluating the learning outcome regularly. Laboratory time should not be wasted in writing files and any unproductive work/ purpose.

- Strict academic monitoring that includes progress of teaching and students' learning must be done on monthly basis and the progress report must be sent to all parents.

- Scholarship schemes should be instituted for students with 100% attendance and outstanding performance.
- Student absenteeism should be discouraged and strict action should be taken against students lacking in attendance and performance. Students below 75% of attendance should be detained as per GTU norms.
- Parents meeting should be organized twice in every semester to appraise parents about progress/ shortcomings of their wards.

Similar policies should be adopted for other classes also as far as possible. The policies may be implemented in phased manner.

Change in Organizational Structure

For effective functioning of the institution, following changes in the organizational structure are recommended.

Following cells/ offices should be started.

- Counselling and guidance cell
- IQAC
- Examination cell
- Training and placement cell
- Faculty development cell

Following positions should be created and filled by experienced faculty [29].

- Dean of Academics
- Dean of students affairs
- Dean of faculty affairs
- Dean of examinations
- Director of internal quality assurance cell.

Above positions should not be below the rank of professor and will report to principal

Analysis of Causes of Poor Examination Results

Student side

- Correlation of their current performance with marks of std XII
- Correlation of their current performance admitted under State Quota/Management Quota
- Correlation of their current performance with their attendance in the class.
- Correlation of their current performance with gender
- Correlation of their current performance with their commuting habit from outstation
- Correlation of their current performance with their interaction with faculty outside the class.
- Correlation of their current performance with utilization of existing facilities at the institution

Faculty side

- Quality of faculty teaching the subjects vs. students' performance in each subject.
- Faculty change for various subjects during the semester vs. students' performance in each subject.
- Number of lectures delivered vs. students' performance in each subject.
- Percentage of syllabus covered vs. students' performance in each subject.
- Number of class tests held vs. students' performance in each subject
- Number of assignments given and checked vs. students' performance in each subject

Effective Utilization of Vacation Period

Every year university declares 90 days' vacation in 2/3 spells. During vacation period following works are to be conducted at the institution.

- Conducting theory examinations
- Conducting practical examinations in the institution as well as other centres

- Paper checking at Central Assessment centre

- Stock verification of institutional assets

Apart from this, many faculty members also participate in STTP/ seminars/ conferences. Very important works such as major Repair and maintenance of infrastructure, lab equipment repairs [30-33], planning and procurement of new lab equipment's, setting up of new experiments, planning and procurement of library books and journals etc. suffer due to unavailability of faculty members including HODs. During pendency of semester, development activities cannot be undertaken. Vacation is the most appropriate time when such activities may be taken up and completed. For this purpose presence of all faculty members is important because development is a team work and absence of any one will delay the matter. As such vacation should be reduced to 15 days and remaining period should be converted into earned leave to be availed during any part of the year or may be encased **Tables 1-3** [34,35].

Table 1. Expectation from Management for Faculty Motivation and Creation of Better Work Culture.

Sl No	Action	Impacts
1	Do not admit students of poor merit at any cost	Better discipline, motivation to faculty, better academic environment. Better examination results, better placement, better reputation
2	Do not appoint faculty of poor merit	Better discipline, motivation to students, better academic environment. Improvement in teaching quality, Better examination results, better placement, better reputation
3	Appoint faculty 20% in excess of AICTE norms	Result in better management of teaching process, Able to deal with the problem of faculty instability
4	Appoint 4-5 faculty in each department who will work as teaching assistant	Assessment of students learning will tremendously improve
5	Payment of salary to faculty and staff on the first day of the month	Faculty motivation and retention
6	Payment of D.A. etc as soon as any revision is declared	Faculty motivation and retention
7	Faculty rooms should be appropriately furnished	Faculty motivation and retention
8	Financial assistance for attending STTP, conferences, seminars, industrial training etc should be given	Faculty motivation, development and retention
9	Faculty should not be assigned workload other than teaching and examination	Improvement in faculty satisfaction and academic environment
10	Dean of academics should be appointed	Better academic monitoring
11	Dean of students affairs should be appointed	Ensuring admission of good quality of students, students discipline, addressing students grievances, monitoring of students performance
12	Dean of faculty affairs should be appointed	Ensuring recruitment of good quality faculty, performance monitoring faculty performance, deciding policy for faculty development and retention, addressing faculty grievances
13	Dean of examinations should be appointed	Managing all types of examinations both internal and university examination
14	IQAC should be started as an independent unit comprising of senior faculty from each discipline headed by a Director to oversee quality in all operations of the institution	Developing quality policy, standards and tools relevant to accreditation and quality assurance. Measuring various parameters of the institution such as input, process, output and outcome of each programme as per norms and determine strengths, weaknesses and areas for improvement. IQAC will generate annual report giving actions to be taken for improvement and the impact thereof. Continuous improvement in quality in all operations of the institution is the impact of IQAC
15	Laboratory equipments/ components/ software should be purchased as per recommendations of HODs	Will improve laboratory instruction
16	Budget allocation for repairs of lab equipments	Will improve laboratory instruction
17	Purchase of library books should be done as per recommendations of HODs	Will help students and faculty to study and perform
18	A clerk/ office assistant should be given to each department to handle all administrative work such as correspondence, stores, documentation etc. These works are at present carried out by faculty and lab assistants	Faculty and lab assistants will be able to concentrate on academic work
19	Space allocation to each department should be increased	Departments may be organized in a better way
20	Incentive in the form of one special increment to faculty who have served the institution for more than 5 years	Improve faculty stability
21	Generator of adequate power should be purchased and installed	Academic loss on account of power failure will be overcome

Table 2. Management Expectation from Faculty for Improvement of Examination Result

SI No	Action	Impact
1	Maximise their efforts to thoroughly learn the subjects to be taught by them	Quality improvement in teaching
2	Prepare lesson plan and lecture notes, slides, power point presentation etc well in advance	Quality improvement in teaching
3	Prepare themselves for conducting laboratory classes effectively by doing the experiments themselves before the scheduled classes or during vacations	Quality improvement in teaching
4	Create lot of interest in student body for learning through practical examples and applications	Improvement in learning
5	Improve their communication skills to be able to teach effectively	Quality improvement in teaching
6	Plan and implement appropriate and adequate evaluation methods to assess student learning at frequent intervals	Improvement in learning
7	Be prepared to teach a new subject at short notice	Improvement in teaching
8	Be prepared to develop new teaching/ assessment method and share the same with others	Improvement in teaching
9	Plan and implement industrial visits for students that will enhance students' learning	Improvement in teaching
10	Be fair to students in all respect particularly in teaching and assessment	Improvement in academic environment and student satisfaction
11	Be prepared for self-development by availing opportunity to improve qualification, attend STTP, Conferences, Seminars, Workshops etc	Self-development
12	Be prepared to contribute to the development of the department in any manner	Institutional development
13	Make the best use of time and resources available to them such as writing research papers, books, working on testing and consultancy projects aimed at revenue generation for the institution	Self-development and institutional development
14	Organize national/ state level programmers such as short term courses, conferences, workshops and seminars etc.	Improvement of academic ambience
15	To ensure student discipline in and outside the class room.	Improvement of academic ambience
16	Recommend equipment's/ tools/ components required for conducting practical's to the HODs	Improvement in laboratory instruction
17	Recommend purchase of books for the library to the HODs	Will help students and faculty to study and perform
18	Organize cultural/ sports events in the institution	All round development of students

Table 3. Suggestions for Motivating Students.

SI No	Action	Impact
1	For 1st year, class size should be reduced to 30 from 60 in theory classes and 10 from 20 in practical classes	Result in increased personal attention to the students, increased interaction with teachers and enhance students' learning
2	Services of senior faculty of all departments must be utilized for at least 1st year	This will improve discipline, course experience by the students and work culture.
3	In 1st year, formation of divisions should be done on the basis of merit list and not on the basis of engineering discipline.	This will reduce heterogeneity in student population in each division which has several advantages.
4	Provision for teaching each theory subject for 2 hours continuously should be made in the time-table	Improves concentration and saves time for change over and recording attendance. Results in greater progress in the subject, permits conducting innovative classroom assessment techniques and enhances students' learning
5	All classes must be engaged regularly and in proper manner.	Higher attendance/ less absenteeism in the class
6	Teachers concerned should discuss the course objective in the class in the beginning itself and then proceed with the curriculum	Improvement in student motivation
7	Laboratory teaching has to be strengthened by defining the learning outcome, teaching and evaluating the learning outcome regularly. Laboratory time should not be wasted in writing files and any unproductive work/ purpose.	Improvement in learning and enhancement of motivation
8	Faculty leaving the job during pendency of a semester is a great killer of quality which must be stopped at any cost by enactment or otherwise	Ensure continuity and good quality of instruction as well as good coverage of syllabus
9	Strict academic monitoring that includes progress of teaching and students' learning must be done on monthly basis and the progress report must be sent to all parents.	Ensure good progress in teaching and learning. Parents support/ control will also motivate students for better performance
10	Scholarship schemes should be instituted for students with 100% attendance and outstanding performance.	Motivation to students for attending their classes regularly and good performance in internal examinations

11	Students below 75% attendance should be detained as per university norms. Non-fulfillment of this norm is a major contributor to poor exam results because many non-performing students are allowed to appear in university examinations	Improvement in results, increase in class attendance, improvement in learning and improvement in work culture
12	Parents meeting with HOD concerned should be arranged twice in a semester.	Parents support / control will help students to maintain good discipline, attendance and performance
13	Academically weak students should be given additional coaching in subjects like Mathematics, Science and English which are the backbones of Engineering	Eliminate deficiency in students and motivate them for attending classes and better performance
14	Library timings should be extended to 12 hours	Students will have access to library for longer period
15	Computer center timings should be extended to 12 hours	Students will have access to internet for longer period

CONCLUSION

Performance Assessment of Faculty

For improving the quality of instruction, performance assessment is very important. Performance assessment of faculty should be done at regular interval through following means. The results of performance assessment must be used for encouraging faculty with better performance and reprimanding faculty with poor performance. Without proper use of the results of assessment, this process becomes unproductive and even lead to increased non-performance in the institution.

a. Students' feedback on faculty performance

b. Self-appraisal by faculty and validated by HOD

c. Classroom observation by HOD and Dean of academics

d. Student achievement data by HOD and Dean of academics

e. Lesson Plan by HOD.

REFERENCES

1. ABET. Accreditation Policy and Procedure Manual 2007.

2. ABET. Accreditation Policy and Procedure Manual 2013.

3. ABET. Criteria for Accrediting Engineering Programs" 2013.

4. AICTE. Technical Education in Independent India 2000, 1947-1997.

5. AICTE. Board of Planning of Technical Education Report on Re-engineering of Engineering Education 2003.

6. AICTE. Approval Process Handbook 2004-2005.

7. AICTE Notification dated l9th April, regarding „Regulations for Creation of National Engineers Registration and Licensing Board (NERLB) 2004.

8. AICTE. Notification dated 24th November, regarding „Regulations for Creation of National Engineers Registration and Licensing Board (NERLB) 2004.

9. AICTE. Approval Process Handbook 2013-2014.

10. AICTE. Approval Process Handbook 2015-2016.

11. Agarwal M. Examination Reform Initiatives in India, J Indian Educ, 2005:31, 15-22.

12. Agarwal P. Higher Education in India: The Need for Change, Working Paper No. 180, Indian Council for Research on intenational Economic Relations, New Delhi 2006.

13. Anthony and Stella. External quality assurance in Indian higher education: case study of the National Assessment and Accreditation Council (NAAC), International Institute of Educational Planning, Paris 2002.

14. Anthony and Stella. External Quality Assurance in Indian Higher Education: Development of a Decade, Quality in Higher Education, 2004:10,115-127.

15. Augusti G. Accreditation of engineering programs: European perspective and challenges in global context, Eur Eng Educ, 2007:32,273–283.

16. Awale SD. Some critical issues relating to engineering teachers in the development of technical education system in India, PhD thesis, IIT, New Delhi 1995.

17. Banerjee R and Muley VP. Draft Final Report on Engineering Education in India, Energy Systems Engineering, IIT Bombay Powai, Mumbai 2007.

18. Barrows M. Quality Management Systems and Dramaturgical Compliance, Quality in Higher Education, 1999:5,27-36.

19. Bhattacharya SK. Quality Assurance in Technical Education, Abhishek Publication, Chandigarh (2005).

20. Bhushan and Sudhanshu. Report on Self-financing Courses in Colleges, Department of Higher & Professional Education, National University of Educational Planning and Administration, New- Delhi 2008.

21. Bhushi UM. Total Quality Management in Engineering Education in India, PhD thesis, IIT, Kharagpur 2008.

22. Biswas G, et al. Profile of Engineering Education in India, Naroda Publishing House Pvt. Ltd, New Delhi 2010.

23. BNQP Educational Criteria for Performance Excellence, Baldrige National Quality Program 2003.

24. Brahadeeswaran D and Abdul Hakeem MA. A Review of NBAs Accreditation Criteria, J Eng Sci Manag Educ, 2012:5,475-479.

25. Brennan J and Shah T. Managing Quality in Higher Education: An International Perspective on Institutional Assessment and Change, Society for Research into Higher Education. Buckingham: Open University Press 2000.

26. Brown TJ, et al. Research note: improving the measurement of service quality. J Retailing, 1993:69,127-139.

27. Burtner and Joan. The Changing Role of Assessment in Engineering Education: A Review of the Literature, ASEE Southeast Section Conference, Virginia, 2000, 1-9.

28. Campbell C and Rozsnyai0. Quality Assurance and the Development of Course Programs- Papers on Higher Education Regional University Network on Governance and Management in Higher Education in South East Europe, UNESCO, Bucharest 2002.

29. Career 360, 217 seats at IITs left vacant. No takers found even after three Round 2013.

30. Carman JM. Consumer perceptions of service quality: an assessment of the SERVQUAL dimension, J Retailing, 1993:66, 35-55.

31. CEAB. Accreditation Criteria and Procedures 2011.

32. Chakraborty A. Higher Education and Research in India: an Overview, Sitra Reports 74, Edita Prima Ltd., Helsinki 2007.

33. Chakravarty R. Country paper on Higher Education in India. Regional Seminar on Regional Harmonization: Establishing a Common Higher Education Area, Bangkok, 2007,1-34.

34. Chandra A. Building a good institution, The Journal of Engineering Education, 2006:19, 61-84.

35. Chandramouly MC and Padmaja M. Quality in Technical Education - A Critical Analysis of Governing Factors. Ind J Tech Edu, 2003:26,50-54.