Strategic Leaderhip – A Case Study in Engineering Education Scenario

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Abstract— This research paper deals with a case study of Strategic Leadership that has shown colossal growth in terms of University results as well as the team spirit. This case study is of B.Tech First Year Team of ABES Engineering College, Ghaziabad, UP, for last two sessions 2014-15 & 2015-16. The team is still growing, but is on a roll!

Keywords—ABESEC, FYT, Strategic Leader, FYC, HOD-AS&H, SHs

I. Introduction

In an organization, there are/could be following three types of leaderships [1]:

A. Tactical Leadership

Tactical leadership is concerned with short-term decisions and risk-management for immediate gains. At the tactical level, leaders must balance the needs of team members with the needs of the mission or situation. This often involves negotiating and cajoling followers to cooperate so as to achieve the aim. It also means creating an environment where they are willing to make sacrifices or contribute to the team because of a felt loyalty to the leader and other team members. The tactical leader's control is through his or her level of **idealized influence or charisma**.

B. Strategic Leadership

Strategic leadership is concerned with the long-term purpose and goals of an organization, movement, or institution. A strategic leader is vying to create a viable organization that will be capable of functioning in all circumstances, that is resilient and, even better, robust in the face of threats and obstacles.

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As the members of the organization believe in the values and purpose of the organization, and, they believe their leaders have their best interests at heart; they are willing to make sacrifices for the good of the institution.

C. Operational Leadership

Operational leaders are the unsung heroes of organizations. because they build the structures and systems that allow the strategic leader(s) vision and objectives to be achieved, while providing a framework for inspired action by the organization's tactical leaders. In other words, they create systems to support the values of the organization and its leadership and to encourage a culture and behaviour patterns that are congruent with these.

II. The Case Study

The base of our case study is ABES Engineering College (ABESEC), Ghaziabad which has been s one of the most sought after Engineering Institutes of Uttar Pradesh for last 16 years. It, of course, has been amongst top 5 University ranked engineering colleges as rated by the State Technical University.

In session 2014-15, ABESEC was striving hard to maintain one of the top-most positions in the University. It was the need of the hour for the entire First Year Team (FYT) members to be in united team spirit too.

The magnanimous management of ABESEC in unison gave this gigantic task to a Professor who humbly accepted this challenge of becoming a strategic leader. A new designation was created for the purpose and was called FYC (First Year Coordinator). It was not called as Head of Department as it was felt that the new designation of could give the team a new spirit. In 2015-16, HOD-AS & H was additionally appointed to aid FYC in further building on the grand success achieved in 2014-15. She, along with FYC, was also instrumental in achieving a massive success of FYT: the best ever performance by a FY Team in any college in the University since its inception.
[3] Organizations constantly modify and refine the mechanism by which they achieve their purposes – rearranging their structure of roles, relationships and managerial processes. Continuous innovation and motivation are the keys for any team which result in

tremendous growth in terms of team unity as well as the academic results. [2] Innovation is defined as the production or adoption, assimilation and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services and markets, development of new methods of production and establishment of new management systems. It is both a process and an outcome.

FYT members welcomed the new leaders amongst them with full acceptance, enthusiasm and vigour. The journey began amidst both hopes and apprehension of FYT about the path to be taken and the results ahead.

D. Phase- I - Team Unison

The University result for session 2013-14 was a yearly cumulative 72.94%. The target envisioned by FYT was to take it to at least upto 85% in 2014-15 and above 90% in 2015-16.

[4] While strategy and fit are essential elements of new organizational designs, it is essential facilitate the release of the positive energies within each employee. Organizational designs that focus on the intangible aspects of human energy create synergy by integrating a compelling vision, a solid strategy with a viewpoint that it is people who are, in essence, the organization. These types of designs create long-lasting value and thus, have the best chance of success not only today, but also for the remainder of this century.

FYC and HOD- AS & H believed it could be only possible if each and every faculty member will unite as a team and the team will function like a family. The faculty was encouraged to achieve the best as they discussed, felt and imbibed that one's growth is directly proportional to the growth of the organization.

For achieving this target, following steps were taken:

1. Deputation of faculty members: The faculty members who were teaching from ECE, CSE, ME & EN branches were deputed for full time in the AS&H Dept. so as to give them the complete sense of belongingness. Earlier it was not the case and the same used to result in lack of ownership of the task by the non-deputed members. In the new set-up, after repeated discussion in the weekly TEAM MEETING (99 of them have happened since THU 30th July 2014) which have invariably & religiously taken place every THURSDAY during the semesters. These meetings also became religious forums for weekly review and planning sessions.

2. Appointment of SHs: The concept of Subject Heads (SHs) was introduced for the first time in any college in the University in this team where the responsibility of each subjects' leadership was given to a young n dynamic leader who also had some experience, but, who necessarily was not the senior-most among them. Energy n efficiency were chosen as the prime criteria rather than the convention degree n experience-based leadership choice! Many other unconventional decisions were taken to achieve the goal. The goal n the mission was primary even if it meant not following the conventional path. In fact just because the goal was clear, the energy n the path (unconventional) got defined and detailed as a result, i. The appointment of the SH was done on sheer energy and innovative ideas that the potential subject team leader was supposed to possess irrespective of age and experience that s/he possessed.

3. Weekly Departmental & SH Meetings: A religion of weekly departmental meeting & SH Meeting was introduced as mentioned above in which policies n work-methodologies were framed in detail at departmental level & the decisions were taken democratically through detailed discussion by keeping each of the aspect under consideration on the anvil. Members were encouraged to participate freely. Initially they hesitated, but, gradually they all opened up opening, in turn, floodgates of ideas which ultimately resulted in a massive unimaginable victory for the team.

4. Leave-Friendly Atmosphere: A friendly, understanding, and, a very different way of leave culture was started by the team after thorough discussion in the team-meeting. The TL proposed, and all agreed to, to treat EACH INDIVIDUAL AS RESPONSIBLE MEMBER OF THE TEAM. It was deliberated that running of a team can not be the responsibility of a TL alone: every Team Member gas to feel responsible not just for the outcome, but, also for each of the processes , and has to own the pros n cons of it. They all accepted to treating each other with respect n dignity in the sense that if anyone is taking leave during the session s/he must be having a solid reason for the same. So, though, it was expected that faculty members would take less leaves during the semester, but the team together decided not to deny it to someone who really needed it, and, if a faculty really needed leaves due to certain emergency or cause, he / she was never denied. Overall, it helped create a beautiful, responsible, new and different team-environment in which everyone concerned felt responsible and team really blossomed as a unit!!

5. Encouragement through COs, increments and gifts by college management: The college management made it a policy that if a faculty works on a holiday / week-off, then he / she will be entitled to have Compensatory Off. Moreover, as the results improved by big margins, the management encouraged FYT by providing them attractive increments and gifts. This benevolent thought process of management further motivated faculty members to do better and better.

6. Promoting faculty to pursue higher studies & research activities: The faculty members were promoted to pursue higher studies and for this they were given a day or two off so that they may pursue their course work or meet their Ph.D supervisors. As per the college policy, college bears some percentage of participation / registration fee if a faculty wishes to attend any conference / publish a research paper in reputed journals as per the recommendation of HODs. These steps fostered a feeling of self satisfaction among faculty members.

E. Phase- II – Targetting Students Performance

1. Empowerment of Class Coordinators: The fact was established that the attendance levels are directly proportional to the result. Thus, the Class Coordinators of each section were fully empowered to monitor the attendance of their respective sections. The defaulter students were one to one dealt with.

2. Tripartite Agreement: Orientation Programme for new entrants of each session was made compulsory for each parent / paying guardian to attend. An open interactive session was held in which the students and their parents were free to interact with FYC, HOD-AS & H and faculty members. In this manner, the parents were also made part of the mission. In case a student is on leave due to medical reason or wishes to avail leave for some reason, then his father / paying guardian has to call and inform the class coordinators, otherwise the leave will be unapproved.

3. Punctuality: The sense of punctuality was nurtured into the fresh entrants from the day 1 of the session by making sure that the students as well as faculty reach their respective classes & labs at least 2 minutes prior to the commencement.

4. Working Days: The numbers of working days were increased by making the Saturdays and few Sundays working. This was essential to maintain the rhythm of studies in India which a country of festivals.

5. Evening Doubt Clearing Classes: The students were encouraged to have doubt clearing classes in the evening.

6. Special sections for academically needy students: After the continuous assessment of students by teachers via class performance and first sessionals, the students who were academically needy were segregated as different sections depending upon their subjects. This policy continued for both odd and even semester. In these sections, each and every student was paid special attention and faculty members worked cohesively on the weaknesses of students.

7. Standard of Internal Examination Question Papers:
SHs made sure that the standards of question papers for internal exams were at par with the standard of last University end semester examination question papers so that the students prepare themselves accordingly.

8. Establishment of "Connect": Each faculty member was inspired to have connect with each and every student of their respective classes. This helped the students to open themselves with the faculty member in terms of their expectations, dreams, fears and challenges. This enabled to set up an atmosphere where the students felt to be at home and this helped students to give their best.

9. Strictness in attendance levels: FYT was very strict in handling poor attendance levels. The students who were not able to maintain the attendance level above 75% was detained from appearing in University end semester examination.

10. One to One Marking Scheme: FYT believed in the sense of responsibility towards each and every student. The faculty members did the hand holding of each student till he / she was quite confident in the subject and a result of which, the students were able to perform remarkably well in the University Exams.

11. Bright Students Development Cell: FYT believed that the bright students also needed exceptional attention. After first internal assessment, the Class Coordinators shared the list of the section toppers. The Bright Students Development Cell members took up the role of the "mentors" and 5-6 topper students were allotted as "mentees ". These bright students were helped in form of additional book, extra time, more academically help etc.

12. Supplementing physical & mental wellbeing of students: Academic performance & health of students go hand in hand. FYT promoted the physical and mental well being of students by having yoga and meditation classes in whole session. These activities shown incredible results both in terms of academics and also helped the students to connect to naturopathy and our culture.

13. Departmental Counseling Cell: A separate counseling cell at the departmental level had been constituted where the students were free to approach the faculty members and share their views, problems etc. of any sort. This assisted in developing the bond between the faculty members and students.

III. Results

A. In terms of attendance:

Fig. 1 throws a glance on the attendance levels that were achieved in session 2015-16. It is clear from the entries in the table that the overall attendance level in 1st sem was approximately 93.11% and in 2nd sem, the overall attendance level was 93.97%. This consistent attendance levels above 93% were instrumental in achieving unparallel success.

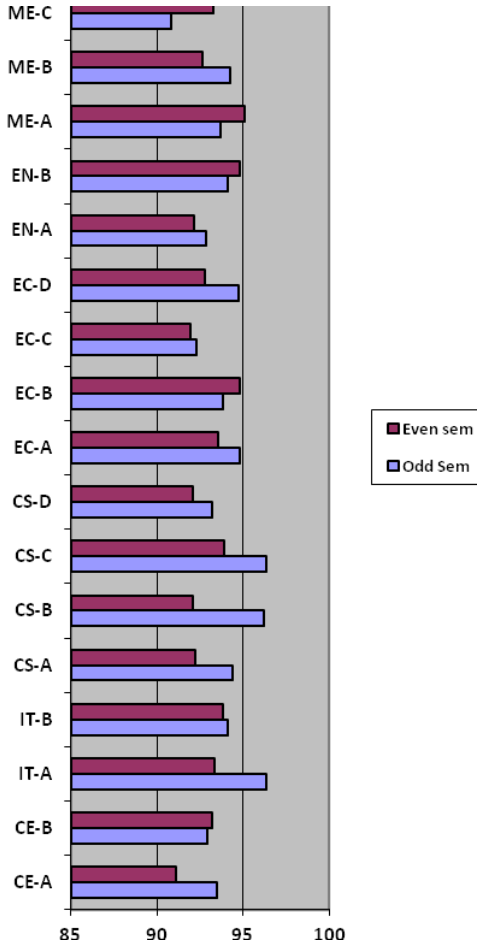

Fig. 1: Consolidated attendance levels for session 2015-16

The bar graphs shown in Fig, 2 clearly indiciate the giagantic leap of results in 2015-16 over 2013-14 and significant imrovement in 2015-16 over 2013-14.

Fig. 3 and Fig. 4 show the subject wise pass percentage over last four sessions for both odd and even semester. From the bar graphs of Fig. 3, it is clear that there is a huge leap in the subject wise results of Electrical Engg. and Electronics Engg. from 2012-13 to 2015-16.

B. In terms of University Results

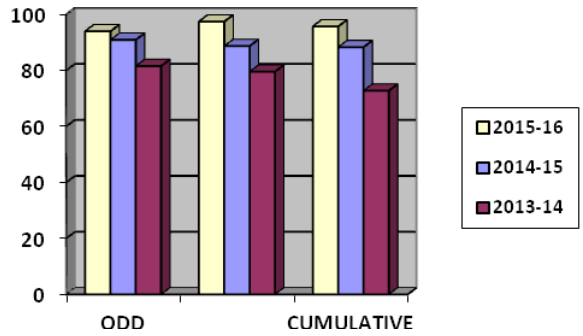

Fig. 2. Cumulative Result Analysis Comparision of 2013-14, 2014-15 & 2015-16 of ABESEC in terms of pass percentage.

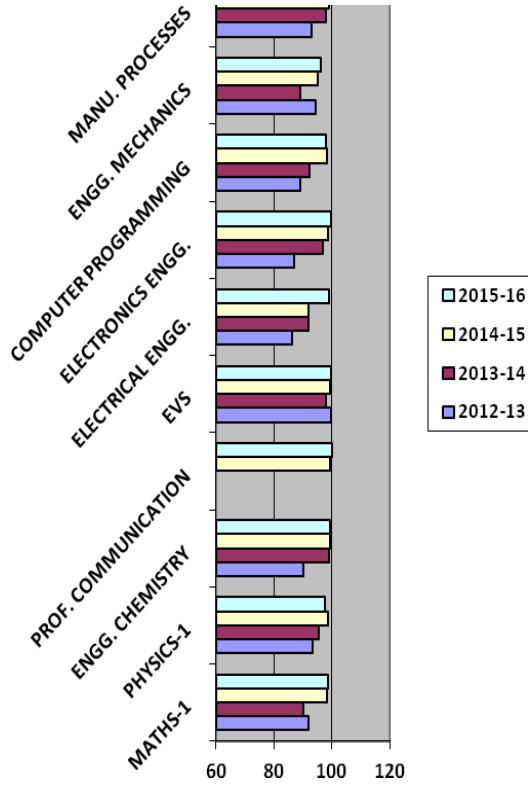

Fig. 3. Subject wise pass percentage over last four sessions (odd semester)

From the bar graphs of Fig. 4, it is depicted that the results of Maths-2 and Computer Programming have been remarkably im proved from 2012-13 to 2015-16.

Fig. 5 shows that average marks of Engg. Maths. Engg. Maths -1 is being taught in odd sem and Engg. Maths-2 is being taught in even sem. Engg. Maths -2 is considered to be one of the misost difficult subject of 1st yr. but with the rigoruous hardwork of Maths group,

they have given 99% pass percentage along with 61.68 average marks in 2015-16 where as the average marks were only 46.27 in 2014-15 with 91.73 passing percentage. The average marks of Engg. Maths-1 jumped from 48.64 in 2013-14 to 65.72 in 2014-15.

Fig. 6 shows the average marks of Engg. Physics. Engg. Physics -1 is being taught in odd sem and Engg. Physics -2 is being taught in second sem. Physics group has shown excellent performance in 2015-16 with 99.9 % pass percentage along with 70.48 average marks. It is also clear that overall average marks for even sem are higher than those in odd sem of last four sessions.

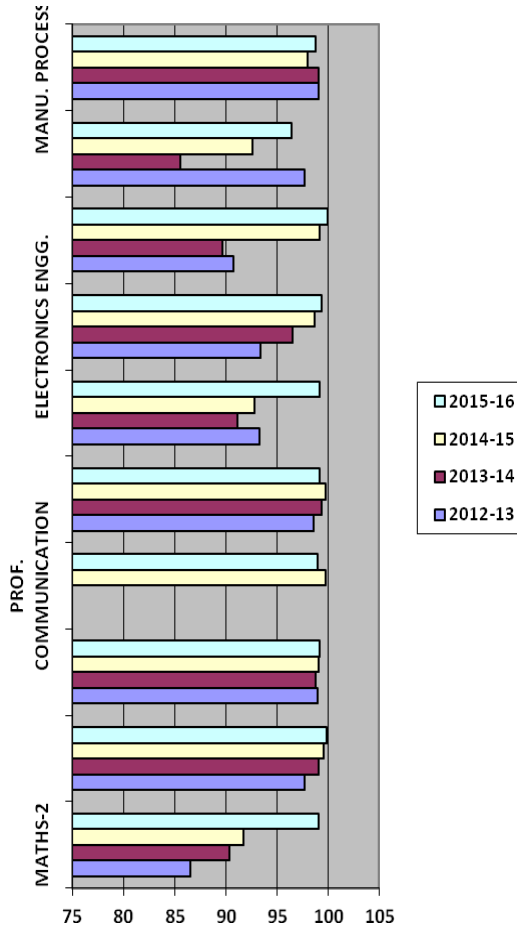

Fig.4. Subject wise pass percentage over last four sessions (even semester)

Fig. 7 shows the average marks of Engineering Chemistry. The group has shown an increase of 2.73 marks in even sem as compared to odd sem in 2015-16.

Fig. 8 shows the average marks of Electronisc Engg. The fig. shows that the averageb marks in odd sem have been hiked from 37.24 in 2012-13 to 48.16 in 2013-14 to 56.47 in 2014-15. In 2015 -16, the average marks have been increased from 54.04 in odd sem to 62.54 in even sem.

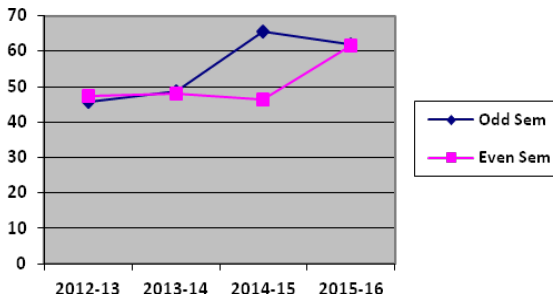

Fig. 5. Average marks – Engg. Maths-1 & Engg. . Maths-2.

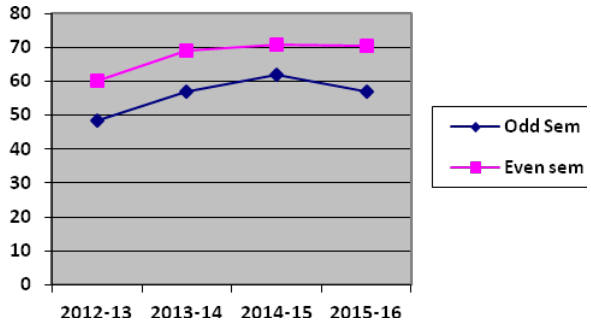

Fig. 6. Average marks – Physics -1 & Physics -2

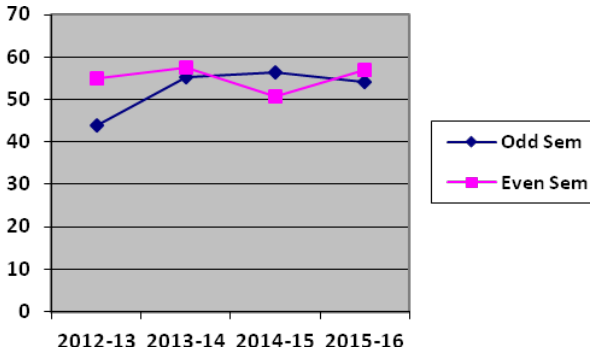

Fig. 7. Average marks – Engg. Chemistry.

Fig.9 shows the average marks of Electrical Engg. The subject has shown significan increase from 40.1 to 60.51 in odd semesters and from 51.23 to 64.87 in even semesters. The pass percentage of the subject has also hiked from 86.18 to 99.22 due to deliberate planning of the Team Leaderrs and faculty members involved.

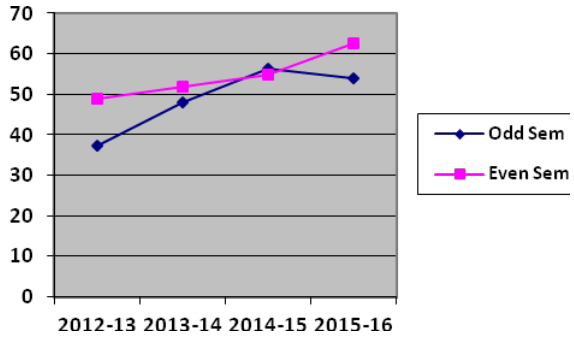

Fig. 8. Average marks – Electronics Engg.

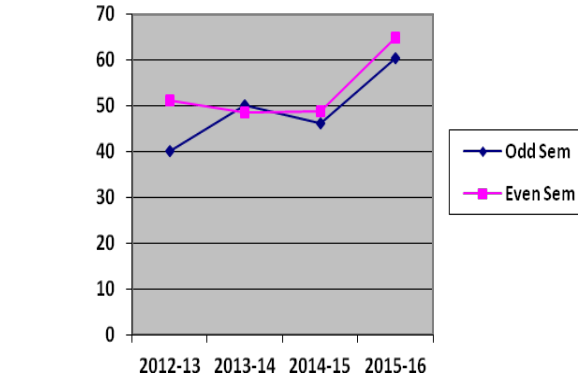

Fig 9. Average marks – Electrical Engg.

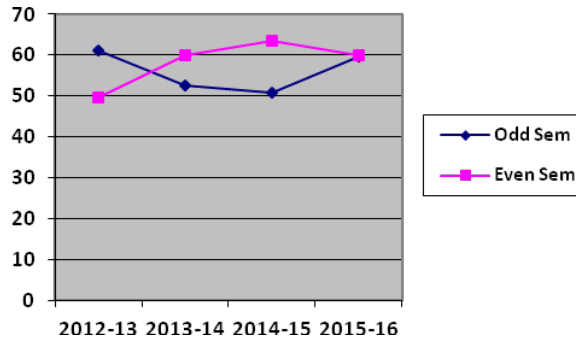

Fig. 10. Average marks – Environment & Ecology (EVS)

Fig. 10 shows the average marks of EVS. The subject's performance is better in even sem as compared to odd sem except that the average marks in odd em of 2012-13 were 61.11 whereas in even sem they were only 49.56.

Fig.11 shows the average marks status of Engg. Mechanics. In 2012-13, the average marks were 58.74 in odd sem and 67.33 in even sem but the average marks dipped in 2013-14 as 48.31 in odd sem and 41.91 in even sem due to quite unexpected question paper.

Fig. 12 shows the average marks of Computer Programming. The graph depicts that the average marks in odd sem are nearly consistent around 50 marks but in even sem, the average marks are varying from 49.29 in 2012-13 to 52.46 in even sem. The subject has given absolute 100% result in even sem of 2015-16.

Fig. 13 shows the average marks of Professional Communication. This subject was re-introduced in the curriculum in 2014-15. The graph shows that the average marks are being fluctuating from 53.61 to 61.10 in odd sem and from 56.29 to 53.08 in even sem. It is here to mention that the subject has given absolute 100 % result in odd sem of 2015-16.

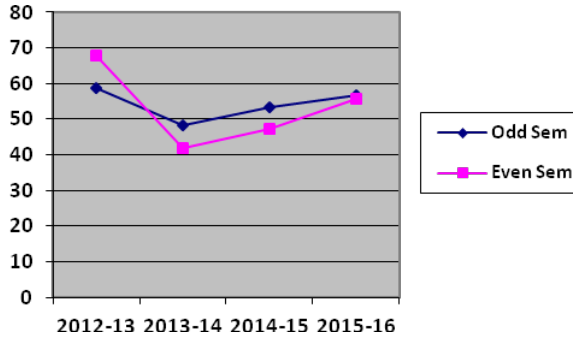

Fig. 11. Average marks – Engg. Mechanics

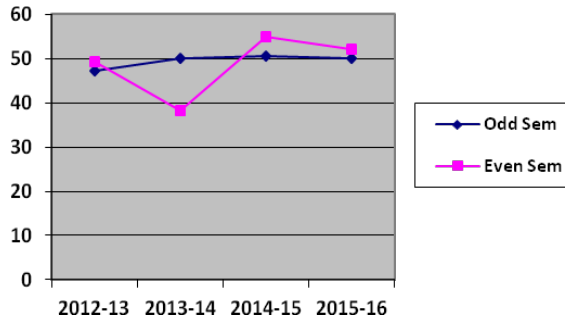

Fig. 12. Average marks in Computer Programming

Fig. 14 shows the average marks of Manufacturing Proceesses. The average marks of the subject are continupously improving in odd sem of last four sessions but the marks were dipped in even sem of 2014-15 to 49.48. Rest, the performace of the subject is nearly consistent.

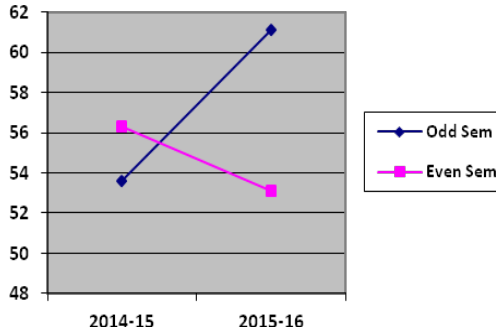

Fig. 13. Average marks – Professional Communication

IV. Conclusion

Thus, the above analysis of average attendance, pass percentage and average marks for both odd and even sem show that the FYT has been remarkably evolved from 2014-15 to 2015-16 as compared to 2012-13 to 2013-14. This has been only possible due to sharp and precise vision of ABECEC management along with the intense strategic planning and the yearning of achieving excellence. The vision has not been just to be the top engineering college in terms of results or placements but is to create such an amiable environment where each and every student and faculty may grow and contribute to the development of society & nation.

The FYT is still in the process of evolution and supporting the cause of developing the "connect" with thebstudnets so that they feel at home and this sense of security will lead to create more and more histories ahead.

V. Challenges & Future Planning

The biggest challenge in front of FYT is to maintain these results by retaining the team culture that has been nurtured into it. The working environment should be so conducive that these results should come as BAU (Business As Usual) where faculty, students and parents in a tripartite agreement should achieve their dreams.
The next level planning is to include Industrial Visits and Mini Project Lab as co-curricular activities for First Yr. students so that their perception about Engineering students should be practical based from the very beginning.