ABSTRACT
Tata Consultancy Services Ltd. (TCS) has been supporting the academic community across the globe, right from its inception in 1968, inheriting the rich tradition of TATAs. A comprehensive Academic Interface Program (AIP) facilitates a robust, high-quality, long-term relationship between TCS and Academia, leading to a win-win situation for both. The details of such a fruitful experience - covering our efforts, quality of efforts and also the early results of such efforts - are shared in this report.

Categories and Subject Descriptors
A.m [General Literature]: Miscellaneous

General Terms

Keywords
Industry – Academia Relationship, Mutual learning, Win-Win cooperation.

1. INTRODUCTION:
1.1 About TCS
Tata Consultancy Services (TCS) is the world-leading IT consulting, services, and business process outsourcing organization. It is the first company to be assessed enterprise-wide at Level 5 in both CMMI and PCMM. With close to 60,000 of the world's best trained IT consultants located in 37 countries, TCS is uniquely positioned to deliver its flexible world class services seamlessly to any location. TCS posted total revenues of $2.24 billion (US) in the fiscal year ending 31 Mar 2005 making it the first Indian IT company to cross the two billion mark.

1.2 Background:
TCS hires about 8000 fresh graduates every year from campuses world-wide, making it the largest recruiter of engineers. They participate in an 8-week Initial Learning Program (ILP) before being allocated to specific projects. This program essentially focuses on TCS’ Software Engineering Processes including its Quality Management Systems and soft skills. The content of the program is based on the strengths & gaps in the academic curriculum followed in various universities and also in alignment with our business requirements. Our extensive experience of training several thousand young engineers, every year, in software engineering and consequent understanding of the gaps with reference to the job requirements have been captured in a white paper [1]. The key differences in the learning during ILP are

- The learning takes place in a hybrid academic-industry ambience.
- The faculty is made up of experienced Project Leaders
- The learning pedagogy is one of sharing experience through anecdotes and experiential learning by doing team projects.

A comprehensive Academic Interface Program (AIP) was conceived three years back to share the above rich experience with the academic community and the attempt has become a highly rewarding experience for both TCS and academia. We share the details of such a fruitful relationship with the academic community, through this report. The report includes the following:

- The AIP objective
- The AIP activities
- Select Measures
- Key gains for academia and TCS

2. THE TCS ACADEMIC INTERFACE PROGRAM (AIP):

TCS AIP support has three external focal points – institutes, faculty and students. Learning Group, Recruitment Group and Project Group are the three important internal stakeholders. The AIP objective is just to reach out to meet the needs of all these six stakeholders.

The importance of AIP is captured in the following AIP Influences Diagram:

The TCS – AIP currently covers the following areas of cooperation between TCS and academia. These activities are deployed through full time Regional Academic Relationship Managers – ARM, the arm of friendship & trust. ARMs are actively supported by our senior associates & alumni of the respective institutes, designated as Academic Liaison Managers.

1. TCS hosts

a. An annual two-day workshop where the Leadership team of TCS including the CEO meet the Heads of about 50 institutes and brief them about the emerging business models, customers’ requirements & technology trends. Every year the event would have a different theme, appropriate to the time & needs. “Globalisation and Paradigm Shift in Talent Pool Generation” was the theme for the 2005 meet, which was attended by six overseas professors, representing every continent.

b. Annual two-day workshop for the Heads of Computer Science Departments, where the curriculum revision suggestions are given. Feedback is also given about the performance of their alumni in TCS. Learning & Development efforts of TCS are shared. Education excellence frameworks such as MBNQA – Education criteria are discussed. Overview of Research in Practice, highlighting TCS efforts, is also provided. This event is held in four different regions of the country. About 120 – 150 professors across India participate in these annual programs.

c. A six-day Faculty Development Program in Software Engineering conducted seven times a year with about 40 participants in each session. The emphasis here is more on learning pedagogy with focus on problem-solving. The faculty is encouraged to adopt these in their teaching. Last year a total 180 teachers from 90 institutes attended our FDP in Software Engineering and the over-all satisfaction index was 3.4 (4-Point Scale).

2. As part of Corporate Social Responsibility TCS has web-enabled the application oriented Software Engineering contents developed in-house and made it a free public site accessible to any student, faculty or practitioner [3].

3. TCS has Memoranda of Understanding with selected colleges, where the faculty trained through our FDP (1.c above), conduct special sessions for those students short-listed for appointment in TCS (TCS makes the selection one year in advance of the students’ graduation). For this additional effort, the faculty is compensated monetarily by TCS. In addition, the institution receives generous grants for augmenting the library, getting professors on short-term assignments, CASE tools etc. The students who are thus better prepared when they join TCS are also given a cash bonus on joining and clearing an application oriented test. In its initial stages, this scheme enables about 30% of new entrants assimilating the desired knowledge before joining TCS.

4. To reach the thousands of colleges in far flung areas, we have prepared a White Paper [1] explaining the industry needs and why only 15 – 25% of graduates produced by the academic institutions are employable at present. The main messages in the paper are

- Academia should concentrate in imparting knowledge of permanent value and mindsets and desist from “teaching” fleeting technology skills.
- The learning pedagogy should be based on problem-solving model.
- The role of faculty to be redefined as Content Creators and Mentors, instead of “lecturing”.
- Colleges to be networked into an education grid, sharing expertise leading to collaborative learning.
- Offer multi-disciplinary courses in emerging areas such as biotechnology and nanotechnology.

Several institutes in India and elsewhere have used the messages in recasting their curriculum contents.

5. We collaborate with select universities [4] in conducting custom made Master’s degree program for our employees.

6. We accommodate about 1000 students as project trainees, every year, from across the globe, with a handsome monthly stipend. Apart from the monetary advantage, the experience of doing a project in a highly quality conscious & challenging environment itself is a rewarding experience, as indicated in the formal feedback from several students. The average satisfaction rating by the students, till Q3 this year, is 3.74 (4-Point Scale).

7. The rich project experience of TCS is being shared with the teaching community through a series of Faculty Development Program in different areas where the needs of academic community and our areas of expertise match. Till Q3 this year, we have conducted 25 such programs, covering about 700 teachers and the average satisfaction index is 3.60 (4-Point Scale).

8. We also conduct workshops for students in Software Engineering, Technology areas and Soft Skill. These programs are in high demand across India. We have conducted 180 such
workshops till Q3 this year, covering a few thousand students and
the effort is rated at 3.59 (4-Point Scale).

9. We have established about 60 TCS Best Student Awards and
TCS Best Student Project Awards across India & Singapore as
incentive for better learning and to enhance the competitiveness
among students. This annual award carries handsome cash prize
along with an impressive medal. This is being extended to other
geographies.

10. We have research collaborations with leading universities,
across the globe, in select areas of our interest [4].

11. We have provision for faculty exchange program, based on
mutual needs, between TCS and academia. It has been invoked a
few times during the current year.

12. We do sponsor academic events of our interest in the
campuses and also contribute to such events professionally.
Annually we sponsor about 100 events.

3. SUMMARY of KEY GAINS:
Gains for TCS: Part of Initial Learning Program is being met
through AIP on an experimental basis and an initiative has been
made to meet the needs of Continuous Learning Program too,
through short courses by the academicians. Higher education for
our engineers is also facilitated through AIP. TCS does get the top
preference in campus recruitment efforts at the majority of
leading campuses.

Gains for academia: Learning support for students & also for
teachers, in the areas of our expertise; Internship support for
students and Research support in areas of our interest. We have an
impressive formal positive feedback on our support, globally.

4. CONCLUSION
TCS – AIP is Balanced Score Card based and the activities are
measured through many quality metrics, both ‘lead’ and ‘lag’.
These measures cover efforts, quality of efforts and results of
efforts. Well established processes with adequate budgetary
resources and deployment structure with due empowerment at
operational level, are in place, drawing wide appreciations from
the external assessors and also academicians. Based on these
initiatives, we have been able to see an improvement in the entry
condition of new hires as seen from their performance during the
initial training correlated with their subsequent performance in
projects.

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6. REFERENCES
Information Technology - A Systemic Study
http://www.nasscom.org/artdisplay.asp?cat_id=753

[2] Narayanan, R., TCS Academic Interface Program (AIP) – A
symbol of industry – academia cooperation, In Proceedings
of the 19th Conference on Software Engineering Education
and Training (CSEE&T 2006), Turtle Bay, Hawaii, April
19-21, 2006.

[3] TCS Web course on Software Engineering:
http://elearning.tvm.tcs.co.in/