

Desired Educational Ecosystem in the Fast-Growing Educational Institutes in India

Thanikachalam Vedhathiri

Adjunct Professor and Former HOD, Center for International Affairs,
National Institute of Technical Teachers Training and Research, Chennai
vthani2025@yahoo.in

Abstract

In the 21st century, the Indian economy has to grow faster than its rivals. It depends on the production of knowledge and human capitals by the state technical universities, autonomous institutes, and deemed universities. Hence, the high-performing engineering faculty members have to be assisted and supported by an appropriate academic ecosystem as other global research universities perfected by them. Well-developed engineering universities in China, Japan, Korea and Singapore have introduced many administrative processes to support their key performing faculties to reach excellence and global leadership. This demands most appropriate and continuously supporting academic system too. A snap study has been undertaken to identify the most desirable academic ecosystem in the well-performing engineering institutes in the southern states of India. 131 Senior Faculty members at Assistant, Associate, and Professors' cadre have been selected to form a Quality Circle to identify the desired academic ecosystem. These participants attended the workshops on Higher Education Administration, Leadership Development and Institutional

Development. The significant outcomes are as follows: 1. Unbiased Faculty Recruitment System which focuses on the Excellence, 2. Skill Focused Induction and In-House Training Processes, 3. Cognitive and Higher Order Training and Development Processes as per Emerging Needs, 4. Appreciative Performance Inquiry, 5. Counselling, Coaching and Mentoring the Emerging High Performers, 6. Digital-based Instructional Packages Production Center, 7. Sabbatical Leave to Undergo Faculty Development Programs to meet the Emerging needs under IDAs, 8. Implementation of Appropriate Reward System like new pay scales as approved by AICTE, 9. Sanction of Funds to Participate in the International Conferences as per the Rules, Norms, and Standards, and 10. Approval for accepting the International Invitations to participate in the Conferences and Summits without any grants. All these would enhance the academic ecosystem.

Keywords: Academic Ecosystem, Fast-Growing Educational Institutes, Planning Conducive Ecosystem.

1. Introduction

Fast grown universities in many developed countries have conducted proactive approaches to faculty recruitment and retention. It is observed that scholarship, teaching and service are accomplished in an environment that draws on the combined intellectual vitality of the department and of the

Thanikachalam Vedhathiri

National Institute of Technical Teachers Training and Research,
Chennai
vthani2025@yahoo.in

university. Many universities sanction additional increase in salary to meet the inflation by using grant funds, endowments and self- funding. They offer special opportunities program with consideration of the increased need for spousal hires. They also improve the faculty benefits by increasing the employer contribution to family health plan, expanding new housing assistance program, developing a competitive dependent-tuition plan, and providing additional child-care and family-leave options. They developed plans to promote faculty workload flexibility and recognized outstanding faculty contributions in teaching, research and creative work and service (Robert H Davis, 2001). Promotion and tenure regulations are based on the evaluation of teaching, contributions to knowledge in the area of teaching, mentoring and curricular activities. Accomplishments in the area of scholarship includes published contributions to knowledge capital in the appropriate field of specialization and research. Active participation of departmental service is evaluated in the following areas: collegiality, mutual respect, and honesty; responsible and active departmental citizenship; contributions to academic community, state and society. Evidence of service contributions includes: membership of various Program Development Committees, Purchase Committees, Membership to Academic Council, Board of Studies, Board of Governors, Doctoral Committees, Sport Committees, Faculty Evaluation Committees, Inquiry Committees, Curriculum Evaluation Committees, Program Development Committees, Accreditation Committees, Publication Committees etc. (New Mexico University).

Considering the fast growth of knowledge capital, the Indian engineering colleges need to establish appropriate educational ecosystem. This research is centered around such changes.

2. Objectives

Review the global practices in developing educational ecosystem.

Conduct a snap study in the existing educational ecosystem in Indian engineering educational institutes.

Suggest a set of implementable educational ecosystem to enable fast growth

3. Literature Survey

Many universities have developed faculty recruitment and retention systems which attracts the best faculty members. These institutes systematically compare the salary of the peers and provide sufficient amount more than others. The raise in salary has to be more than the inflation rate. They provide sufficient research support like travel, finance, graduate assistants, and library holdings. They also provide partner/spouse employment. Further they provide a range of resources like salary adjustment, reduction in teaching load, research support, laboratory facilities to retain research focused faculty (Robert Davis, 2001). Satisfied faculty develop new innovative courses and industry relevant programs, creative approaches to teaching, use of digital technologies, develop MOOCs, accessible to students and peers,

Sl. No.	Area	Outcome (out of 5)
1	Recruitment, Advance Increments and Counseling	2.4
2	Orientation, Induction, and Preservice Training	3.2
3	Teaching Work Load and Resource Allocation	3.1
4	Long-term Training and Development through Professional Organizations	1.2
5	Participation in In-house Educational Services	4.1
6	Decentralization, Delegation and Empowerment for taking Consultancy Projects	1.8
7	Probation Completion and Recognition for the Outstanding Performance	3.3
8	Rewards, Coaching and Mentoring for Professional Growth	1.7
9	Ethical Standards of Administration	2.6
10	Interpersonal Relations and Campus Life	3.8
11	Institutional Culture	3.1
12	Leadership	2.9

undertake mentoring the students, participation in the achievement of department activities, and contribute to achievement of the university mission (New Mexico State University). Almost universities focus on creating appropriate educational system.

Indian Technical Universities need to focus on the desired educational ecosystem to recruit and retain the well performing faculty members. This research focuses on this aspect through a snap study.

4. Snap Study

Quality Circles have been planned with the participation of 131 faculty members at Assistant, Associate and Professors cadre who attended faculty development workshops on Higher Education Administration Leadership Development and Institutional Development.

The twelve areas have been taken up for the consideration under the Quality Circle and the outcome are presented in Table-1.

Areas which received low scores (Less than 50%)

- Long-term Training and Development through Professional Organizations- 24%
- Rewards, Coaching, and Mentoring for Professional Growth- 34%
- Decentralization, Delegation, and Empowerment for taking Consultancy Projects- 36%
- Recruitment, Advance increments and Counseling- 48%

Areas which Received Moderate Scores (50-70%)

- Ethical Standards of Administration- 52%
- Leadership-58%
- Institutional Culture- 62%
- Teaching Workload and Resource Allocation- 62%
- Orientation, Induction and Preservice Training- 64%
- Probation Completion and recognition for

Outstanding Service- 66%

Areas which received better Scores

- Interpersonal Relationships and Campus Life- 76%
- Participation in In-House Educational Services- 82%

The faculty members further indicated needed areas for improving the educational ecosystem are as follows:

1. Unbiased Faculty Recruitment System Which Focuses on the Excellence.

Most of the faculty expressed that the recruitment of the faculty should be based on the excellent academic achievement, and the advance increments should be based on the years of service.

2. Skill Focused Induction and In-House Training Process.

Almost all the faculty members desired skill focused induction training and frequent in-house training programs which will improve the abilities of the faculty members. Only a few institutes permit the faculty to apply for short-term training programs which are offered by professional institutes. Most of the self-financing institutes do not permit their faculty to undergo training programs during the working days and many institutes suffer from severe shortage of qualified faculty members. They desired many periodical in-house training programs in various professional areas.

3. Cognitive and Higher Order Training and Development Process as per Emerging Needs.

Many senior members desired development programs in the advancements in the emerging technology, research methodology, modernization, prototype development, sustainability, impact studies etc.

4. Appreciative Performance Inquiry.

Many expressed that for probation completion, approval of research programs, review of the synopsis, etc. they desired appreciative inquiries.

They wanted to present their creative work, progress made, publications, highest marks obtained by their students, ranks obtained by them. Most of the panel members do not allow them to present. This makes them to suggest appreciative inquiry.

5. Counselling, Coaching and Mentoring the near-high Performers.

Most of the budding faculty members expressed that they need counseling from the senior faculty members about the types of projects, topics for research, type of faculty development programs that they can apply. They also need program specific coaching, additional courses that they can take, mathematical models, experiment set-ups, types of measuring techniques, analysis, inferences that can be drawn etc. Many organizations trained the senior executives in the art of mentoring. This not only helped the faculty but also the performance of the department.

6. Digital-based Instructional Packages

Many desired multimedia learning package development centers to improve the problem-solving capabilities, critical thinking abilities and productivity of the learners. They felt that such modern facilities are essential in the engineering education.

7. Sabbatical Leave to Undergo Faculty Development Programs

Most of the bilateral agreements with well developed nations offer training and development programs in the advances in technology and research. Only a few institutes permit the faculty apply for such training and development programs. Hence, the expressed to sanction one year of study leave for every seven years of service. If sabbatical leaves are permitted, the college will be having more experts who can undertake global consultancy works and can guide doctoral students. This process would certainly contribute to the knowledge capital.

8. Implementation of new pay scales as Approved by AICTE

Once in ten years government of India constitute a high- power committee to revise the salary, allowances for the employees. For technical

education, AICTE suggest pay scales based on the pay commission. Through out world, the pay scales are reviewed against the cost of living and additional increments are offered. The high-powered committees suggest many other allowances to improve the living conditions of the faculty members. Some state governments do not pay as per AICTE recommendations.

9. Sanction of Funds to Participate in the International Conferences

The engineering faculty need to undertake many innovations. This is possible when the attend international conferences, present their papers. AICTE recommended the reimbursement of travel, registration fees paid and other needed funds. Only very few institutes reimburse the expenditure. Most well performing institutes do so. Some-times funds are available from the agencies but the institutes should nominate the faculty whose papers are accepted for deliberation.

10.Approval for accepting the International Invitations to Participate in the Conferences and Summits without any grants

Some of the well performing faculty members who specialize in very important areas would be attracting such invitations from various international organizations. They need to get nomination from their institutes. Only a few institutes nominate such outstanding faculty members. Hence, the group desired to suggest such rewards for the star performers.

5. Conclusions

The growth of knowledge capital depends on the high performing faculty teams. The high performance is due to appropriate educational ecosystem. The academic ecosystem starts from unbiased faculty recruitment system , skill focused induction and in-house training process, cognitive and higher order training and development process, appreciative performance inquiry, counseling, coaching and mentoring the near high performers, digital- based instructional packages production center, sabbatical leave to undergo faculty development programs, implementation of new pay scales as approved by AICTE, sanction of funds to participate in the international conferences and approval for accepting

international invitations to participate in the conferences and summits. Every state university in engineering education and other engineering colleges could follow appropriate educational ecosystem for creating human and knowledge capital.

References

- [1] Anne M. Casey (2012) Does Tenure Matter? Factors Influencing Faculty Contribution to Institutional Repositories, *Journal of Librarianship and Scholarly Communication*, V.1 I.1, 1/(1)ep1032.[http:// dx.doi.org/10.7710/2162-3309.1032](http://dx.doi.org/10.7710/2162-3309.1032)
- [2] Department of Psychology. Criteria for Faculty Evaluation, Promotion and Tenure, New Mexico State University
- [3] Jean Waltman and Carol Hollenhead (2005) Creating a positive Departmental Climate: Principles for Best Practices, University of Michigan, <http://www.umich.edu/advproj/principles.pdf>
- [4] Jihyun Kim (2006) Motivating and Impeding Factors Affecting Faculty Contribution to Institutional Repositories, Digital Libraries-collection, dissemination, user issues.
- [5] Faculty Retention Toolkit www.engr.washington.edu/advances/Retention
- [6] Maine Business School (1998) Faculty Evaluation Standards, University of Maine
- [7] Oregon State University (2011) Faculty Handbook: Promotion and Tenure Guidelines, <http://oregonstate.edu/admin/aa/faculty-handbook-promotion-and-tenure>
- [8] Robert H. Davis et al. (2001) Faculty Recruitment and Retention, University of Colorado at Boulder: Task Force Report
- [9] Sampson, J.P., Jr. (2007) Guidelines for Evaluation of Service in Faculty Performance Review, College of Education, Florida State University.
- [10] Walter H. Gmelch (2006) Stress Management Strategies for Academic Leaders, *Effective Practices for Academic Leaders*. <http://www.engr.washington.edu/lead/2007BlinderMaterials.htm#worklife> w
- [11] Women in Science and Engineering, Leadership Institute, University of Wisconsin-Madison, <http://wisell.engr.wise.edu/initiatives/Recommendations.rtf>
- [12] Short CV of the Author: Thanikachalam Vedhathiri B.E (Civil Engineering, 1968, University of Madras), M.Tech (Soil Mechanics and Foundation Engineering, 1970, IIT-Madras), PhD (Filter Design, 1975, University of Madras), M.S (Instructional System Technology, 1988, Indiana University, USA.), FIE., FIGS., FFIUCIEE, FMR Fulbright Senior Research Scholar . Guided 18 PhDs in Engineering Education.