Observations and Proposed Guidelines for Institutional & Academic Development from Students Point of View

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This document briefly describes the observations made on academic curriculum, teaching methodologies, examination pattern, collaborative learning and scope for further research and development, and the proposed changes for them. These observations and proposed changes are the practical experiences during the course of our undergraduate and post-graduation.

- **Curriculum:**

  1. Our academic curriculum is completely based on literature review, instead, it should be divided into two parts where first part(say first two years of four-year bachelors) of the curriculum should focus on fundamentals and literature on the subject. The second(say last two years of four-year bachelors) part should focus on present and future applications of the current and the past literature and research

  2. International Integrated courses: Students finds it difficult in adapting their previous academic knowledge during their stay at foreign Institute/university. As Universities in India have autonomous power to design their own syllabus to adapt to current research and development, designing the curriculum in correlation with a foreign university can not only makes the student adapt but also increase their knowledge base with international orientation while they at regional university.

  3. Our undergraduate experience says that 60% - 70% of our laboratory work is spent on writing with a mere low concentration on it. Instead, use of digital means such as Moodle can save time which can be utilised for exploring real-time experiments.

  4. Laboratory: Most of the students doesn't have access to the laboratory after college hours.We hardly found GNU Development lab in ECE department and some of Mechanical Engineering labs are accessible to the students after college hours for non - academic works and

to improve research and development. Implementing proper guidelines for laboratory usage and giving access to the students can really increase their practical knowledge with balanced infrastructure.

5. **Collaborative Projects & Research Scope:** Most of the undergraduate students need to do a project during their final year. Their focus and efficiency can be increased with collaborative contributions. This can be done by mandating a final year student with 80% of his own contribution to collaboratively work with 20% of his junior student (ex:2nd year) contribution. By doing this a junior student can really benefit in knowing basic research knowledge (such as literature, writing and publishing articles on scientific and technical research) where his/her focus and efficiency will be increased when he/she is in his/her final year research project. A series of this cyclic process can increase the research and development work throughout the institute wide.

6. **Open Education Resources (OER):** Open Educational resources have tremendously proven to increase the individual development of the student as well as the institute. Studies shows[1] that 93% of students who use OER have proven to be better than those who use traditional materials. So Encouraging Free and Open Source Software(FOSS), Open Access and Open Education systems with institutes own open access policies will increase overall productivity. Institutes like MIT, Cambridge University and Oxford University have their own open access policies and will be better to have our own.

- **Examination:**

  1. Most Examinations in India are based on closed book system which will only encourage the students to write the current literature on the subject not much on its applications and implementation for the future. Open Book systems encourage the student to think beyond the textbook which will be possible with questions not to write answers from the textbooks or any other materials. which truly proves that science and technology is to apply not to be remembered. Institutes open books policies play a major role in establishing a balanced competition among the students with overall development.

Note: These are only to be treated as recommendation from students point of view.

References: [1]. N A Gavrikova et al 2016 IOP Conf. Ser.: Mater. Sci. Eng. 127 012003, http://iopscience.iop.org/article/10.1088/1757-899X/127/1/012003/pdf