


## QUALITY OF ENGINEERING EDUCATION : PRIVATE SECTOR'S PERSPECTIVE



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## OUTLINE

- Definitions of quality education
- Dimensions of quality education
- Issues of quality in engineering education
- Remedial measures for quality engineering education
- Conclusion and suggestion

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### Definition

As per Oxford Dictionary, quality means

- as mass noun : *“The standard of something as measured against other things of a similar kind; the degree of excellence of something”.*
- as adjective: like *Quality education, Quality player, Quality paper*

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### Definition

A good quality education is one that provides all learners with the capabilities they require to become **economically productive**, develop **sustainable livelihoods**, contribute to peaceful and democratic **societies**, and enhance **individual well being**.

*(VVOB)*

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### Definition..

Education quality may refer to

- **Inputs** ( no. of teachers, amount of teachers training, no. of textbooks...)
- **Processes** ( amount of direct instructional time, extent of active learning...)
- **Outputs** ( test scores, graduation rates...)
- **Outcomes** ( performance in subsequent employment...)

*(Adams1998)*

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### Definition..

Quality may be defined based on institution's or program's **reputation**

or

Quality education may be understood by simply achieving specified **targets and objectives**

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### Dimensions of Quality Education

- **Quality learners** (healthy, ready to learn, support from family and community)
- **Quality learning environments** (safe, protective, adequate resources and facilities, gender sensitive)
- **Quality contents**(relevant curricula, adequate material)
- **Quality processes** (advanced teaching techniques, well managed classroom, adequate contact hours etc.)
- **Quality outputs** (enhanced knowledge, skills, positive attitude)

*(UNICEF 2000)*

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### Issues of quality in engineering education

- **Inputs**
  - Inadequate experienced teachers
  - Teachers are not well paid
  - Lack of teachers training activities
  - Less career opportunities (issues of academic status)
  - Availability of textbooks /reference materials
  - Insufficient technical journals and publications

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### Issues...

- **Learners**
  - No uniformity in admission criteria
  - Variation in schooling (private-public; geographical location etc.)
  - Ready to learn??
  - Politicized
  - Support from family

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### Issues...

- **Learning environment**
  - Safe ??
  - Protective (peaceful, pollution- free, good air circulation..)
  - Buildings, open-air spaces, class size
  - Resources and facilities (internet, laboratories, library, first aid, canteen..)
  - College discipline

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### Issues...

- **Content**
  - Relevant curricula
  - Periodic review in curricula
  - Sufficient experimental and laboratory activities
  - Object oriented course plans
  - Promote research and innovation
  - Skill development in indigenous technology

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### Issues...

- **Process**
  - Use of advanced teaching techniques
  - Emphasis on learning by experiment
  - Comfortable and well equipped classroom
  - Consistent academic calendar
  - Lesson planning
  - Class tests
  - Internships
  - Student counseling
  - Interaction with parents

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### Issues...

- **Outcomes**

- Uniformity in evaluation system
- Result analysis
- Balance in knowledge, skill ,and attitude development to fulfill *national need* and to meet *international standard*
- Acquire knowledge, skills and attitudinal improvement

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### Challenges for Quality Engineering Education

- Capacity building of engineering colleges
  - Sufficient infrastructure
  - Faculty development (attraction, motivation, and promotion)
  - Financial sustainability
- Research and innovation
- Indigenous technology development
- International linkages
- Politicization
- Decentralization

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### Remedial Measures for Quality Engineering Education

- Effective quality assurance system
- Strong and central monitoring system
- Soft loan for private colleges
- Central entrance examination
- Provision for institutional growth and development
- Regulate foreign universities' admission campaign in Nepal
- Introduce virtual classrooms

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### Conclusion and Suggestion

- Need to address **sustainability** problems first
- Need to enforce **quality audit** mechanism
- Improve **colleges' efficiency** and **teachers competence**
- Effective **students' discipline** policy

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