NATIONAL ENGINEERING COLLEGE

(AN AUTONOMOUS INSTITUTION)

KOVILPATTI - 628 503, TAMILNADU, INDIA.

Estd : 1984

Adoption of Outcome Based Education in Engineering Education during Transition Stage

by

Dr.D.Ravindran & Dr.N.Lenin

INTRODUCTION

- ✓ In 2020, India is expected to posses 64% of its population as youth and will be world's youngest country

- ✓ Presently, India has positively entered into a golden age of higher education to reform its youth potential into human resources

- ✓ The five year plans of 12th, 13th and 14th have been completed and the education system is improved to a larger extent

- ✓ The country has emerged as one of the suitable place of choice for aspiring learners for getting high-quality affordable educational systems

- ✓ One among the educational system is Outcome Based Education (OBE)

- ✓ This paper discusses the salient aspects in the adoption of OBE in Indian Engineering Education, especially in transition stage

2

INTRODUCTION (Contd..)

- ✓ In Indian Engineering Scenario, it is a transition stage for the technical institution as they are in the process of implementing OBE

- ✓ In India, the engineering education has transformed through various stages and presently, the institutions offering engineering programmes are various levels

- ✓ The qualities of the students admitted in the above institutions are also differing with respect to knowledge, skill, attitude and motivation

- ✓ As an example, the students admitted in IITs and NITs are having better qualities mentioned above than the students admitted in state owned affiliated colleges and private Institutions

- ✓ The strategies required for effective implementation of OBE with respect to various levels of students is to be studied carefully and adopted

3

Premier Institutions
- Indian Institute of Science, Bangalore
  - Indian Institute of Technology at different states of India
  - National Institute of Technology at various states of India.
  - Birla Institute of Technology and Science, Pilani.
  - Indian School of Mines, Dhanbad.

Universities
- Anna University Chennai, Tamilnadu
  - Jadavpur University, Calcutta
  - Bengal Engineering and Science University, Shibpur
  - Visveshvaraya Technological University, Bangalore
 - Panjab University, Chandigarh

Government Institutions
- Birla Institute Of Technology BIT, Mesra
  - PSG College of Technology, Coimbatore
  - Thiagarajor college of Engineering, Madurai.
  - Harcourt Butler Technological Institute (HBTI), Kanpur
  - Dhirubhai Ambani IICT, Gandhi Nagar

Private Institutions
- National Engineering College, Kovilpatti, Tamilnadu
  - SSN Engineering College, Chennai, Tamilnadu
  - Veermata Jijabai Technological Institute (VJTI), Mumbai
  - Manipal Institute of Technology, Manipal
  - Chaitanya Bharathi Institute of Technology, Hyderabad

4

Types of Engineering Institutions in India
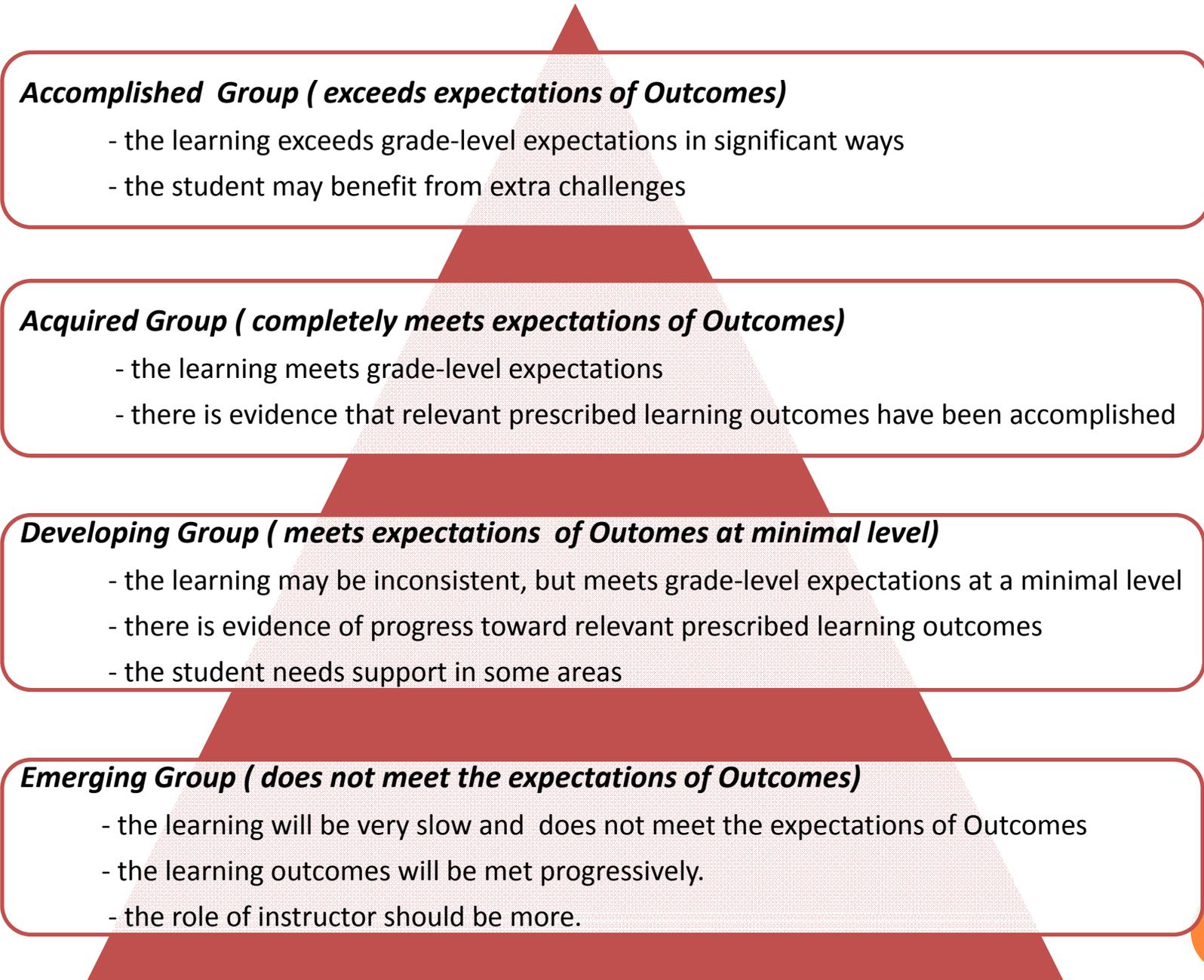
Accomplished Group (exceeds expectations of Outcomes)

   - the learning exceeds grade-level expectations in significant ways

   - the student may benefit from extra challenges

Acquired Group (completely meets expectations of Outcomes)

   - the learning meets grade-level expectations

   - there is evidence that relevant prescribed learning outcomes have been accomplished

Developing Group (meets expectations of Outomes at minimal level)

   - the learning may be inconsistent, but meets grade-level expectations at a minimal level

   - there is evidence of progress toward relevant prescribed learning outcomes

   - the student needs support in some areas

Emerging Group (does not meet the expectations of Outcomes)

   - the learning will be very slow and does not meet the expectations of Outcomes

   - the learning outcomes will be met progressively.

   - the role of instructor should be more.

Levels of Students

Implementation Strategies in Macro and Micro levels

Students Group	Attributes	Macro level	Micro level
Emerging	CD	• Starts from basic level • Demonstration with models • Study materials to be supplied	• Individual attention • Industrial visit
	AM	• Through examination in remembering and understanding levels.	• Class test, Assignments • Open book test
Developing	CD	• Starts from moderate level • Demonstration with models • Part of the study materials is sufficient	• Power point Presentation • Case study- presentation • In-plant training
	AM	• Through examination in application level.	• Seminar presentation • Comprehensive study • Group discussion

CD - Content Delivery & AM - Assessment Method

Implementation Strategies in Macro and Micro levels (Contd…)

Students Group	Attributes	Macro level	Micro level
Acquired	CD	• Starts from higher level • Exposure of real time problems • Guiding to collect study materials	• Power point presentation of real life problems • Exposure to design of working models • Internship
	AM	• Through examination in analysis level. • Design of working models	• Seminar presentation • Group discussion • Online assignment with case studies
Accomplished	CD	• Starts from advanced level • Analysis of real time problems • No need of study materials supply	• Self study through online materials • Online course can be recommended • Internship and consultancy
	AM	• Solution to the Real time industrial problems • Design and Creation of working models	• Scholarly presentation on latest developments

CD - Content Delivery & AM - Assessment Method

CONCLUSION

i.   The attained skill levels are differed based on level of students and types of institutions

ii. The salient aspects in implementation of OBE at various levels of institutions in macro and micro levels are critically analyzed and discussed

iii. It is observed that every institution should concentrate on content delivery and assessment methods in view of successful implementation of OBE

iv. It is concluded that train the trainers in the above aspects is inevitable

8