What is Outcome-Based Education (OBE)?

Prof. Dr. Shahrin Mohammad
Civil Engineering Faculty
Universiti Teknologi Malaysia

Learning outcomes for this presentation

By the end of the presentation, participants should be able to:

1. Describe orally and convince about OBE to your colleagues at least in half an hour.
Presentation Outcomes

1. Why OBE?
2. What is OBE?
3. When, Who and How – OBE?

Current issues

Democratisation of educations
- increase in the number of HEI’s (public and private)
- wide array of qualifications awarded
- diverse in arrangements and nomenclature.
- bewildering educational pathways
- public sector training institutions of the various ministries and the industry-based skills providers

Facilitator: Kamarul ‘Asri Ibrahim
**COVERAGE OF MQA**

<table>
<thead>
<tr>
<th>Institution Type</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Universities &amp; College Universities (BJK)</td>
<td>18 + 3</td>
</tr>
<tr>
<td>Private Universities &amp; College Universities (LAN)</td>
<td>22</td>
</tr>
<tr>
<td>Branch Campus of Foreign Universities (LAN)</td>
<td>4</td>
</tr>
<tr>
<td>Private Colleges (LAN)</td>
<td>532</td>
</tr>
<tr>
<td>Polytechnics</td>
<td>20</td>
</tr>
<tr>
<td>Community Colleges</td>
<td>34</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>630 + 3</td>
</tr>
</tbody>
</table>

**PROGRAMMES & QUALIFICATIONS AWARDED BY AGENCIES OTHER THAN THE MINISTRY OF HIGHER EDUCATION (>1000)**

- E.G. SKILLS DEVELOPMENT ACT
- AKADEMI SENI ACT
- EDUCATION ACT

>1000

---

**Current issues**

- **Public confidence in academic standards**
  - Public understanding on the qualifications- their expectations
  - The usage of qualification titles – lack of nationally agreed criteria in nomenclature – inconsistency eg the term Master
  - Facilitating students and graduate mobility
  - Inconsistency in defining academic load (credits)
  - Recognition of work place training - RPL
Current issues

International context
- Restructuring HE programmes and qualifications – to make it clearer and to promote lifelong learning
- Council of Europe Convention on the Recognition of Qualifications in European regions - QF EHEA, UK QF, AQF, NZ QF
- Establishment of European credit transfer system (ECTS).

Realising the concept of life long learning
- Learning pathways that are appropriate for them
- Flexible learning
- Recognition of prior learning
Facilitator: Kamarul ‘Asri Ibrahim

Issue no. 2

View from industries about our students

80,000 graduan menganggur

Oleh NIZAM YATIM

JELI 19 Feb. - Jumlah peningkatan
graduan menganggur amat
mengejutkan apabila sehingga
September lalu angkanya mencapai
80,000 orang.

Selain itu, mantan Menteri Perusahaan
Duit, Mustapa Mohamed meng-
paparkan beberapa faktor perlu
itu berkaitan:

• Graduan enggan menghabiskan
sikap yang ingin kerja pada
perusahaan dengan gaji yang
kurang.

• Sikap graduan yang gemar
berkabur daripada kerja,
akan kerana mereka tidak
berani berkerja dengan
syarat kerjaya.

• Tidak suka bernasib sendiri,
terasa malu dan tidak
berdaya.

Kata Mustapa, sebaik sahaja
pembayaran terhadap
graduan tidak diberikan
maka tidak dikaji dan ia
terbukti apabila ramai di kala
namanya enggan bekerja sa-
bagi kerana atau operasional
pekerjaan di kilang dengan akas-
san tidak senang.

"Kepada graduan terbaik yang
berkabur daripada kalangan
kumpuliter apabila tidak
mengerti pekerjaan dan akhirnya
menolak kerja di mana-
manak bagaikan murah pengulaman,"
katanya.

Beliau berkata, strategi baru
tersebut akan membuat tindakan
bagi memastikan lebih ramai per-
kerjaan kumpuliter terbuka
kemudian lahir dan kemahiran
bagi menengah tamat penatuan
perasaan.

"Kita juga akan merangka stra-
tegi baru memasukkan sekolah-
sahaja memberikan tindakan
untuk bekerja sendiri dengan
menambah kemahiran atau ter-
habit dalam sektor pertanian,"
najinya.

Tanah beliau, bidang pengga-
ian di universiti juga akan dipas-
tikan tidak tiba-tiba berorienta-
kan akademik, sobalkah harus
meresmikan elemen-elemen ke-
mahiran.
Jobless graduates lack critical skills

By Annie Freeda Cruz

KUALA LUMPUR, 12-13 Oct - The increasing number of unemployed graduates, many of whom lacked communication skills, are unable to secure employment and face many difficulties. Further, the Graduates' Employment Minister Dr. Fong Chan Chuan said that students who lacked computer skills and were unable to interact with other races and carry out tasks at a faster pace, they also prefer to work within the regulated working hours and do not go to the extent to work late at night or work extra hours. Speaking to reports after launching the National Graduate Academy (NGA) yesterday, Dr. Fong said that the feedback from employers indicated that most graduates lacked computer skills. He also added that students who were not taught in English were not able to communicate as effectively as those who were familiarised and conversant in the English language.

17,000 IT grads from local varsities jobless due to their poor English

By M.K. Megan

KUALA LUMPUR, Sun.- Despite the demand for skilled workers in information technology, about 17,000 IT graduates from local universities have been jobless because they are not proficient in English. After failing to get jobs between one and two years, many have registered with the Labour Department to be retrained in other fields or pursue English programmes.

Facilitator: Kamarul ‘Asri Ibrahim
... apart from academic excellence, most employers would require workers to possess qualities such as good attitude, strong work ethics, the ability to communicate well, a willingness to learn and to contribute new ideas.

Efforts must be taken to improve communication skills to encompass both general skills at communicating well with others and the ability to interact socially within a working environment.

As advertised in the Sydney Morning Herald

Engineering Graduate

If you are a final year mechanical, electrical, telecommunications or computer engineering student apply for Engineering Graduate Careers Program.

Impress us with your:

- well developed communication and team skills
- Aptitude for developing positive business partnerships
- Ability to look outside the square
- Aptitude for independent problem solving
- Strong interpersonal and organisational skills
Views from Industry

From Datuk Paul Low, Vice-President, Federation of Malaysian Manufacturers

- “Constant change is the order of the day…. Graduates often turn up without a clue to the changing dynamic global industrial environment.”
- “A constant changing environment and the need to add value to gain competitive advantage demand for creativity, lateral thinking, agility and risk taking.”

Reasons For Employing less local Graduates

- “Local graduates (Malays) lack of drive compared to foreign graduates. Foreigns especially those from middle-income families, they are very goal oriented. They know that they are there to complete their studies. For local ones, they have the mentality that why hurry since I have 5 years to complete a 3 year course. As long as I graduate and my parents can come for the convocation, that’s good enough.”

(ICT/Foreign/Chinese)
From a report on ‘Employability of Malaysian Graduates’ presented to the Majlis Tindakan Ekonomi Malaysia, 8 April 2003.

Reasons For Employing less local Graduates

- “Local graduates have less exposure. They are not aggressive and dynamic. They tend to be less vocal and open-minded”

(Construction/Foreign/Chinese)
There are 18,000 unemployed graduates and some reasons given for their predicament were a poor command of the English language and lack of marketable skills.

Reasons given by employers for not hiring young graduates

- Low grades and low levels of academic accomplishments
- Poor attitudes, lack of self-confidence
- Lack of goals, poorly motivated
- Lack of enthusiasm, lack of drive, little evidence of leadership potential
- Lack of preparation for the interview
- Excessive interest in security and benefits, unrealistic salary demands and expectations
- Inadequate preparation for type of work, inappropriate background
- Lack of extracurricular activities
Views from Industry

From Datuk Paul Low, Vice-President, Federation of Malaysian Manufacturers

- “Constant change is the order of the day…. Graduates often turn up without a clue to the changing dynamic global industrial environment.”
- “A constant changing environment and the need to add value to gain competitive advantage demand for creativity, lateral thinking, agility and risk taking.”

Reasons for Employing More Foreign Graduates

Attitude of Foreign Graduates

- “Foreign graduates are more open-minded and more importantly, they are risk-takers. Even during big meetings we can see that those who dare to share their views are more of foreign graduates.”

(Property/Local/Malay)
Issue no. 3

What people say about us?

Kaedah konvensional tidak lagi relevan: Mustapa

Facilitator: Kamarul ‘Asri Ibrahim
CURRENT SCENARIO?

- the tendency of imparting and evaluating only technical outcomes of graduates.
- Some non-technical outcomes of graduates are imparted ASSESSED and EVALUATED formally only in related non-engineering subjects.
- Students are not being assessed, evaluated, and informed of the levels of achievement of the overall outcomes.
CURRENT SCENARIO?

- Documented evidences on the achievement of the graduate attributes scarcely available
- Rarely include external stakeholders or constituencies and hence little feedback received from these very important components.
- Not much assurance on the delivery of the outcome capabilities in every postgraduate.

CURRENT SCENARIO?

- Quality system - not embracing and assuring the whole cycle of setting objectives, outcomes, targets, learning design, delivery and performance measurement across a wide range of targeted graduate capabilities.
- This contrast with the quality assurance systems which, can guarantee that these particular quantitative outcomes will be satisfied by the University itself.
So... what next?

Perubahan/Change?

- Do we need to do something about it?
- Keep your mind open to change all the time. Welcome it. Court it. It is only by examining and re-examining your opinions and ideas that you can progress. (Dale Carnegie)
Change?

Survey by Harvard Univ.

• "large measure of satisfaction with technical competence of the graduating students... can crunch numbers, analyse markets.... But when it comes to human-relation skills, Harvard is stepping up its effort... That seems where improvements are needed.. Oral and written communication, teamwork, and other human skills..."
Change?

- Swiss Vs Quartz/Digital watch

1. **MQA/MQF** and the Engineering Accreditation Council, Board of Engineers

2. The Need for an Outcomes Approach for Continual Programme Improvement

Facilitator: Kamarul 'Asri Ibrahim
What is Outcome-Based Education?

“OBE, like most concepts in education, has been interpreted in many ways”

(Killen, 2000)

Talking about OBE, there are 3 levels:

1. Philosophy / Theory / ”Broad Perspective”
2. Curricula / structures / procedures
3. Classroom practice (PBL, CL, AL, etc)

OUTCOME-BASED EDUCATION (OBE)

- An educational philosophy that states education ought to be aimed at producing particular educational outcomes:
  - Giving students a particular, minimum level of knowledge and abilities.
- OBE addresses the following questions:
  - What do you want the students to learn?
  - Why do you want them to learn?
  - How can you best students learn it?
  - How will you know what they have learnt?
Outcomes Based Education focuses on student learning by:

- Using learning outcome statements to make explicit what the student is expected to be able to know, understand or do;
- Providing learning activities which will help the student to reach these outcomes;
- Assessing the extent to which the student meets these outcomes through the use of explicit assessment criteria.

The three main stages in the Teaching and Learning processes:

1. Planning stage
   - Program Outcomes
   - Bloom’s Taxonomy
   - Instructor’s goals

2. Implementation stage
   - What TL activities do I adopt to achieve the intended LO?
   - 3 domains of educational goals (cognitive, psychomotor and affective)

3. Assessment stage
   - Can my students do what I want them to be able to do?
   - Classroom Assessment technique
   - Test
   - Surveys
   - Other measures

Felder & Brent, JEE, Jan., 2003
Paradigm Shift in the Education & Training Philosophy

- From teacher-centred to a student-centred
- Traditional teaching: teacher “owns” the knowledge and conveys it to the students.
- Modern teaching: students (trainee) to learn as much as possible.
- Teacher brings the content and the answers into the training room with him/her.
- Teacher as a coach who asks questions and provides guidelines for the acquisition of knowledge.

What is Outcome-Based Education?

Outcomes Based Principles (Spady, 1994; Killen, 2000)

<table>
<thead>
<tr>
<th>OBE Principles</th>
<th>Explanation</th>
<th>Application to practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarity of focus</td>
<td>Focus on what want learners be able to do successfully</td>
<td>♦ Help learners develop competencies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>♦ Enable predetermined significant outcomes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>♦ Clarify short &amp; long term learning intentions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>♦ Focus assessments on significant outcomes</td>
</tr>
<tr>
<td>Design down</td>
<td>Begin curriculum design with a clear definition of the significant learning</td>
<td>♦ Develop systematic education curricula</td>
</tr>
<tr>
<td></td>
<td>that learners are to achieve by the end of their formal education</td>
<td>♦ Trace back from desired end results</td>
</tr>
<tr>
<td></td>
<td></td>
<td>♦ Identify “learning building blocks”</td>
</tr>
<tr>
<td></td>
<td></td>
<td>♦ Link planning, teaching &amp; assessment decisions to significant learner outcomes</td>
</tr>
<tr>
<td>High expectations</td>
<td>Establish high, challenging performance standards</td>
<td>♦ Engage deeply with issues are learning</td>
</tr>
<tr>
<td></td>
<td></td>
<td>♦ Push beyond where normally have gone</td>
</tr>
<tr>
<td>Expanded opportunities</td>
<td>Do not learn same thing in same way in same time</td>
<td>♦ Provide multiple learning opportunities matching learner’s needs with teaching</td>
</tr>
<tr>
<td></td>
<td></td>
<td>techniques</td>
</tr>
</tbody>
</table>

Facilitator: Kamarul ‘Asri Ibrahim
### Differences between Contents-based Education and OBE

<table>
<thead>
<tr>
<th>PROCESS STEP</th>
<th>Contents-based Education</th>
<th>Outcomes-based Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Needs analysis</td>
<td>A very few parties are consulted before trainers develop courses themselves. Trainers decide on how needs are determined and expressed.</td>
<td>All stakeholders are consulted prior to curriculum development: employers, employees, government, special interest groups, providers and learners. The end-product of needs analysis is reflected as unit standards.</td>
</tr>
<tr>
<td>Course design</td>
<td>Instructional designers develop courses around the contents. The outcomes of a course are written as objectives.</td>
<td>Learning programmes are designed according to the needs of the above six stakeholders. Outcomes clearly indicate what the learner must be able to do in line with national standards.</td>
</tr>
</tbody>
</table>
### Differences between contents-based education and OBE

<table>
<thead>
<tr>
<th>PROCESS STEP</th>
<th>Contents-based Education</th>
<th>Outcomes-based Education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning material</td>
<td>The learning material is called study manuals or textbooks which is contents-driven. The instructor determines the content. The content is mainly theoretical.</td>
<td>Learning material is called learning guides and is outcomes-driven. The contents are determined by the inputs of various role-players. The contents are practical, addressing particular skills.</td>
</tr>
<tr>
<td>Presentation</td>
<td>The instructor presents a pre-determined lesson. The instructor is in control of the learning event.</td>
<td>A facilitator presents a lesson based on the unit standard in a flexible manner. The facilitator guides learners to achieve outcomes.</td>
</tr>
<tr>
<td>Assessment</td>
<td>Learners do assignments and write tests and examinations in order to indicate their level of competence. Assessment criteria are non-existent or vague.</td>
<td>A variety of assessment techniques are used, for example simulations, portfolios, self assessment, workplace assessment. Assessment criteria are clearly defined and indicated as part of the unit standard.</td>
</tr>
</tbody>
</table>

### Learning System Characteristics

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Content Based (Traditional/Transactional)</th>
<th>Outcomes Based (Transformational)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Framework</td>
<td>Predefined curriculum, assessment &amp; credentialing in place. Structures “ends”, no defined learners' outcomes</td>
<td>Curriculum, instructional strategies, assessment &amp; performed standards. Structures support outcomes, flexible &amp; a means to define “learning ends”</td>
</tr>
<tr>
<td>Time</td>
<td>Inflexible constraint for educator &amp; learner schedule controls learning &amp; success</td>
<td>Used alterable source – match needs of educator &amp; learners</td>
</tr>
<tr>
<td>Performance standards</td>
<td>Comparative &amp; competitive approach. Linked to predetermined “curve” or quota of possible successes</td>
<td>Learners potentially able receive credit for achieving performance standards. No quotas &amp; standards pursued</td>
</tr>
<tr>
<td>Learning assessments</td>
<td>Continuous testing &amp; permanent grading. Mistakes on permanent record: best grades &amp; records fast &amp; consistent performers; slower learners never catch up. Never assess/document what learners can ultimately do successfully</td>
<td>Macro view learning &amp; achievement. Mistakes inevitable steps in development, internalizing &amp; demonstrating high level of performance capabilities. Ultimate achievement what able to do</td>
</tr>
</tbody>
</table>

---

**Facilitator: Kamarul ‘Asri Ibrahim**

<table>
<thead>
<tr>
<th>Intent</th>
<th>Content Framework (Traditional)</th>
<th>Competency Framework (60's model)</th>
<th>Outcome Framework (21st century)</th>
</tr>
</thead>
<tbody>
<tr>
<td>“Cover Topics”</td>
<td>Check-off discrete tasks</td>
<td>Demonstrate significant “whole” task</td>
<td></td>
</tr>
<tr>
<td>Instructor</td>
<td>Expert: Disseminator of information</td>
<td>Give instruction and check-off tasks</td>
<td>Coordinate collaborative investigation</td>
</tr>
<tr>
<td>Student Role</td>
<td>Receiver: Stores and returns information</td>
<td>Practices and demonstrates small, isolated tasks</td>
<td>Active collaborator and investigator; synthesizer</td>
</tr>
<tr>
<td>Content</td>
<td>Topics</td>
<td>Performance Objective</td>
<td>Concepts and process skills</td>
</tr>
<tr>
<td>Materials</td>
<td>Cover textbooks</td>
<td>Use Multimedia</td>
<td>Access multiple sources</td>
</tr>
<tr>
<td>Evaluation</td>
<td>Competitive: quiz and test</td>
<td>Meet minimum standard</td>
<td>Assessment against quality standards; continuous, self, peer and instructor assessment</td>
</tr>
</tbody>
</table>

“destination” or “end of journey”

OBE: Focusing on the outcomes of programme implementation

“Always begin with the end in mind”

– Steven Covey’s 7 Habits of Highly Successful People
OBE means:

- Defined by
- Focussed on
- Organised around
- Directed by

LEARNING OUTCOMES

Under OBE, curriculum design includes these steps:

- Determine future conditions
- Derive exit outcomes
- Develop performance indicators
- Determine instructional strategies
- Deliver instruction
- Document results
- Determine advancement
Some immediate Advantages:

- Always alert on quality of graduates
- More effective & innovative teaching
  - PBL, CL, etc
- More industry input

The heart of OBE is a Working
CONTINUOUS IMPROVEMENT PROGRAM!
Facilitator: Kamarul ‘Asri Ibrahim
Facilitator: Kamarul ‘Asri Ibrahim
IMPLICATION OF CHANGES TO OBE

• Need to understand what is OBE.
• Need to specify programme educational objectives.
• Need to specify learning outcomes.
• Need to revise curriculum.
• Need to change teaching, assessment, and evaluation method.
• Need to start documenting evidences on OBE.
• Need to send staff for training on OBE.
• Need to resist disagreement from faculty members.
• Etc.

Thank You