



# Outcome Based Approach in Education and Accreditation

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Director of Academic Quality  
Universiti Teknologi Malaysia

13th Jan 2007

## Presentation Outcomes

After this presentation, the participants will be able to:

1. orally explain OBE concepts according to EAC-BEM's requirement
2. describe 5 important criteria required for the accreditation exercise
3. contribute in implementing OBE for the accreditation exercise according to EAC Manual 2006 based on UTM experiences



In 2 minutes please write down the key points about OBE

In 5 minutes.. please share it with your friends..

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# CASE no. 1

**View from industries**

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# 80,000 graduan menganggur

mingguan  
Malaysia  
20 Feb 2005

Oleh NIZAM YATIM

JELI 19 Feb. — Jumlah perangkaan graduan menganggur amat mengejutkan apabila sehingga September lalu angkanya mencecah 80,000 orang.

Sehubungan dengan itu Menteri di Jabatan Perdana Menteri, Datuk Mustapa Mohamed menggariskan antara faktor perkara itu berlaku:

- Graduan enggan mengubah sikap yang inginkan pekerjaan setaraf dengan ijazah yang dimiliki.
- Sikap graduan yang gemar berkhidmat dengan kerajaan kerana mereka tidak yakin untuk bekerja dengan syarikat swasta.
- Tidak suka berusaha sendiri, termasuk berniaga dan berdikari.

Katanya, nasihat kerajaan supaya graduan terbabit mengubah sikap masih tidak diikuti dan ia

terbukti apabila ramai di kalangan mereka enggan bekerja sebagai kerani atau operator pengeluaran di kilang dengan alasan tidak sesuai.

"Kepada graduan terbabit yang kebanyakan daripada kalangan bumiputera, saya nasihatkan tidak usahlah mereka terlalu memilih pekerjaan dan sebagai permulaan kita boleh kerja di mana-mana bagi mencari pengalaman," katanya.

Beliau berkata demikian kepada pemberita selepas meraikan 24 pelajar yang dipilih mengikuti Skim Anak Angkat Parlimen Jeli di kediamannya, Darul Falah di sini, hari ini.

Kata Mustapa, Unit Perancang Ekonomi (EPU) sedang merangka strategi mengenai langkah-langkah yang boleh dilaksanakan bagi memastikan bilangan graduan menganggur dapat dikurangkan. "Strategi ini akan diumumkan

selepas EPU selesai menyemak laporan daripada universiti-universiti mengenai latar belakang graduan menganggur dan bidang pengajian masing-masing untuk tempoh tiga tahun sejak 2002," jelasnya.

Beliau berkata, strategi baru tersebut akan memberi tumpuan bagi memastikan lebih ramai pelajar bumiputera mencoburi bidang latihan dan kemahiran bagi memenuhi tuntutan pasaran.

"Kita juga akan merangka strategi bagi mengubah sikap siswazah supaya memberi keutamaan untuk bekerja sendiri dengan membuka perniagaan atau terbabit dalam sektor pertanian," ujarnya.

Tambah beliau, bidang pengajian di universiti juga akan dipastikan tidak terlalu berorientasikan akademik, sebaliknya harus memasukkan elemen-elemen kemahiran.

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 **Universiti Teknologi Malaysia**  
Towards World Class University 2010

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

By M.K. Megan *NST Sept 03*  
megan@nstp.com.my

**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.

A source said many of them were from local public universities and private colleges.

Industry players claimed unemployment among these graduates was due to a massive oversupply of such graduates, which Human Resources Minister Datuk Dr Fong Chan On denied.

The source said the increasing number of IT staff laid off by companies carrying out downsizing or winding up their operations, had worsened the situation.

Due to increasing competition, IT business is becoming tough. New players enter the market with value-added products. The computer industry changes fast and those who cannot keep up will ultimately have to bow out," said the source.

Fong did not deny that many IT graduates had registered with the Labour Department but contended they were unemployed because they did not meet the high standard.

□ TURN TO PAGE 4, COL

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NATION  
 NST - 20/1/03  
**Jobless graduates lack critical skills**

**By Annie Freeda Cruz**  
*annie@nsc.com.my*  
**KUALA LUMPUR, Tues.** — The Government is concerned about the increasing number of unemployed graduates, many of whom lacked communication skills, are unable to use computers and lack team spirit. Human Resources Minister Datuk Dr Fong Chin Anu said feedback from employers indicated that most of these graduates were from public universities. "I have informed the Cabinet that employers prefer to employ graduates from private institutions of higher learning and those who return from overseas because of their qualifications and their better computer skills

university graduates find it hard to communicate in English, have no proper computer skills and are unable to interact with other races and carry out tasks as a team. They also prefer to work within the stipulated working hours and do not go the extra mile to close deals after office hours or stay back to do extra work." Speaking to reporters after launching the Graduate Training Scheme (GTS) II at Crown Princess Hotel here, Fong said the feedback he received from employers was submitted to the Cabinet on several occasions and to the Education Ministry. "It is important that universities also take into consideration employers' demands so that graduates are well equipped and competent when

sector." Some 30,000 graduates register with the Manpower Department annually for jobs. In view of the many unemployed graduates, Fong said the Government allocated RM100 million under the stimulus package to provide specialised courses for some 15,000 unemployed graduates to enable them to be more competent. The graduates will be taught Microsoft Certified Systems, Programming, Cisco Certified Network, English, Tamil, Malay, Systems Administration, Business Accounting and Marketing, sport form, information and communication technology (ICT) and English. Graduates who had not been employed since 1990 are qualified to

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# METRO

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SETEMPAT

Graduan perlu ada pakej

SHAH ALAM: Graduan perlu memiliki 'pakej', termasuk penampilan imej dan kemahiran komunikasi yang baik, untuk mudah diterima pasaran kerja, kata orang ketua pegawai eksekutif syarikat berkaitan kerajaan.

Ketika berkongsi panduan dengan bakal graduan Universiti Teknologi Mara (UITM) di sini, Ketua Pegawai Eksekutif Telekom Malaysia Bhd, Datuk Abdul Wahid Omar, berkata imej positif serta penampilan diri yang betul mampu memudahkan graduan dipilih mengisi jawatan dipohon.

"Pandangan pertama sangat penting kerana ia memberikan gambaran awal

Graduan perlu memiliki 'pakej' termasuk penampilan imej dan kemahiran komunikasi yang baik, untuk mudah diterima pasaran kerja

"Kita harus bijak menyesuaikan diri dan pembawaan diri dalam apa jua suasana. Di mana orang campak kita, kita boleh hidup. Itu antara kualiti yang perlu dimiliki untuk berjaya," katanya.

Beliau berkata, etika berpakaian ketika menghadiri sebarang majlis atau temu duga juga harus dipastikan sesuai.

- > Info
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- > Team Metroneka
- > Kata Anda?
- Seminggu Digital

Sini

## Graduan harus miliki penampilan diri — Shafie

KUALA LUMPUR 23 Feb. — Graduan harus memiliki penampilan diri selain kapasiti intelektual bagi memisahkan diri dalam dunia pekerjaan.

Menteri Pengajian Tinggi, Datuk Dr. Shafie Mohd. Salleh berkata, kepintaran, emosiual dan penampilan diri yang tinggi dan sentiasa bersaing dengan graduan lain untuk menjadi yang terbaik adalah ciri mahasiswa cemerlang.

"Jika ciri-ciri tersebut ada pada diri seseorang graduan, dengan mudah mereka akan diterima dalam industri pekerjaan."

"Jika berhadapan kepada kelayakan semata-mata tan-

pa kecerdasan diri yang memojol serta tidak dapat memasarkan diri, maka, itulah penyebab kepada kegagalan graduan mendapat tempat dalam pasaran," katanya pada sidang akhbar Forum Pengisian Ketekunan Bapa Kemerdekaan Malaysia, Almarhum Tunku Abdul Rahman Putra Al-Haj, di sini hari ini.

### Mengulas

Beliau berkata demikian ketika diminta mengulas kenyataan Menteri di Jabatan Perdana Menteri, Datuk Mustapa Mohamed semalam, yang mendahkan seramai 80,000 graduan didapati menganggur sehingga September lepas.

Menurut Mustapa, antara punca masalah itu ialah keengganan para graduan untuk mengubah sikap mereka yang hanya inginkan pekerjaan setaraf dengan ijazah masing-masing.

Menurut Shafie, graduan juga perlu memberi penekanan terhadap skil penyampaian, komunikasi dan keyakinan diri bagi menonjolkan diri semasa memohon pekerjaan.

"Saya berharap graduan membaiki diri sendiri sebelum menuding jari terhadap orang lain dalam masalah kegagalan mendapat pekerjaan," katanya.

## Why local grads losing out

SEFANG, Tues. — Malaysian employers do not think much of local graduates.

They told a dialogue today that something must be done fast before the private sector

at communicating well with others and the ability to interact socially within a working environment.

Universities should encourage overseas attach-

Professor Datuk Dr Mohd Salleh Mohd Yasin, who said the present 10-week internship for local undergraduates was sufficient if employers came up with a com-

whom 14,321 had professional qualifications.

Among them, only 1,030 Bumiputera accountants had professional qualifications while 3,475 Bumi-

... 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.

Industry executive director Stewart Forbes said apart from academic excellence, most employers would re-

at present," he said. University chancellors at the session generally agreed with his suggestions, except

suing a professional qualification for accountancy is not important and this is wrong," he said.

heids. "Malaysia is vying to become an automotive hub but we cannot go ahead with this

..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.

communication skills to encompass both general skills

Universiti Kebangsaan Malaysia vice-chancellor

He said at present, there were 21,347 accountants, of

or-general Prof Datuk Dr Hassan Said.

## 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.”

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## Views from Industry

*From a senior representative of Petronas:*

“We expect an employee to be able to work when she comes in. That’s the reason why when we recruit candidates, we expect them to be able to perform the task as soon as they are on the job. I would say, ‘These are the points I would like you to include in your report’ and that’s about it. ...she will have to have her own ideas... do some research and call up...companies concerned.... I won’t have time to hold the person by the hand.... The person will have to be very independent. That’s why initiative is very important – initiative and achievement motivation.

Source: Editorial Board, ESP Malaysia. 1993. A glimpse into the significant world of Petronas. ESP Malaysia, 1/1:77-86.

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From a report on 'Employability of Malaysian Graduates' presented to the Majlis Tindakan Ekonomi Malaysia, 8 April 2003.

### **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)

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From a report on 'Employability of Malaysian Graduates' presented to the Majlis Tindakan Ekonomi Malaysia, 8 April 2003.

### **Reasons For Employing More Foreign Graduates** Attitude of Foreign Graduates

- "Foreign graduates are more independent. They can blend well easily with others. They are more expressive and creative in new ideas...and their command of English is certainly much better."
- "They (foreign graduates) have the mindset to excel, wanting to learn more. Maybe because of the competitiveness which they have experienced overseas."

(Other Services/foreign/Chinese)

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From a report on 'Employability of Malaysian Graduates' presented to the Majlis Tindakan Ekonomi Malaysia, 8 April 2003.

### **Reasons For Employing More Foreign Graduates**

- "Good command of English is vital, not only for external communication with clients but as well for a MNC like us, we have branches all over the world, we certainly need someone with good English background, whereas I find the local graduates are very much lacking in this."

(Construction/Foreign/Chinese)

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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(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)

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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)

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From a report on 'Employability of Malaysian Graduates' presented to the Majlis Tindakan Ekonomi Malaysia, 8 April 2003.

### Reasons For Employing less local Graduates

- "Somehow due to the exposure, the foreign graduates are better because their overseas education is not about academic qualifications, but they are trained in communications and behavioral skills eg presentation skills"

(Retailing/Foreign/Chinese)

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# CASE no. 2

What the newspapers say about us


**Universiti  
Teknologi Malaysia**  
 Towards WorldClass University 2010

B10 Berita Harian 16/12/2003 (Selasa)

Pendidikan

## Kaedah konvensional tidak lagi relevan: Mustapa

**Oleh Syuhada Choo Abdullah**  
 (yang berada di Bangkok, Thailand baru-baru ini)

KAEDAH pembelajaran konvensional yang membentuk pelajar menjadi pasif, merendah diri dan malu bertanya serta mengharapkan ilham guru saja tidak relevan dengan perkembangan pendidikan kini dan wajar diubah.

Sebaliknya, mereka harus didedahkan kepada proses pendidikan yang lebih inovatif serta proaktif sejak sekolah rendah bagi bagi melahirkan generasi yang berikiran global dan berani.

Pengarah Eksekutif Majlis Tindakan Ekonomi Negara (MTEN), Datuk Mustapa Mohamed, berkata, pelajar perlu digalakkan menyertai sesi pembelajaran secara dua hala, berbanding kebanyakan pelajar ketika ini yang

lain pelbagai bidang seperti peragaan, interaksi dan komunikasi supaya mereka mampu menyampaikan idea serta pandangan berkesan," katanya kepada *Berita Harian*.

Mustapa berkata, pengalaman dan juga pendedahan melalui program global seperti Forum Antarabangsa Inisiatif Pemimpin Muda Hitachi Ke-6 yang berlangsung selama lima hari di Bangkok, baru-baru ini, amat berharga bagi mengasah daya kepimpinan dinamik serta berwujud di kalangan pelajar Malaysia.

Forum bertema 'Meneroka Hala Tuju Baru Bagi Asia' itu disertai 24 pelajar cemerlang serta terpilih dari enam negara, iaitu Malaysia, Singapura, Thailand, Jepun, Filipina dan Indonesia.

Mustapa yang juga ahli panel forum itu berkata, kesempatan untuk melibet Mahasiswa dari



**MUSTAPA (kanan) dan Naib Menteri Pendidikan Thailand, Piyabutr Chokvijarn (dua dari kanan), selepas...**

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# Skim Latihan Siswazah Menganggur diwujudkan semula 80,000 graduan dilatih

**P**UTRAJAYA 23 Mac — Kerajaan mengambil langkah drastik 'mengerahkan' kesemua 80,000 graduan menganggur di seluruh negara menjalani latihan kemahiran selama setahun bagi memudahkan mereka mendapat pekerjaan atau menjadi usahawan.

Sehubungan itu satu pasukan petugas khas akan ditubuhkan bagi mengesan graduan-graduan menganggur ini.

Pasukan khas ini yang diketuai oleh penyarah Universiti Pendidikan Sultan Idris (UPSI), Prof. Madya Dr. Yusof Abu Bakar akan mengguna pakai model di Australia yang ternyata berjaya menangani masalah isu siswazah menganggur di negara itu.

Di Australia, graduan-graduan yang tidak bekerja akan dicari dan dihantar ke kolej-kolej kemahiran untuk diberi nilai tambah.

Hasilnya 90 peratus graduan itu mendapat pekerjaan.

Menteri Pengajian Tinggi, Datuk Dr. Shafie Mohd. Salleh ketika mengumumkan perkara ini kepada pemberita sebelum mempengerusikan mesyuarat pasca-Kabinet di sini hari ini, berkata:

"Kita akan tiru model itu dan cuba laksanakan di Malaysia. Mungkin dengan cara ini kita dapat mengurangkan secara berperingkat jumlah graduan menganggur."

Katanya, graduan menganggur itu akan ditempatkan di kolej-kolej komuniti dan pejabat di seluruh negara.

Dua hari lalu, Perdana Menteri, Datuk Seri Abdullah Ahmad Badawi mengarahkan supaya Skim Latihan Siswazah Menganggur (SLSM) diwujudkan semula bagi menangani 80,000 graduan yang masih gagal mendapatkan pekerjaan.

Perdana Menteri mengangap skema itu masih relevan kerana ia terbukti bagi menangani masalah tersebut kerana sejak diperkenalkan pada 2001, 80 peratus pelajar yang menyertainya mendapat pekerjaan.

**Utusan Malaysia, 24 Mac 2005**  
Skim Latihan Siswazah Menganggur (SLSM) diwujudkan semula bagi menangani 80,000 graduan yang masih gagal mendapatkan pekerjaan

5, 200

ADU AN

PEMBANGUNAN SUMBER MANUSIA BERHAD (C14142-D)

GRADUATE TRAINING SCHEME / 05

TRAINING FEE WILL BE FULLY PAID BY PSMB

**Objective:**  
The objective of the Graduate Training Scheme/05 (GTS/05) launched by the government is to assist and equip unemployed graduates with specific skills to enhance their employabilities

**Target Group:**  
This scheme is for Malaysians who have graduated with a degree or diploma from 2002 onwards and have remained unemployed.

**ENTRY REQUIREMENTS FOR PROGRAMMES OFFERED:**

PROGRAMME	CONDITIONS
Executive Development, Marketing, Business Accounting, Financial Planning & Wealth Management, Web Publishing & Web Application Development, Tourist Guide & Event Management, Entrepreneurship, English Language, Mandarin and Insurance	Applicants must have a Degree or Diploma in a field of studies For Web Publishing & Web Application Development, applicants must possess or have a credit in Mathematics and Science at the SPM level or a Degree or Diploma in Computer Studies
Microsoft Certified Systems Engineer (MCSSE) and Linux System Administrator (LXSA)	Applicants must have a Degree or Diploma in Computer Studies/Engineering
CCSC Certified Network and Professional (CCNP)	Applicants must have a Degree in Computer Studies/Engineering

**PAYMENT OF MONTHLY ALLOWANCES**  
The payment of monthly allowances at the rate of RM100.00 per month will be made through the P-B Bank or Bank Simpanan Nasional (BSN) saving accounts. Trainees must open their saving accounts at the nearest P-B Bank or BSN Branch.

For more information or to obtain application forms, please contact the nearest approved training provider or the following PSMB offices:

1) Puan Nur Aulia binti Mamat 03 - 2598 4308	3) Enik Rosealim Khatib 03-2996 4880
2) Cik Nurul Aisah binti Mohd Dahlan 03 - 2098 4891	4) Cik Aini Fajlah binti Abbas 03-2996 4889

Information on this scheme and application forms can also be obtained at PSMB's website as follows: [www.hrdm.com.my](http://www.hrdm.com.my)

The shortlistings for programmes offered are as follows:

ELC - Certificate in English Language	MCSE - Microsoft Certified System Engineer
ED - Certificate in Executive Development	CCNP - CCSC Certified Network and Professional
WPAD - Certificate in Web Publishing and Web Application Development	TCGM - Certificate in Tourist Guide and Event Management
ENT - Certificate in Entrepreneurship	FM - Certificate in Financial Planning and Wealth Management
LSA - Linux System Administrator	MKT - Certificate in Marketing
MLC - Certificate in Mandarin	

**Programmes:**  
Executive Development, Marketing, Business Accounting, Financial Planning & Wealth Management, Web Publishing & Web Application Development, Tourist Guide & Event Management, Entrepreneurship, English Language, Mandarin and Insurance

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## The Star, 26 March 2005

Sports	
Entertainment	
Lifestyle	
Health	
Technology	
Education	<b>Grad: Lack of looks and language skills to blame</b>
Classifieds	PETALING JAYA. He has a poor command of English and he claims he is not handsome enough. So despite going for 100 interviews, this electronics graduate from Multimedia University is still jobless.
Directory	Another graduate, from Universiti Malaya, claims to have gone for 200 interviews and cites the lack of necessary skills and irrelevant subjects taught at higher learning institutions as being the reasons for being jobless.
Cards	
Member	
30 Day Archives	
Contents	
Games	
Extran	
Property	
Motoring	
Purple Sofa	
Comics	
Audiofile	
Maritime	

He has a poor command of English and he claims he is not handsome enough. So despite going for 100 interviews, this electronics graduate from Multimedia University is still jobless

Another graduate, from Universiti Malaya, claims to have gone for 200 interviews and cites the lack of necessary skills and irrelevant subjects taught at higher learning institutions as being the reasons for being jobless.

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## New Strait Times, 20 April 2005

### One-year internship mooted for undergrads

By Anwar Razali

need to have more marketable graduates.

He said the idea of a one-year internship would be referred to the National Higher Education Council as this would mean increasing the period of study from three years to four.

He was speaking to reporters after chairing a meeting of university chancellors and businessmen to discuss the perennial problem of why local graduates were unemployable.

There are 18,000 unemployed graduates and some reasons given for their predicament were a poor com-

Shafie said his Ministry would also consider sending local graduates for training overseas.

"Some engineering students in Universiti Kebangsaan Malaysia have been sent to Germany for training. But we couldn't send more because funds were inadequate," he said.

On the one-laptop-one-graduate programme, Shafie said it would be up and running by July and fully implemented for students in all courses by next year.

"It will be given out to all the students except those

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.

Datuk Dr Shafie Saifed said today there was a pressing need to have marketable graduates. Shafie said his Ministry

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TheStar TUESDAY 12 October 2004

# PM: Rank universities

## 'Healthy competition can improve teaching quality'

**CYBERJAYA:** Public and private institutions of higher learning will be ranked to improve the quality of education in the country and to promote healthy competition among them, said Prime Minister Datuk Seri Abdullah Ahmad Badawi.

He said the Higher Education Ministry has been told to develop the ranking system.

"It is hoped that by ranking them, healthy competition between the institutions would be fostered, thereby motivating them to improve their quality of teaching and research," he said at the opening of the LimKokWing University College of Creative Technology's Malaysia Design Technology Centre here yesterday.

The grand and colourful event was attended by close to 1,000 guests, including a minister, deputy ministers, ambassadors and high commissioners, heads of colleges and universities, as well as CEOs of numerous companies. (See StarEducation on Sunday for details)

Abdullah said he hoped information on ranking of public higher learning institutions would be available soon.

He added that private education institutions should be graded into appropriate categories — based on centres and tuition centres.

"This initiative will facilitate the monitoring of the quality and integrity of such institutions and the assurance of encouraged the growth of private institutions of higher learning to meet the growing demand for higher education. The number of the institutions of the country annually when Malaysian students study abroad," he added.

Earlier in the day, Abdullah met his



**THANK YOU:** Abdullah receiving a standing ovation from LimKokWing University College of Creative Technology students after opening their new campus in Cyberjaya yesterday.

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# CASE no. 3

## Views from our colleagues

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## CURRENT SCENARIO

- the tendency of imparting and evaluating only technical outcomes of graduates.
- Generally, subjects are focused on imparting only technical outcomes.
- 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 non-technical outcomes.

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## CURRENT SCENARIO

- documented evidences on the achievement of the graduate attributes scarcely available
- rarely include external stakeholders or constituencies and hence little feed back received from these very important components.
- Not much assurance on the delivery of the outcome capabilities

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## 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.

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# So... what's next

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## 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*)

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## 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...

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**1 QA/MQF** Malaysian Qualification Agency  
Ministry of Higher Education

and the

Engineering Accreditation Council,  
Board of Engineers → **Washington Accord**

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

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What is  
Outcome-Based  
Education ?

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## 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)

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## What is Outcome-Based Education ?

### ***A Shift in Focus***

- from curricula, resources and processes  
towards outcomes and objectives.
- Curricula & teaching  
are **means, not ends.**

The greater focus on outcomes and objectives means that all stakeholders must have a say in establishing them, and measuring them.

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“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*

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Outcome-Based Education  
**- A more logical way**



*Example:*

Reasons for introducing a new course:

- |               |   |
|---------------|---|
| Conventional: | - tradition<br>- a professor wants it         |
| OBE approach: | - does it contribute to<br>desired outcome/s? |

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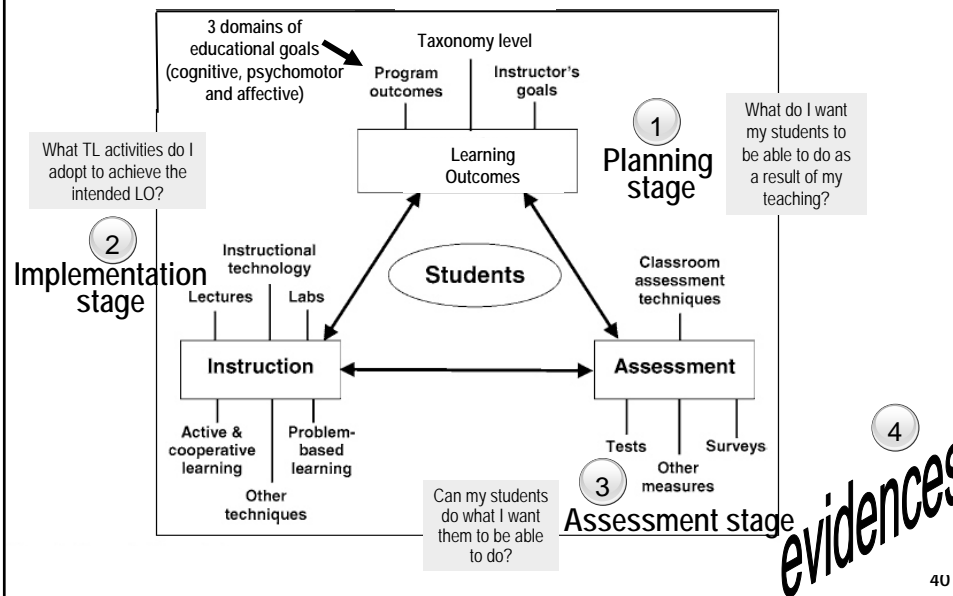
# Outcomes Based Education?



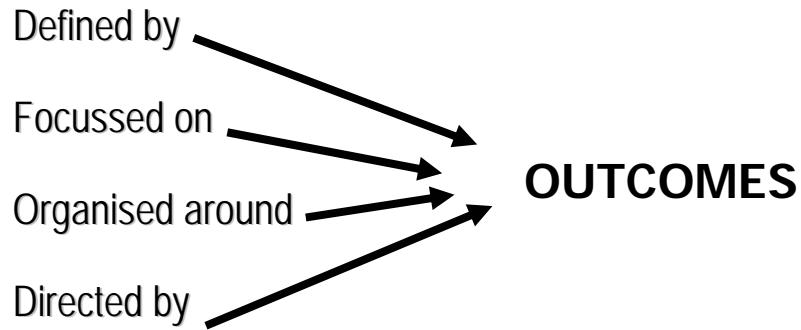
Outcomes Based Education focuses on student learning by:

- 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



# OBE means:



# What is Outcome-Based Education ?

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

OBE Principles	Explanation	Application to practice
Clarity of focus	Focus on what want learners be able to do successfully	<ul style="list-style-type: none"> <li>❖ Help learners develop competencies</li> <li>❖ Enable predetermined significant outcomes</li> <li>❖ Clarify short &amp; long term learning intentions</li> <li>❖ Focus assessments on significant outcomes</li> </ul>
Design down	Begin curriculum design with a clear definition of the significant learning that learners are to achieve by the end of their formal education	<ul style="list-style-type: none"> <li>❖ Develop systematic education curricula</li> <li>❖ Trace back from desired end results</li> <li>❖ Identity "learning building blocks"</li> <li>❖ Link planning, teaching &amp; assessment decisions to significant learner outcomes</li> </ul>
High expectations	Establish high, challenging performance standards	<ul style="list-style-type: none"> <li>❖ Engage deeply with issues are learning</li> <li>❖ Push beyond where normally have gone</li> </ul>
Expanded opportunities	Do not learn same thing in same way in same time	<ul style="list-style-type: none"> <li>❖ Provide multiple learning opportunities matching learner's needs with teaching techniques</li> </ul>

Content Based Learning System	Outcomes Based Learning System
Passive students	Active learners
Assessment process – exam & grade driven	Continuous assessment
Rote learning	Critical thinking, reasoning, reflection & action
Content based/broken into subjects	Integration knowledge, learning relevant/ connected real life situations
Textbook/worksheet focused & teacher centred	Learner centred & educator/ facilitator use group/ teamwork
See syllabus as rigid & non negotiable	Learning programmes seen as guides that allow educators to be innovative & creative in designing programmes/ activities
Teachers/trainers responsible for learning - motivated by personality of teacher	Learners take responsibility for their learning, learners motivated by constant feedback/ affirmation of worth
Emphasis what teacher hopes to achieve	Emphasis outcomes – what learner becomes & understands
Content placed in rigid time frames	Flexible time frames - learners work at own pace
Stay in single learning institution until complete	Learners can gather credits different institutions until achieve Qualification
Previous knowledge & experience in learning field ignored – Each time attends whole course	Recognition of prior learning: after pre-assessment, learners credited outcomes demonstrated or transfer credits elsewhere

## Differences between contents-based education and OBE

PROCESS STEP	Contents-based Education	Outcomes-based Education
Needs analysis	A very few parties are consulted before trainers develop courses themselves. Trainers decide on how needs are determined and expressed.	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.
Course design	Instructional designers develop courses around the contents. The outcomes of a course are written as objectives.	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.

## Differences between contents-based education and OBE

PROCESS STEP	Contents-based Education	Outcomes-based Education
Learning material	The learning material is called study manuals or textbooks which is contents-driven. The instructor determines the content. The content is mainly theoretical.	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.
Presentation	The instructor presents a pre-determined lesson. The instructor is in control of the learning event.	A facilitator presents a lesson based on the unit standard in a flexible manner. The facilitator guides learners to achieve outcomes.
Assessment	Learners do assignments and write tests and examinations in order to indicate their level of competence. Assessment criteria are non-existent or vague.	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.

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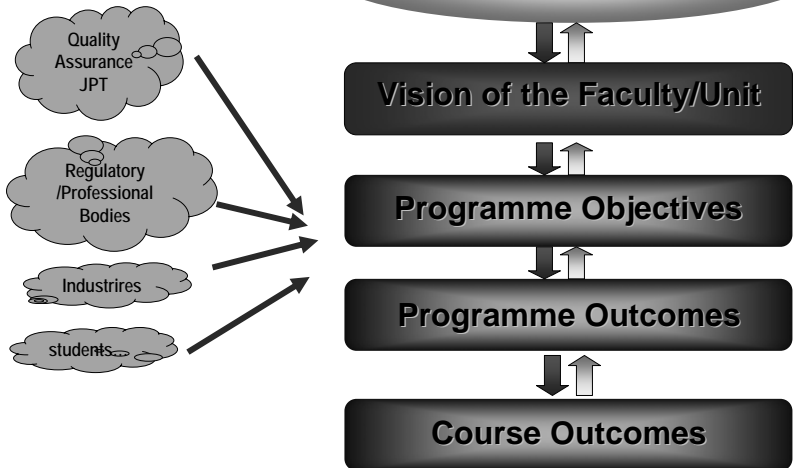
Learning System Characteristics	Content Based (Traditional/Transactional)	Outcomes Based (Transformational)
Framework	<ul style="list-style-type: none"> <li>❖ Predefined curriculum, assessment &amp; credentialing in place</li> <li>❖ Structures "ends", no defined learners' outcomes</li> </ul>	<ul style="list-style-type: none"> <li>❖ Curriculum, instructional strategies, assessment &amp; performed standards</li> <li>❖ Structures support outcomes, flexible &amp; a means to define "learning ends"</li> </ul>
Time	<ul style="list-style-type: none"> <li>❖ Inflexible constraint for educator &amp; learner schedule controls learning &amp; success</li> </ul>	<ul style="list-style-type: none"> <li>❖ Used alterable source – match needs of educator &amp; learners</li> </ul>
Performance standards	<ul style="list-style-type: none"> <li>❖ Comparative &amp; competitive approach</li> <li>❖ Linked to predetermined "curve" or quota of possible successes</li> </ul>	<ul style="list-style-type: none"> <li>❖ Learners potentially able receive credit for achieving performance standards</li> <li>❖ No quotas &amp; standards pursued</li> </ul>
Learning assessments	<ul style="list-style-type: none"> <li>❖ Continuous testing &amp; permanent grading</li> <li>❖ Mistakes on permanent record: best grades &amp; records fast &amp; consistent performers; slower learners never catch up</li> <li>❖ Never assess/ document what learners can ultimately do successfully</li> </ul>	<ul style="list-style-type: none"> <li>❖ Macro view learning &amp; achievement</li> <li>❖ Mistakes inevitable steps in development, internalizing &amp; demonstrating high level of performance capabilities</li> <li>❖ Ultimate achievement what able to do</li> </ul>

Learning Systems: Content Based versus Outcomes Based  
(Source: Spady, 1994)

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## OBE Model Hierarchy

### STAKEHOLDERS



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### *Some immediate Advantages:-*

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

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Under OBE, curriculum design includes these steps:

- Discern future conditions
- Derive exit outcomes
- Develop performance indicators
- Determine instructional strategies
- Deliver instruction
- Document results
- Determine advancement

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The heart of  
OBE is a

Working

**CONTINUOUS IMPROVEMENT  
PROGRAM!**

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## 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.

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## Key traits of OBE :

1. *Clarity of outcomes*
2. *“Designing back” (of curriculum)*  
*- based on the designated outcomes*
3. *Expanded opportunity for outcomes achievement*  
*(by more effective teaching methods)*



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## **What are Outcomes?**

**Outcomes represent one of the essential building blocks for transparency within higher education systems and qualifications;**

**Outcomes have been defined above as:**

***Statements of what a learner is expected to know, understand and/or be able to do at the end of a period of learning.***

## **Importance of Outcomes**

**Outcomes have applications in many locations:**

- (i) the individual higher education institution (for course units/modules and programmes of study);**
- (ii) nationally (for qualifications, qualifications frameworks and quality assurance regimes); and**
- (iii) internationally (for wider recognition and transparency purposes).**

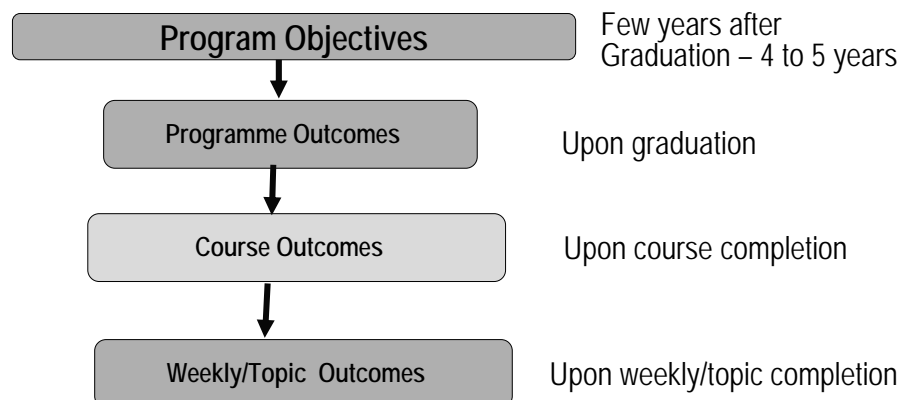
**They are important for the understanding of qualifications in society, for example by learners and employers.**

## Implications of Outcomes

Outcomes statements are typically characterised by the use of active verbs expressing knowledge, comprehension, application, analysis, synthesis, evaluation, creation etc.

They have implications for qualifications, curriculum design, teaching, learning and assessment, as well as quality assurance.

## Different Levels of Outcomes





# Programme Objectives

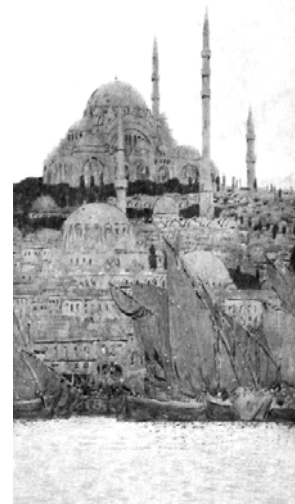
Wan Hamidon, July 2006



## Programme Objectives

Programme Objectives are specific goals describing expected achievements of graduates in their career and professional life after graduation, and shall be:

- consistent with the mission and vision of the IHL, and
- responsive to the expressed interest of various groups of programme stakeholders



**Long term outcomes**

Wan Hamidon, July 2006

## Programme Objectives



- (i) Programme Objectives: The programme shall have published Programme Objectives.
- (ii) Processes and Results: There shall be:
  - a) clear linkage between Programme Objectives and Programme Outcomes;
  - b) evidence of process of ongoing assessment and evaluation that demonstrates the achievement of Programme Objectives;
  - c) evidence that the evaluation results are used in the continual improvement (CQI) of the programme.

Wan Hamidon, July 2006

### (iii) Stakeholders Involvement:

The programme shall produce the evidence of involvement of programme stakeholders with regard to (i) and (ii) above.

Please refer to Appendix G in the manual for the performance indicators.

Wan Hamidon, July 2006



# Programme Outcomes

Wan Hamidon, July 2006



## Programme Outcomes

Programme Outcomes are statements describing what students are expected to know and be able to perform or attain by the time of graduation. These relate to the skills, knowledge, and behaviours that student acquire through the programme:

- be linked to the Programme Objectives, and
- include (a) to (j) given in the manual (see later), and/or any added outcomes by the programme.

**Short term outcomes**

Wan Hamidon, July 2006



Students of an engineering programme are expected to have the following outcomes:

- a) ability to acquire and apply knowledge of science and engineering fundamentals;
- b) acquiring in-depth technical competence in a specific engineering discipline;
- c) ability to undertake problem identification, formulation and solution;
- d) ability to utilise systems approach to design and evaluate operational performance;
- e) understanding of the principles of sustainable design and development;

Wan Hamidon, July 2006

- f) understanding of professional and ethical responsibilities and commitment to them;
- g) ability to communicate effectively, not only with engineers but also with the community at large;
- h) ability to function effectively as an individual and in a group with the capacity to be a leader or manager as well as an effective team member;
- i) understanding of the social, cultural, global and environmental responsibilities of a professional engineer, and the need for sustainable development; and,
- j) recognising the need to undertake life-long learning, and possessing/acquiring the capacity to do so.



Wan Hamidon, July 2006



## Programme Outcomes



- (i) Programme Outcomes: Programme Outcomes shall be published.
- (ii) Processes and Results: The programme shall:
  - (a) consider Programme Outcomes in designing the curriculum.
  - (b) establish a process of measuring, assessing and evaluating the degree of achievement of Programme Outcomes.
  - (c) the results of this assessment process shall be applied for continual improvement of the programme.


Wan Hamidon, July 2006

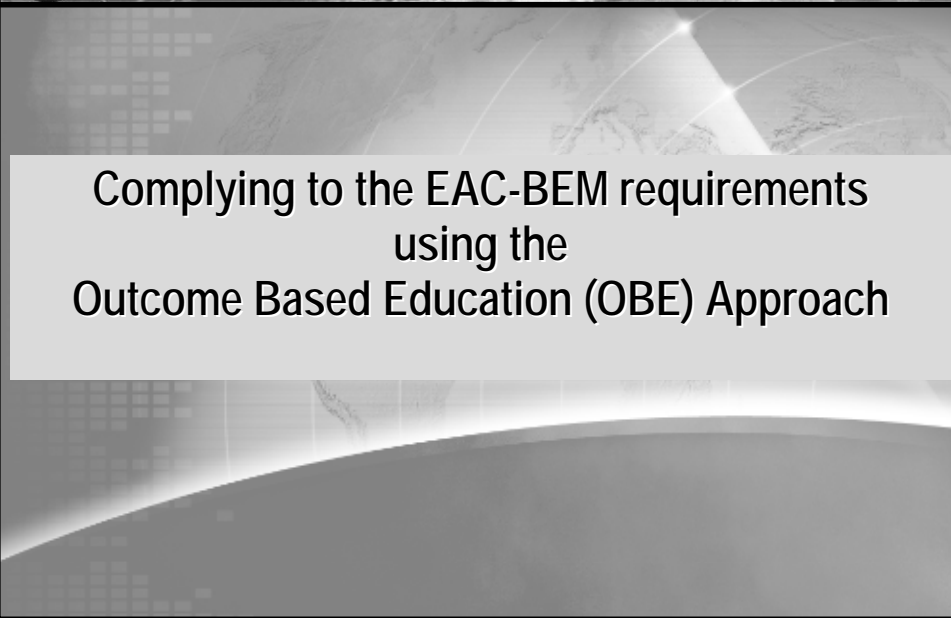
### (iii) Stakeholders Involvement:

The programme shall produce the evidence of involvement of programme stakeholders with regard to (i) and (ii) above.

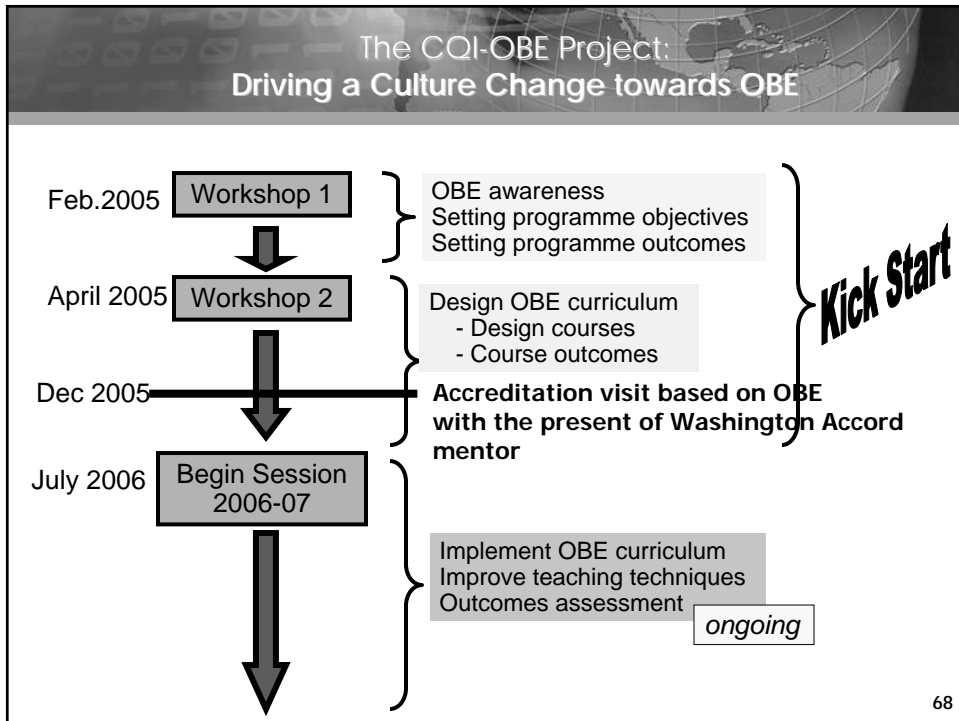
Please refer to Appendix G for the performance indicators.

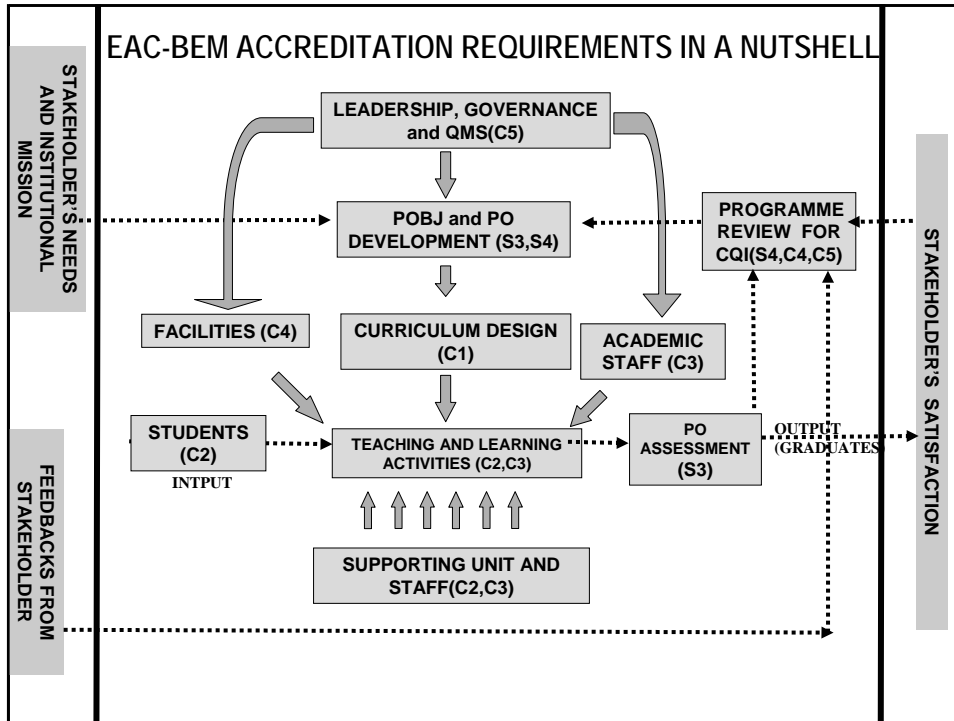
Wan Hamidon, July 2006



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## Complying to the EAC-BEM requirements using the Outcome Based Education (OBE) Approach




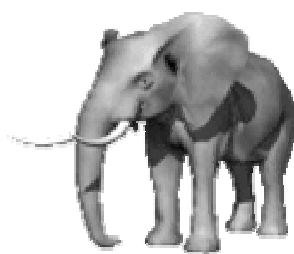





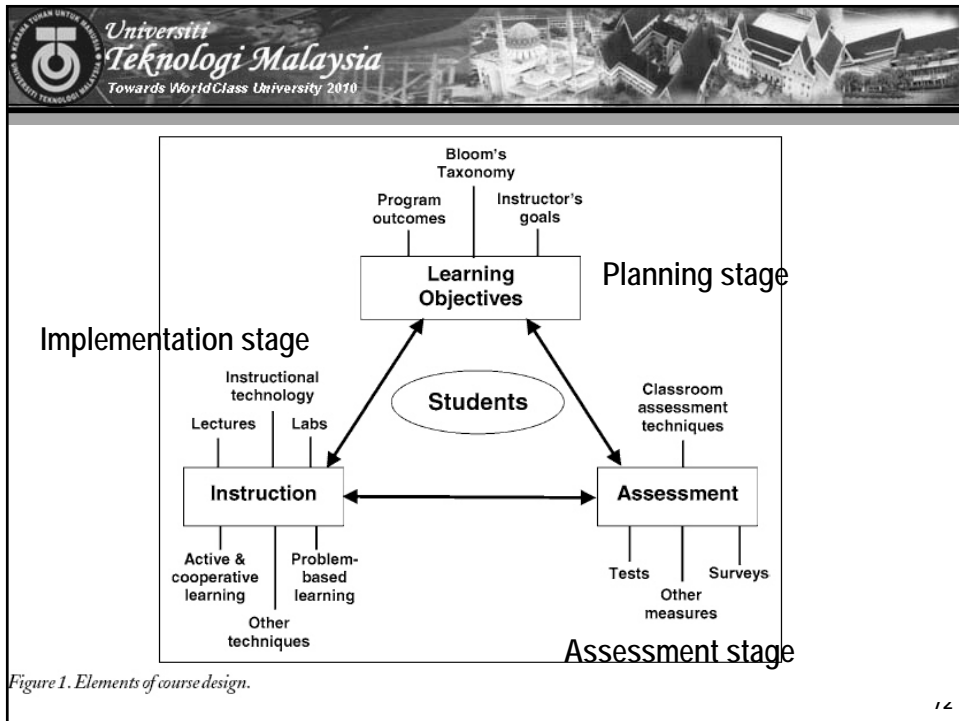
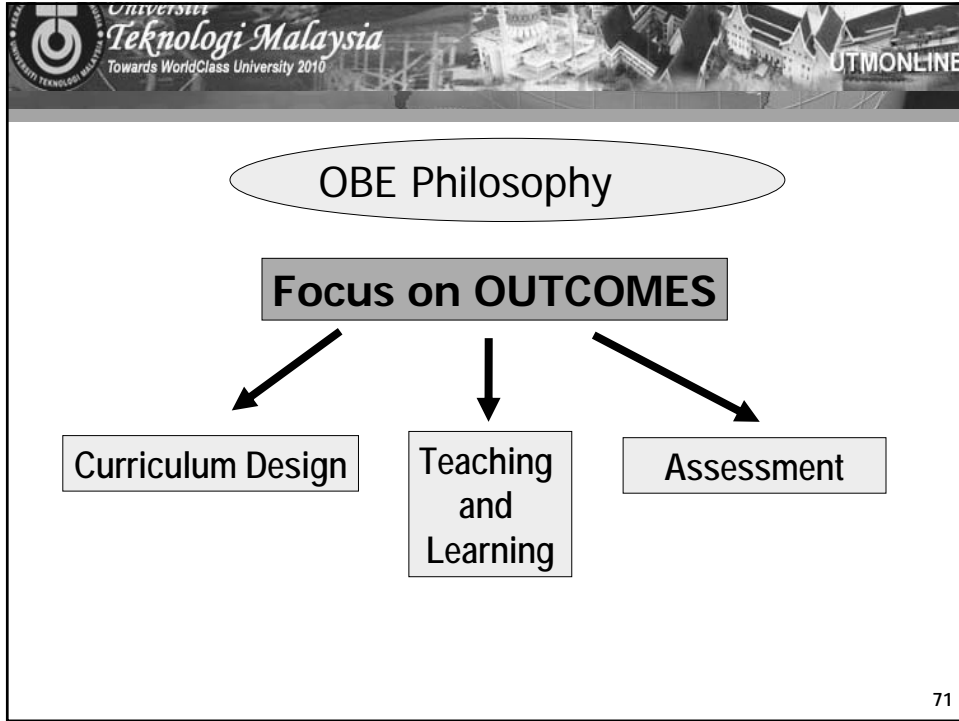
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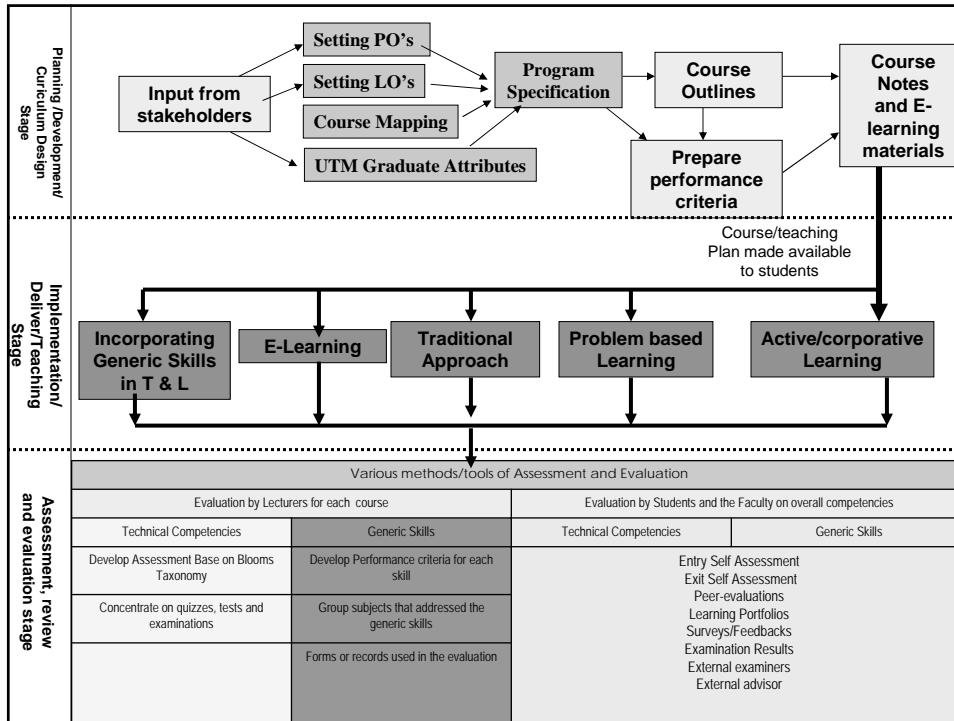


## OBE@ UTM?

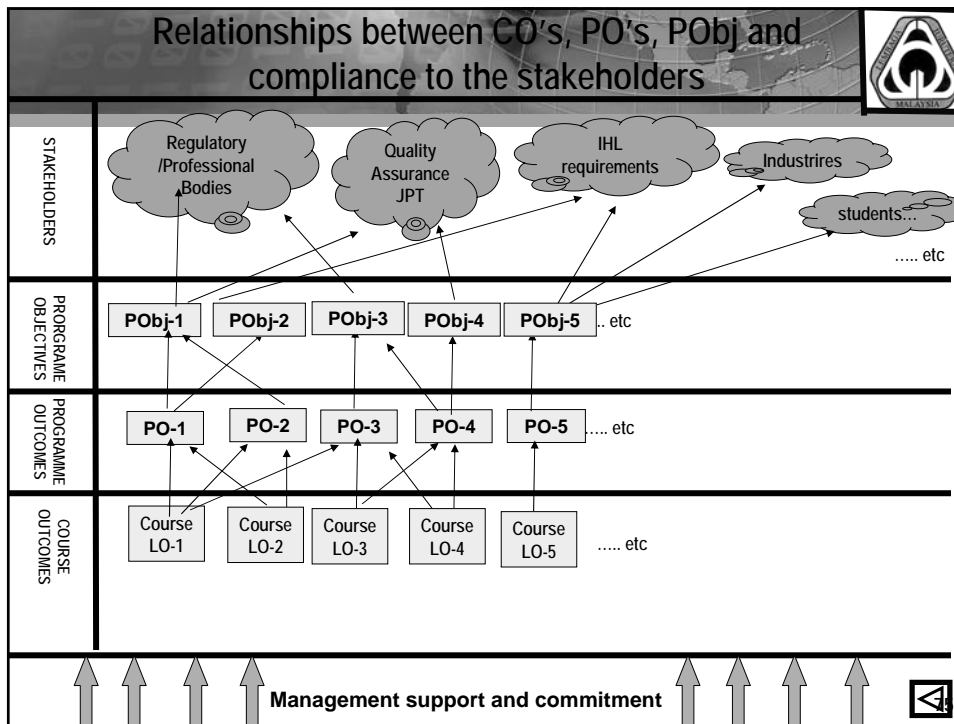
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# Planning Stage /Curriculum Design



PROGRAM LEARNING OUTCOMES B.Eng (Civil Engineering)			
Technical competencies			
	PROGRAM LEARNING OUTCOMES	TEACHING & LEARNING METHODS	ASSESSMENTS
LO1	Ability to acquire knowledge of science and civil engineering principles	Lectures, tutorials, seminars, laboratory works, directed reading, independent study, active learning	Examinations, laboratory reports, presentations, assignments, problem-based exercises, project reports
LO2	Ability to use the techniques, skills and modern civil engineering tools	Lectures, tutorials, computer hands-on sessions, laboratory works, industrial training, surveying camps	Examinations, laboratory reports, presentations, assignments, problem-based exercises, project reports, design tasks, simulation exercises, industrial training reports
LO3	Ability to analyse, interpret, develop and conduct experiments; and design components, systems, or processes	Project supervision, lectures, tutorials, laboratory works, directed reading, simulation exercises, computer-based exercises, independent study, problem-based learning	Final Year Project reports, project reports, design tasks, examinations, laboratory reports, presentations, assignments

## Generic Skills competencies

	PROGRAM LEARNING OUTCOMES	TEACHING & LEARNING METHODS	ASSESSMENTS
LO4	Ability to identify, formulate and solve civil engineering related problems	Project supervision, lectures, tutorials, laboratory works, group projects, independent study	Final Year Project reports, project reports, design tasks, examinations, laboratory reports, presentations, assignments
LO5	Ability to communicate effectively and with confidence	Projects, independent study, tutorials, surveying camps	Oral presentations, written reports
LO6	Ability to respond and adapt to changing situations and priorities	Lectures, laboratory works, group assignments, Industrial training, final year project	Industrial training reports and logbooks, final year project reports and logbooks
LO7	Ability to function effectively as an individual and/or in a team to achieve common goals	Independent projects, group projects, industrial training, final year project, surveying camps	Industrial training report and logbook, project report, final year project report and logbook
LO8	Ability to perpetually seek and acquire contemporary knowledge	Independent study, final year projects	Final year project reports, assignments
LO9	Ability to think positively and possess self-esteem	Group projects, independent study, tutorials, industrial training, final year project	Written assignments, project reports, essays, final year project report, Industrial training reports
LO10	Ability to apply high ethical standards in professional practice and social interactions for sustainable development	Final year projects, Laboratory works, Industrial training, surveying camps	Written assignments, laboratory reports, essays, Final year project reports, Industrial training report,

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## Mapping Course Outcomes to Programme Outcomes



Code	Course	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
SAB 1011	Engineering Survey – Fieldwork	1	2	2	2	2	-	2	-	2	2
SAB 1023	Engineering Survey	1	2	3	2	2	-	-	-	-	2
SAB 1031	Survey Camp	1	1	3	2	1	-	1	-	2	2
SAB 1042	Civil Engineering Laboratory I	1	1	2	2	1	-	2	2	2	2
SAB 1213	Applied Mechanics	1	1	1	2	2	2	2	2	-	2
SAB 1413	Computer Programming	1	1	1	2	2	-	-	-	2	2
SAB 1423	Civil Engineering Drawing	1	1	1	2	2	-	-	2	-	2
SAB 1513	Fluid Mechanics	1	1	1	2	2	2	2	-	2	2
SAB 1713	Soil Mechanics	1	2	1	2	2	2	2	2	2	2
SAB 2012	Civil Engineering Laboratory II	1	1	1	2	1	-	2	2	2	2
SAB 2032	Mechanical & Electrical System	1	2	1	2	2	2	-	2	2	2
SAB 2112	Civil Engineering Materials	1	2	1	2	2	2	2	2	2	2



Technical competencies

Generic Skill competencies

Key:

Technical Skills : 1 = major contribution to outcome; 2 = moderate contribution to outcome; 3 = minor contribution to outcome

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## Typical questions on Programme Edu. Obj (PObj)

- How were the programme objectives determined?
- Who are your constituents?
- How are the constituents involved?
- Are they consistent with the institution missions and constituents requirement?
- How are the PObj's published and communicated to the constituents (students, staff, industries etc)?

## Typical questions on Programme Outcomes (PO)

- How were the programme outcomes determined and how is it linked to the PObj?
- Are the outcomes SMART and correctly written?
- How are the PO's published and communicated to the constituents (students, staff, industries etc)?
- How to ensure the students are aware on the importance of the PObj and PO?
- Are the PO's considered in the course planning, delivery and assessment?



## Typical questions on Programme Outcomes (PO)

- Explain the process of measuring, assessing and evaluating the achievement of outcomes
- How do you apply the result of assessment (measuring, assessing and evaluating) to continuous quality improvement
- Is the assessment based on Anecdotal rather than measured results
- Assessment rely on course grades only?
- Is the assessment over-reliance on self-assessment (survey)
- Is it only the plan is available but not implemented?

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# At Programme level



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<b>1. Programme Name</b>		Bachelor in Civil Engineering		
<b>2. Final Award</b>		Bachelor of Engineering (Civil)		
<b>3. Awarding Institution</b>		UTM		
<b>4. Teaching Institution</b>		UTM		
<b>5. Professional or Statutory Body of Accreditation</b>		Board of Engineers Malaysia (BEM)		
<b>6. Language(s) of Instruction</b>		Bahasa Melayu and English		
<b>7. Mode of Study (Conventional, distance learning, etc)</b>		Conventional		
<b>8. Mode of operation (Franchise, self-govern, etc)</b>		Self-governing		
<b>9. Study Scheme (Full Time/Part Time)</b>		Full Time		
<b>10. Study Duration</b>		Minimum : 4 yrs Maximum : 6 yrs		
Type of Semester	No. of Semesters		No. of weeks	
	Full Time	Part Time		Full Time
Long	8		8	
Short	4		8	
<b>11. Entry Requirement</b>		<ol style="list-style-type: none"> <li>1. Matriculation with minimum of B in Mathematics, Chemistry and Physics or Biology</li> <li>2. STPM with minimum of B in Mathematics, Chemistry and Physics</li> <li>3. Diploma in Civil Engineering with minimum CGPA of 2.70 from recognized institutions</li> </ol>		

**12. Programme Objectives**

- (i) Graduates are able to apply their knowledge and skills in the planning, analysis, design and supervision of works related to the civil engineering discipline.
- (ii) Graduates are technically competent in solving problems logically, analytically and creatively based on sound facts and ideas.
- (iii) Graduates possess leadership and professional qualities contributing towards the development of

"FKA" OBE-  
ASSESSMENT MATRIX

Measurement Tools	LO1	LO2	LO3	LO4	LO5	LO6	LO7	LO8	LO9	LO10	
Alumni survey	X	X	X	X	X	X	X	X	X	X	ID
Feedback from industrial board	X	X	X	X	X	X	X	X	X	X	ID
Employer/Industrial survey	X	X	X	X	X	X	X	X	X	X	ID
Exit Survey	X	X	X	X	X	X	X	X	X	X	D
Student Self Evaluation	X	X	X	X	X	X	X	X	X	X	D
Students Portfolio	X	X	X	X	X	X	X	X	X	X	D
Overall Examination Results	X	X	X								D
Final Year Project Assessment				X	X			X		X	D
Professional Practice (PAP)				X		X	X			X	D
Staff-Student Committee Input	X	X	X	X	X	X	X	X	X	X	ID
Staff Survey	X	X	X	X	X	X	X	X	X	X	ID
Student Survey	X	X	X	X	X	X	X	X	X	X	ID



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# At Course level

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FACULTY OF CIVIL ENGINEERING		Page : 1 of 5	
DESIGN OF STEEL AND TIMBER STRUCTURES SAM 4324		Revision : D Date of issue : 1 <sup>st</sup> June 2003 Last Amendment: 10 <sup>th</sup> November 2004 Edition: 1 Procedure No. : FKA/PG/NTS/SAM4324	
<b>PREREQUISITE:</b>	SAM 3223 – THEORY OF STRUCTURES		
<b>SEMESTER :</b>	SEMESTER 1 / SEMESTER 2 / SEMESTER 3		
<b>LECTURES HOURS:</b>	3 HOURS LECTURE 2 HOURS PRACTICAL		
<b>LECTURERS:</b>	<b>E-mail</b>	<b>Room number</b>	<b>Phone number</b>
1. Dr. A. Aziz Saim	azizsaim@fka.utm.my	C09-316	31684
2. PM Ir Dr Mahmood Md Tahir	mahmood@fka.utm.my	C08-231	31614
3. PM Dr Shahrin Mohammad	shahrin@fka.utm.my	148 Pej Akad	1503
4. Dr Mohamad Ismail	mohammad@fka.utm.my	M08 Pej KJ	1505
<b>SYNOPSIS</b>	<p>This is a core subject. It will expose the students to the analysis and design of steel and timber structural elements. For the steel design, the topics covered include the advantages and the general concepts of steel constructions, analysis and design of restrained and unrestrained beams, columns with axial load, columns with axial load and bending moment, trusses, bolt and weld connections, and elastic and plastic design of portal frames. For timber structures, the topics covered include the design of beams</p>		

Lecture Plan

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LEARNING OUTCOMES :	
1	Able to describe the steel and timber design concept
2	Ability to estimate design loadings and to analyse structural elements
3	Ability to use code of practise to design structural steel and timber elements.
4	Ability to prepare structural design report, drawing plan and structural element detailing
5	Ability to compare steel, timber and concrete design approach.
6	Ability to work in a team
7	Ability to apply professional practice and ethics

GENERIC SKILLS ADDRESSED	
1	Students are able to seek contemporary knowledge
2	Students are able to respond to changing situation
3	Ability to present information and express ideas clearly, effectively and confidently through written and oral modes

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WEEKLY SCHEDULE		
WEEK	LECTURE	TOPIC / CONTENT
1	1	<b>Introduction</b> Introduction to the design of steel and timber, their advantages and disadvantages.
	2	<b>Introduction to steel design</b> Types and material properties. Types of steel sections.
	3	The use of tables of section properties.
2	4	Local buckling and section classification.
	5	<b>Analysis and design of fully restrained beams.</b> General behaviour of beams, load distribution, Definition of restrained and unrestrained beams.
	6	Calculation of bending moment, shear force and deflection.
3	7	Bending moment and shear force capacity.
	8	End plate and bearing capacity of webs.
	9	Examples of restrained beam.
4	10	<b>Analysis and design of unrestrained beams.</b>
	11	Introduction, the effect of unrestrained condition, lateral torsional buckling, influencing factors.
	12	Moment resistance to lateral torsional buckling Example of design of unrestrained beams.
5	13	<b>Analysis and design of columns</b>
	14	Introduction, short and slender columns, behaviour of columns, effective length of columns
	15	Load distribution, compression resistance of columns Work example on design of column subjected to axial loads only.

**TEACHING METHODOLOGY :**

Basic Design philosophies and the use of code of practice will be demonstrated.

Students will be required to write reports and/or discussed and on-going or completed steel design project

Students are required to go through the given tutorials

Students will require to produce design project in group

**BASIC REFERENCES**

1. Shahrin, Aziz, Mohamad dan Redzuan, Reka bentuk Struktur Keluli, Dewan Bahasa dan Pustaka, 1994
2. Shahrin dan A. Karim , Structural Steelwork : Design to Limit State Theory (terjemahan) Unit Pencetakan Akademik, UTM, 1991
3. Mat Lazim Zakaria, Reka bentuk Struktur Kayu menurut MS 544, Dewan Bahasa dan Pustaka, 1989
4. British Standard Institution, UK, BS5950 Part 1, 1990 Structural Steelwork in building.
5. Steel Construction Institute, Steelwork Design Guide to BS 5950, Part 1, BS 5951.1 Section properties and Member Capacities, 2<sup>nd</sup> edition, ,1987
6. Dowling, P. J, Knowles, P. R Owens G. W. . Structural Steel Design, Butterworth, 1988
7. Morris, L. J, Plum, D. R Structural Steelwork Design to BS 5950, London, Scientific & Technical 1988.
8. Nethercot, D.A. Limit State Design of Structural Steelwork, Van Nostrand Reinhold(UK), 1986

**ASSESSMENT**

Test 1	15%
Test 2	15%
Project	70%




**EXAMPLE OF COURSE OUTCOMES MATRIX:  
SAM 4324 - DESIGN OF STEEL AND TIMBER STRUCTURES**


**MATRIX OF COURSE OUTCOMES SUBJECT : SAM 4324 (DESIGN OF STEEL AND TIMBER STRUCTURES)**


No	Course Outcomes (CO)	Programme Outcomes (PLO)										Delivery	Assessment	Key Performance Indicators/Index
		Acquire Knowledge	Use of Technique	Analyse, Interpret, develop design and conduct exp work	Problem Solving	Communication	Adaptability	Team Work	Life Long Learning	Self Efficacy	Ethics and Integrity			
		1	2	3	4	5	6	7	8	9	10			
1.	Able to describe the concept and philosophy of steel and timber design based on the relevant code of practice.	1										Lectures, CL, design practices, tutorials	Tests, Final Exam	Students are able to analyse, design and evaluate the member capacity of the structural element based on the standard codes of practice.
2.	Able to estimate the design loadings and to analyse structural elements correctly	1	1	1	1							Lectures, CL, design practices, tutorials	Tests, Final Exam, Project Submission	
3.	Able to use the code of practice to design structural steel and timber elements.	1	1	1	1	2		3				Lectures, CL, design practices, tutorials	Tests, Final Exam, Project Submission	80% achieving Grade C and above.
4.	Able to prepare structural design report, drawing plan and structural element detailing before week 15	1	1	1	1					3		Project work, CL	Project Submission	Reports are clear, correct and well presented. Drawings according to standards specifications. 100% passes.
5.	Able to work effectively in a team producing a design report within a stipulated timeframe				1		1			3		CL	Peer Assessment, Observation	No complaints from team members. 80% students achieved 80%.
6.	Able to apply professional practice and ethics within a given time frame								3	1		Project work, CL	Peer Assessment, Observation	No students barred from final exams. 80% coursework delivered on time. 90% attendance during each lectures.

**Key:**  
 Technical Skills: 1 = major contribution to outcome; 2 = moderate contribution to outcome; 3 = minor contribution to outcome




**Fakulti Kejuruteraan Awam**





# Implementation Stage

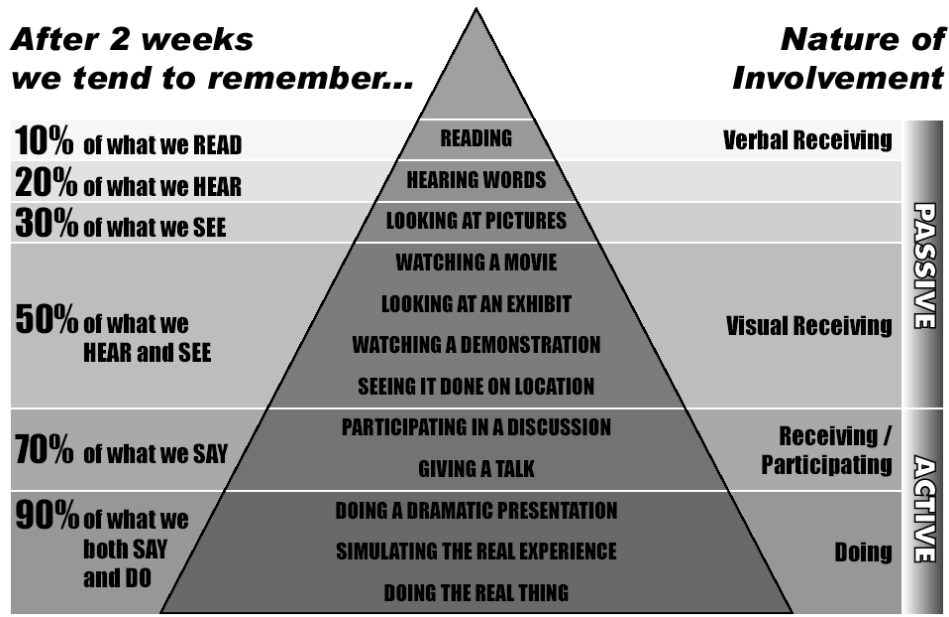


## Typical questions on Implementation stage

- How far has the planning been implemented?
- To what extent the course/subjects contributes to deliver the programme outcomes
- Availability of practicing professionals?
- How effective is the laboratory work in incorporating the generic skills
- How the generic outcomes are addressed/manifested in the teaching and learning processes?
- Does the tasks match the learning outcomes of the course?
- overload of students and staff?
- insufficient time for students to do the assignments?

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## Cone of Learning (Edgar Dale)





***PENERAPAN  
KENAHIRAN GENERIK  
DIKALANGAN PELAJAR  
MELALUI PENGAJARAN  
DAN PEMBELAJARAN***

**Effective Classroom Strategies**

- Democratic instructional approaches are superior to indoctrinational approaches for imparting generic skills to students





## Effective Classroom Strategies

- A key feature of classes that successfully teach generic skills is that instructors hold and communicate high expectations for the learning and behaviour of their students-whether or not the overall culture of the school holds high expectations for them



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## Problem Based Learning - PBL

- Instructors assume the role of facilitators and coaches rather than lecturers and order givers, requiring students to take much of the responsibility for their own learning



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## E-Learning UTM (http://elearning.utm.my)

**Main Menu**

- Site news

**Courses**

- Fakulti Alam Bina
- Fakulti Kejuruteraan Awam
- Fakulti Kejuruteraan Elektrik
- Fakulti Kejuruteraan Mekanikal
- Fakulti Kejuruteraan Kimia dan Kejuruteraan Sumber Asli
- Fakulti Sains
- Fakulti Kejuruteraan dan Sains Geoinformasi
- Fakulti Sains Komputer dan Sistem Maklumat
- Fakulti Pengurusan dan Pembangunan Sumber Manusia
- Fakulti Pendidikan
- Dewan Dewan-Debat

**Site news**

**Suggested Internet Browser**  
by Elearning Admin - Wednesday, 23 February 2005, 11:11 AM

E-learning System is best viewed with Mozilla Firefox

**E-learning Short Course For Students**  
by Elearning Admin - Monday, 17 January 2005, 11:46 AM

Venue : Dewan Komputer Pelajar CICT, Aras 3 ,D07  
Course Timetable :

Date	Time	Faculty
17 January 2005	11:00am-12:00pm	Open
18 January 2005	03:30pm-04:00pm	FKE

**Calendar**  
April 2005

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

**Search**

Search forums

## E-Learning UTM –Daftar Masuk

You are logged in as **ABIMYANA ADA BINTI AB KADIR -JAA00279** (Logout)

**Main Menu**

- Site news

**Courses**

- SAM604-PROJEK SARJANA MUDA (FINAL YEAR PROJECT)
- SAM5133-AMALAN & UNDANG-UNDANG PEMBINAAN
- SAM6913- PENGURUSAN ALAM SEKITAR (ENVIRONMENT MANAGEMENT)
- SAM5733- KEJURUTERAAN ASAS (FOUNDATION ENGINEERING)
- SAM5413- SISTEM MAKLUMAT KEJ. AWAM (INFORMATION SYSTEM IN CIVIL ENGINEERING)

**Site news**

**Suggested Internet Browser**  
by Elearning Admin - Wednesday, 23 February 2005, 11:11 AM

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17	18	19	20	21	22	23
24	25	26	27	28	29	30

**Search**

Search forums

*Pelajar sudah daftar masuk*

*Senarai Matapelajaran yang diambil oleh pelajar*

### MAKLUMAT UMUM (Contoh : Matapelajaran SAM 5413)

-Pelajar Boleh mendapatkan maklumat pensyarah-pensyarah yang mengajar matapelajaran berkenaan

**lecturers**

**MOHD ZAMRI BIN RAMLI**  
Email address: mohdzamr@utm.my  
Location: Skudai, Johor, Malaysia  
Last access: Wednesday, 20 April 2005, 01:50 PM (38 mins 9 secs) Full profile...

**BAHARIN BIN MESIR**  
Email address: baharin@k-a.utm.my  
Location: JB, Malaysia  
Last access: Monday, 28 February 2005, 03:42 PM (60 days 22 hours) Full profile...

**BALQIS BT. OMAR**  
Email address: balqis@utm.my  
Location: Kangkar Pulai, Johor Bahru, Malaysia  
Last access: Never Full profile...

### MAKLUMAT UMUM

-Pelajar juga boleh mendapatkan maklumat kawan-kawan lain yang mengambil matapelajaran yang sama

**254 students**

First name : All A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
Surname : All A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Page: 1 2 3 4 5 6 7 8 9 10 11 12 13 (Next)

First name / Surname	City/town	Country	Last access ↓
MARIYANA AIDA BINTI AB KADIR	PASIR PUTEH	Malaysia	now
NORLIZA BINTI OTHMAN	PETALING JAYA	Malaysia	4 days 23 hours
MOHAMAD IZWAN BIN BIJANG	MELAKA	Malaysia	10 days
SEENI ABBAS ALI B ILHAN MOHADEEN	IPOH	Malaysia	13 days
SITI KAMARIAH BINTI MD SAAT	BATU PAHAT	Malaysia	18 days
MUHAMMAD ZULHAIMI B ROMLI	JITRA	Malaysia	21 days 4 hours
NASLIN BINTI JUSOH	SEREMBAN	Malaysia	22 days 23 hours
SHEELA CHARLENE A/P NADISON	KUCHING	Malaysia	24 days 4 hours
LAI TZE KHAI	SUNGAI PETANI	Malaysia	24 days 21 hours
TAN SI LEAN	PARIT BUNTAR	Malaysia	25 days 4 hours
FABIAN ALFRED	PETALING JAYA	Malaysia	25 days 4 hours

## MAKLUMAT ASAS

-Maklumat asas matapelajaran yang dipilih

The screenshot shows a Moodle course page. On the left, there is a list of courses including 'SAMS064-PROJEK SARJANA MUDA (FINAL YEAR PROJECT)', 'SAMS133-AMALAN & UNDANG-UNDANG PEMBINAAN', 'SAMS913- PENGURUSAN ALAM SEKITAR (ENVIRONMENT MANAGEMENT)', 'SAMS733- KEJURUTERAAN ASAS (FOUNDATION ENGINEERING)', and 'SAMS413-SISTEM MAKLUMAT KEJ. AWAM (INFORMATION SYSTEM IN CIVIL ENGINEERING)'. The main content area displays three weeks of topics:

- Week 1 (22 November - 28 November):** Introduction to the subject, Information Management. Topics include 'The role of information in the construction' and 'Why bother managing information'. Includes 'Assignment 1' and 'Week 1 Presentation'.
- Week 2 (29 November - 5 December):** Project co-ordination, the needs and benefits; Project information and IT; Managing the flow of information; The role of IT for managing the information. Includes 'Week 2 Presentation'.
- Week 3 (6 December - 12 December):** Information Modelling Approach; Activity/process modelling; Data modelling; Activity/Process Modelling. Topics include 'Introduction to the system, process & analyst', 'The role of systems analyst', and 'The quality and components of structured analysis'. Includes 'Week 3 Presentation'.

A callout box on the right contains the following text:


**Senarai Tajuk mengikut minggu sepanjang kuliah**

**Download Nota, Pembentangan & Fail-fail lain mengikut minggu**


**Pengumuman – What to do, Tugas & Projek mengikut minggu**

## OTHER APPROACHES

- Projects on Professional Practices
- Seminars
- Engineering ethics
- Laboratory works




Fakulti Kejuruteraan Awam



UNIVERSITI TEKNOLOGI MALAYSIA

# *Assesment Stage*



Universiti  
*Teknologi Malaysia*  
Towards WorldClass University 2010

***'If you want to change student learning then change the methods of assesment'*** (Brown et al 1997, p 9).

If one changes the method of teaching, but keeps the assessment unchanged, one is very likely to fail. To get the assessment right is vitally important.

Assesment must be in line with the desired learning outcomes.

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A crucial aspect of a successful teaching and learning system is student assessment

For many students... Bad teaching is painfully bearable, Bad assessment is unavoidable....dosa tau!!

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## Typical questions

- How does the institution accomplish the PObj and POs?
- How is the review and update done?
- How does the institution know that the PObj and POs are met?

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### Some weaknesses

- the tasks do not match the stated outcomes
- the criteria do not match the tasks or outcome
- the criteria are not known to students
- students do not understand the criteria
- overuse of one mode of assessment such as written examinations, essays
- too many assignments with the same deadline
- insufficient time for staff to mark the assignments or examinations
- absence of well defined criteria so consistency is difficult to achieve
- inadequate or superficial feedback provided to students
- wide variations in marking between modules and assessors
- variations in assessment demands of different modules

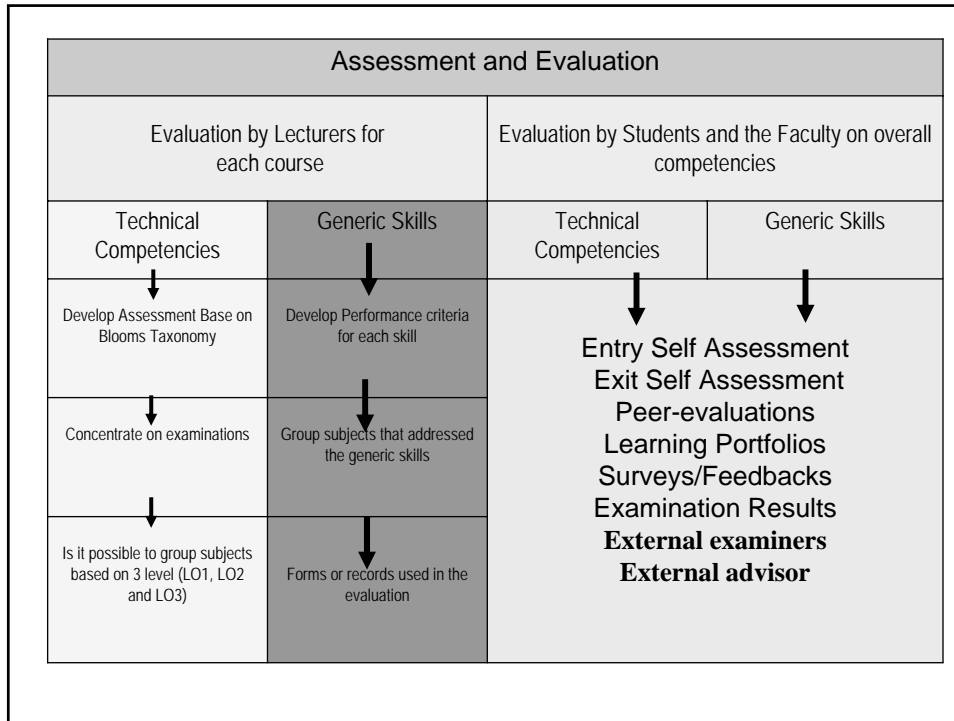
109



### Six serious flaws in current assessment practice:

- criteria used between subjects, within subjects, between institutions and within institutions for awarding of degree class not consistent
- frames of reference which lecturers bring to assessment are systematically biased
- lecturers have little idea of how others set and mark assignments and are usually untrained in assessment
- few lecturers understand the technical design factors which can affect assessment outcomes
- New forms of assessment , eg continuous assessment, are as prone to distortion as formal examinations
- the approach to assessment remains conservative through ignorance.

Atkins et al (1993), p.26 - 27 110

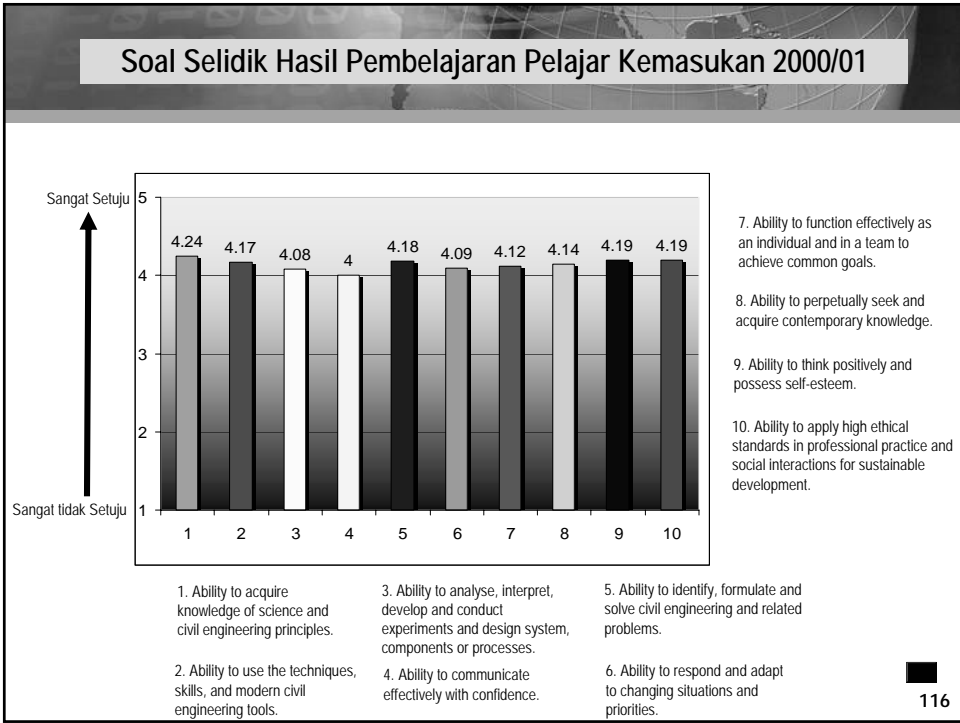
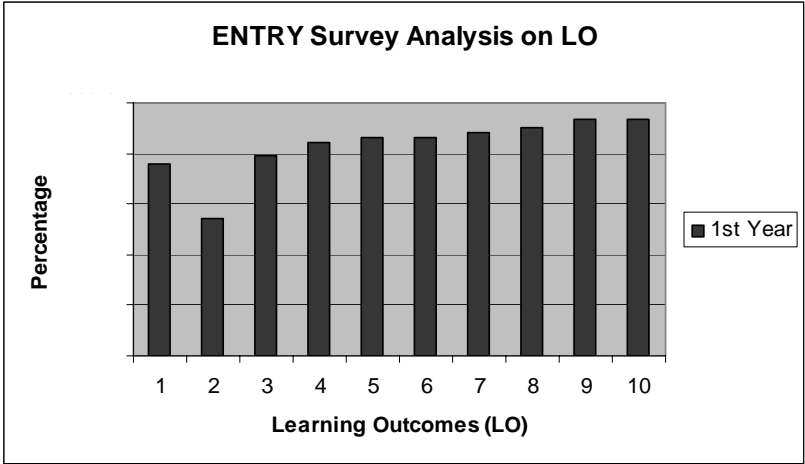


**LAWATAN PEMERIKSA LUAR FAKULTI  
DR C.T.MORLEY, CAMBRIDGE UNIV.**

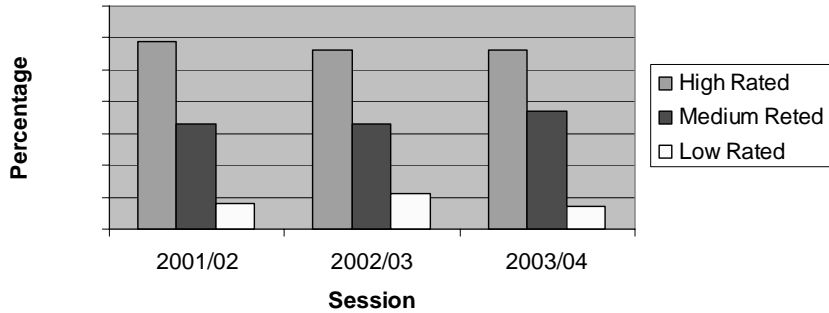






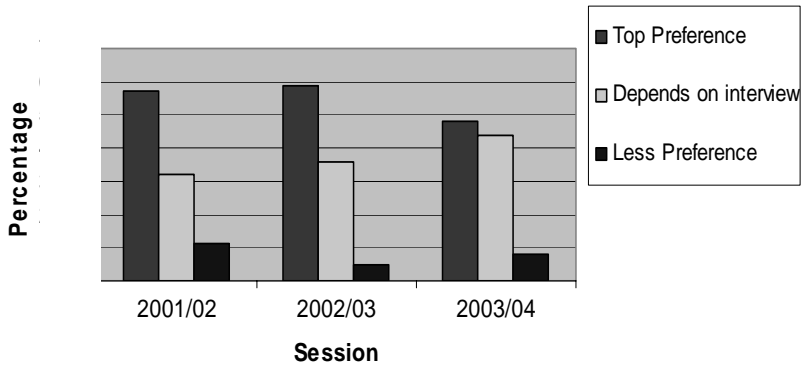


**Employers perception on the performance of FKA graduates**



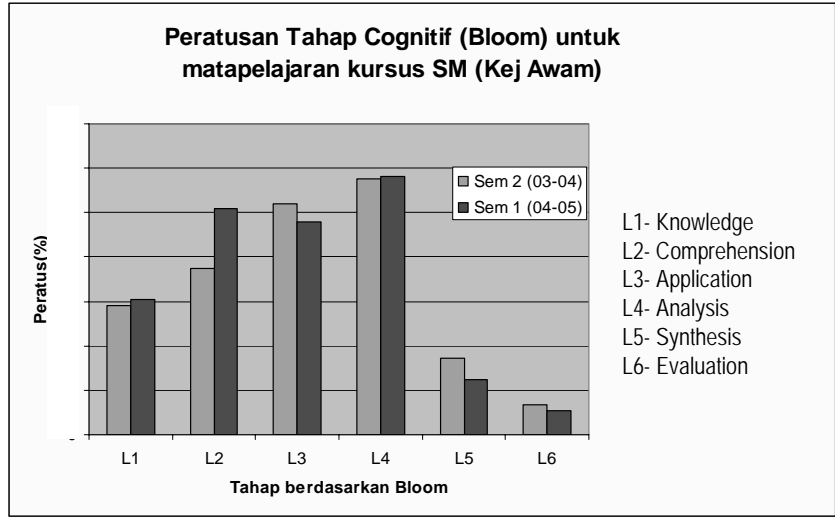
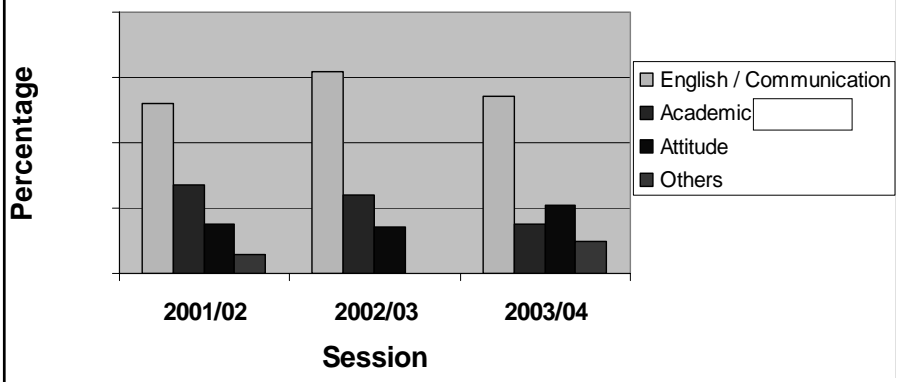
117

**Readiness to employ FKA graduates**



118

Areas of improvement regarding FKA graduate



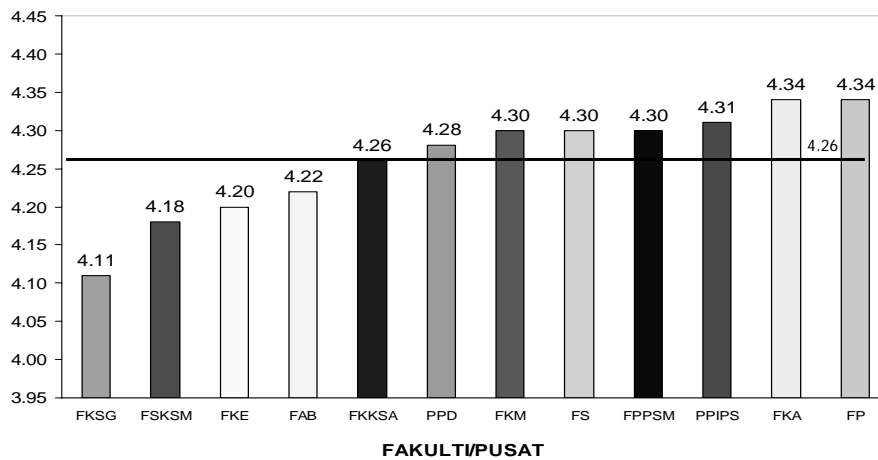
## MIN SKOR FAKUTLI

	min fka	min universiti
<b>sem 2-2002/03</b>	<b>4.35</b>	<b>4.28</b>
<b>sem 1-2003/04</b>	<b>4.32</b>	<b>4.3</b>
<b>sem 2-2003/04</b>	<b>4.35</b>	<b>4.3</b>
<b>sem 1-2004/05</b>	<b>4.37</b>	<b>4.3</b>

Skor maksimum = 5

121

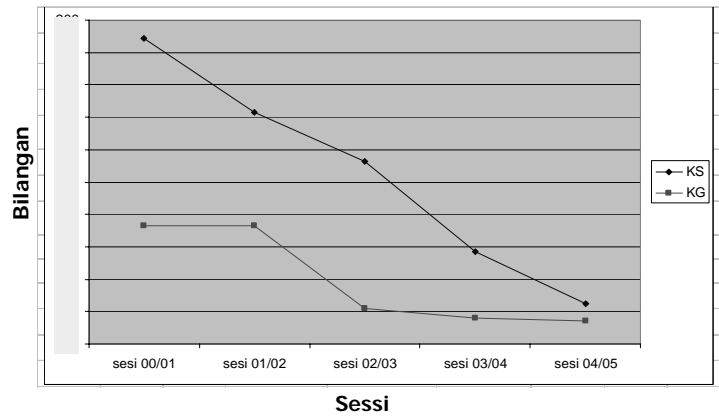
**CARTA BAR MIN PENILAIAN PENGAJARAN PENSYARAH  
SETIAP FAKULTI SEMESTER 1**



122

**Bilangan pelajar KS (kedudukan bersyarat – CPA 1.-1.99) dan KG (kedudukan gagal – ditamatkan pengajian) mengikut sesi pengajian**

	sesi 00/01	sesi 01/02	sesi 02/03	sesi 03/04	sesi 04/05
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