CHALLENGES AND **OPPORTUNITIES** FOR **MEASURING LEARNING OUTCOMES** OF HIGHER EDUCATION IN ASIA-PACIFIC

AGENDA

- Overview
- Some pressing issues
- Challenges and opportunities
- Why such constructive alignment imperative to assess learning outcomes
- Moving forward
- Concluding remarks
- Some useful sources of information

OVERVIEW

- Learning outcomes – one **important descriptor** of national qualifications frameworks (NQFs)
- As of 2015, 140 countries have developed NQFs, with 6 regional frameworks (UNESCO, 2015)
- Some countries have *comprehensive frameworks* – basic education, technical vocational education and training, labour based and higher education), whilst others are limited in scope and/or with diverse ownership
- Some countries have *sectorial* or *institutional learning outcomes* – Canada, China, Germany, Russia, U.S. (Coates, 2014) and Malaysia; *graduate attributes* in Australia
- **Diverse practices in higher education compared to schools** – more autonomy with different types of ownership, disciplines, modes of delivery, accountability to wider group of stakeholders
- **Several key issues concerning learning outcomes** to be addressed, driven either by long term trends of emerging concerns

SOME PRESSING ISSUES

- **Mobility - comparability** and **recognition** of qualifications
- Linking learning outcomes to the **world of work** and **holistic development of human beings**
- Emergence of:
  - **Private higher education institutions; cross-border higher education** (competition and market being the key driver)
  - **Subject-specific accreditors** beyond national agencies (too many cooks in the kitchen)
  - **discipline/sectorial-based** programme standards/learning outcomes
  - **multiple modes of learning** – online, ODL, blended, MOOCs, nano-qualifications, badges, OERs, work-based learning (2u2i) etc.
  - **Lifelong learning** - pursuing qualifications through **recognition of prior learning**
  - Shifting of **accountability** – from governments to EQAAs; from EQAAs to IQAAs; from academics to industry and vice-versa

SOME PRESSING ISSUES

- **Measurement of achievement** of learning outcomes vs graduation output
  - Have you heard of students passing but **DID NOT** achieve all the stated learning outcomes?
  - Many people do not have a comprehensive understanding of what 'learning outcomes' is, let alone 'the outcome-based education' approach!
  - I am a Professor top in my field, and I know best how to measure learning outcomes of my students. Are you telling me my approach is wrong? Are you teaching me what to do instead?

CHALLENGES & OPPORTUNITIES

Regional-level

- Harmonisation through a common reference point **(regional reference framework for Asia Pacific countries)**, one which celebrates diversities, market-based and innovation-enabled? Unifying tertiary, TVET and professional programmes? Our lifetime?
- AP-'NIC'? AP-CTS? AP-Passport?
- Coordinating the development of **sectorial- or discipline-based** learning outcomes? Education? Entrepreneurship? How about other disciplines?
- Coordinating the development of **measurement toolkit** for learning outcomes, i.e. OECD's AHELO?

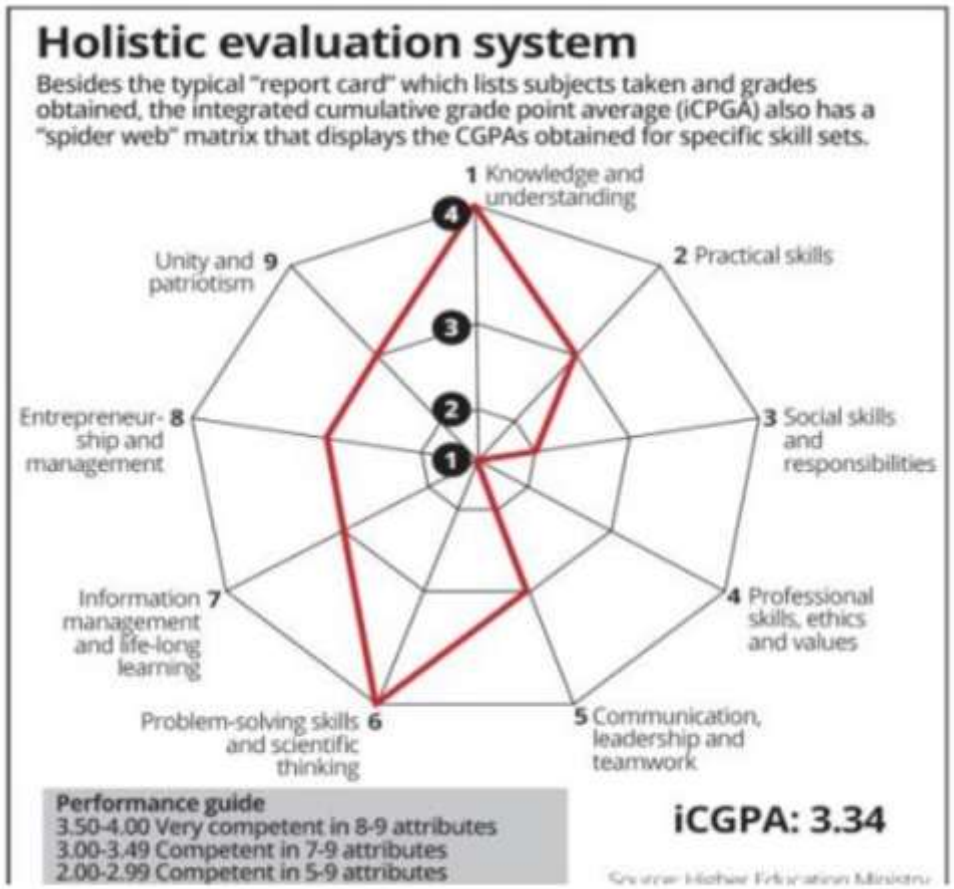
CHALLENGES & OPPORTUNITIES

Country-level

- Development of **sectorial- or discipline-based programme standards/learning outcomes**?
- Development of standards on **recognition of prior learning** and **modes of delivery**? ODL? MOOCs?
- **Feasibility of assessment** such as the use of criterion-based assessments as performance indicators to measure achievement of learning outcomes, i.e. iCGPA?
- **Comparability of learning outcomes based on level of programmes** within and across institutions?
- **Capacity building**, i.e. vocabulary used? Strengthening EQAA?
- **Funding**?
- **Research & development** to strengthen EQAAs and identify best practices?

iCGPA

(Integrated Cummulative Grade Point Average)



iCGPA

(Integrated Cummulative Grade Point Average)

STATEMENT OF STUDENT ASSESSMENT RESULTS

Note: 1. The student assessment results are governed by the approval from the Senate.
2. In the event of any amendments made to this statement, the Dean's office has to be noticed within fifteen (15) days after release of the student assessment results.

Name: ARIF DANIAL SHUKRAN
Student Number: A123456
Identity Card Number: 950101-10-3455
Academic Year: 2015/2016
Faculty: FACULTY OF INFORMATION TECHNOLOGY
Programme: BACHELOR OF COMPUTER SCIENCE (HONS.)
Semester: 1

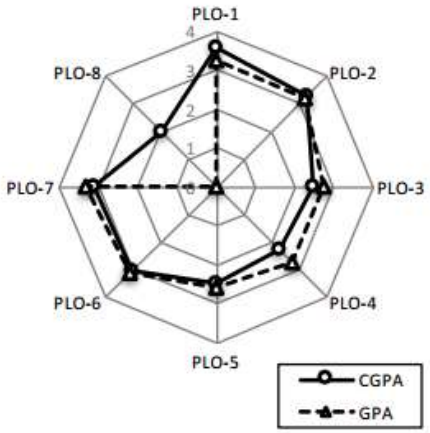
NO.	CODE	NAME OF COURSE	CREDIT	GRADE*	GRADE POINT	RESULTS
1	LMA2173	ETHNIC RELATIONS	3	B	3.00	PASS
2	LMB1022	WORKPLACE COMMUNICATION	2	B-	2.67	PASS
3	LMC1621	CO-CURRICULUM 1	1	C+	2.33	PASS
4	LMC2811	CO-CURRICULUM 2	1	B-	2.67	PASS
5	LMD2253	EMOTION MANAGEMENT	3	B	3.00	PASS
6	TTU2983	ADVANCED DATABASES	3	B+	3.33	PASS
7	TTK2933	OBJECT-ORIENTED PROGRAMMING	3	A-	3.67	PASS
8	TTC2013	HUMAN AND MACHINE RELATIONS	3	B	3.00	PASS

	TOTAL GRADE POINT	TOTAL CREDIT
CURRENT SEMESTER	58.34	19
SEMESTER IN TOTAL	189.70	58
STUDENT ASSESSMENT RESULTS	PASS	

OVERALL			PLO-1	PLO-2	PLO-3	PLO-4	PLO-5	PLO-6	PLO-7	PLO-8
iGPA	3.07	GPA	3.25	3.21	2.77	2.73	2.57	3.14	3.33	-
iCGPA	3.11	CGPA	3.57	3.30	2.48	2.31	2.45	3.04	3.13	2.00

PROGRAMME LEARNING OUTCOMES (PLO)		MQF LOD*
PLO-1	Apply fundamental knowledge based on facts, concepts, principles and theories related to Computer Science.	MQF1
PLO-2	Demonstrate psychomotor and practical skills in solving Computer Science problems.	MQF2
PLO-3	Demonstrate interpersonal skills and social responsibility in applying principles and theories depending on situations.	MQF3
PLO-4	Demonstrate ethics and professionalism in practice that requires compliance to ethics principle and legal aspects.	MQF4
PLO-5	Demonstrate ability to communicate effective and leadership skill among co-workers, clients, employers and general public.	MQF5
PLO-6	Demonstrate analytical and critical thinking skills and use appropriate techniques in solving Computer Science problems.	MQF6
PLO-7	Possess awareness on the importance of lifelong learning and information management skills for academic and career development.	MQF7
PLO-8	Demonstrate management skills and entrepreneurial characteristics in broad perspectives within real business environment.	MQF8

STUDENT'S PLO ATTAINMENT



*Malaysian Qualifications Framework Learning Outcome Domains (MQF, clause 15, page 4)

SAMPLE

CHALLENGES & OPPORTUNITIES

Institutional-level

- Appoint **Chief Learning Architect**?
- Development of **graduate attributes** and/or **institutional-based learning outcomes**?
- **Comparability of level of programmes** across faculties?
- Aligning institutional-, discipline-, programme- and subject-based learning outcomes to instructional and assessment strategies via **constructive alignment**?
- **Measurement of attainment** of programme/discipline-based learning outcomes?
- Policy on **faculty evaluation and incentives**? Central services on **training and development** in instructional, assessment strategies and general education skills and competencies? ICT?
- **Adequate financial/support facilities**, including resources, co-curriculum, student support services, teaching staff?
- **Robust IQA mechanisms**, including benchmarking, measurement, documentation and reporting?

CHALLENGES & OPPORTUNITIES

Discipline-specific level

- Adherence to **discipline-based standards**?
- **Continuous quality improvements** through periodic programme evaluation and auditing?
  - What do we do with **assessment results**?
- **Identification of champions/subject matter experts** and ongoing conversation between them and other stakeholders?
- **Shared vision** and **process ownership**?
- Development of **discipline-based assessments**, i.e. Australian Medical Assessment Collaboration?

WHY IS SUCH ALIGNMENT IMPERATIVE?

Students

- **Clearer information** about expectations in terms of learning outcomes when being told from the offset
- **Improved learning experiences** throughout journey – industry/internationally competitive
- **Greater engagement in studies** because of explicit identification of both cognitive and affective learning outcomes they are expected to achieve
- Receive **statements of attainment** that would state in greater detail what they know and can do instead of just list of courses and grades

WHY IS SUCH ALIGNMENT IMPERATIVE?

Teaching Staff and Supervisors

- **Continual improvement of instructional approaches** through better clarity of the learning outcomes to be achieved
- **Better alignment** with the curriculum and assessment methods used
- **Greater sense of engagement** due to the need to work with colleagues across disciplines as well as their own
- **Continuous monitoring and assisting students** to become more competitive in their achievements
- **Assessment of prospective students' capabilities** for postgraduate programmes by research mode
- **Match research topics** based on students' competencies

WHY IS SUCH ALIGNMENT IMPERATIVE?

Educational Institutions and Programme Management

- **Assessment of prospective students' competencies** at entry level
- Evaluation to consider **potential credit transfers or exemptions**
- **Continual monitoring** of the effectiveness of institutional ecosystem's contributions **towards students' holistic development**
- Holistic improvement of institutional ecosystem in developing **holistic students and employable graduates**
- **Continual monitoring** on the effectiveness and impact of curriculum design and delivery
- **Intervention programme** for students to achieve optimal performance

WHY IS SUCH ALIGNMENT IMPERATIVE?

Employers

- **Holistic screening and assessment** for job applications
- **Compare knowledge and skills** of graduates from a range of institutions more easily
- **Allow further development of competencies** necessary at the workplace

WHY IS SUCH ALIGNMENT IMPERATIVE?

Government and Funding Agencies

- Ensure graduates meet the **nation's educational aspirations**
- Ensure **institutional accountability** for funding of teaching and learning outcomes
- **Monitor performance** of sponsored students
- Funding on **outcomes** rather than input or output
- **Incentivise institutions** to improve their quality of teaching and learning
- Information for **future design of policies** and **plans of actions**

MOVING FORWARD

- **Build trust** for **information and cooperation**
- **Overcoming resistance** to century-old practices and belief on the autonomous nature of academics (academic freedom)
- **Conformity and reduced diversity of assessment forms** – in contrast to innovation – use of signature assessments plus other tasks to provoke soft skills
- A small number of grading and broad statements of attainment linked to institutional performance – **gaming** the system
- **Investment costs**, taking into account standards of multiple accreditors
- **Ranking of institutions** – competition-driven; ranking and accreditation - two roads to the same goal?
- Behaviour and learning attitudes of **millennials**, class sizes

CONCLUDING REMARKS

- **Sustaining** the outcome-based practice/processes – industry
  - Keep learning outcomes **simple, sustainable and sufficient**
  - Changing from **information to improvement**
- Learning outcomes are only meaningful if they are measurable which provides the means to develop a comprehensive assessment of **academic quality, institutional integrity and effectiveness**, a path to continuous improvement
- Learning outcomes can **COMBAT academic corruption** in some ways, i.e. degree mills
- **Educating and getting buy-in** from different stakeholders are imperative to meet the Education 2030 Framework for Action Target 4.3, 'by 2030, ensure equal access for all women and men for affordable and **quality** technical, vocational and tertiary education, including university'.

SOURCES OF USEFUL INFORMATION

- Assessment Transparency Model
- Assessment of Higher Education Learning Outcomes (AHELO)
- Australian Medical Assessment Collaboration
- Degree Qualifications Profile
- Higher Education Quality Council of Ontario
- iCGPA, Malaysian Ministry of Higher Education
- Liberal Education and America's Promise (LEAP)
- Malaysian Qualifications Agency's Programme Standards
- OBE – Assessing and Assuring Graduate Learning Outcomes (AAGLO)
- Tuning process
- Valid Assessment of Learning in Undergraduate Education (VALUE) by the American Association of Colleges and Universities

ANY QUESTION?

THANK YOU

- *"Would you tell me, please, which way I ought to go from here?" "That depends a good deal on where you want to get to," said the Cat. "I don't much care where –" said Alice. "Then it doesn't matter which way you go," said the Cat. "– so long as I get somewhere," Alice added as an explanation. "Oh, you're sure to do that," said the Cat, "if you only walk long enough." ~*

Lewis Carroll's 1865 novel, Alice's Adventures in Wonderland