HOW DO YOU ASSESS WHETHER LEARNING OUTCOMES ARE ALIGNED TO THE NQF?

Dr Linda Meyer

SAPHE

The Evolution of Education

1970 Calculate the surface area of the object.

1985 Calculate the surface area of the rectangle.

2000 Calculate the surface area of the rectangle, multiplying the length by the width.

2010 Choose the correct answer.
What is the surface area of the rectangle?
[   ] 4000
[   ] 600
[   ] 800000

2015 Choose the correct answer.
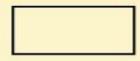What is the surface area of the rectangle?
[   ] Michael Jackson
[   ] Canada
[   ] 600
[   ] Breakfast

2018 Color the rectangle with the color you prefer.

edugog.com

After healthcare, the market for global education is the largest in the world valued at US$6.3 trillion (Global Silicon Valley; 2018).

"65% of children entering primary school today will ultimately end up working in completely new job types that don't yet exist" The Future of Jobs Report; 2016

"The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn".
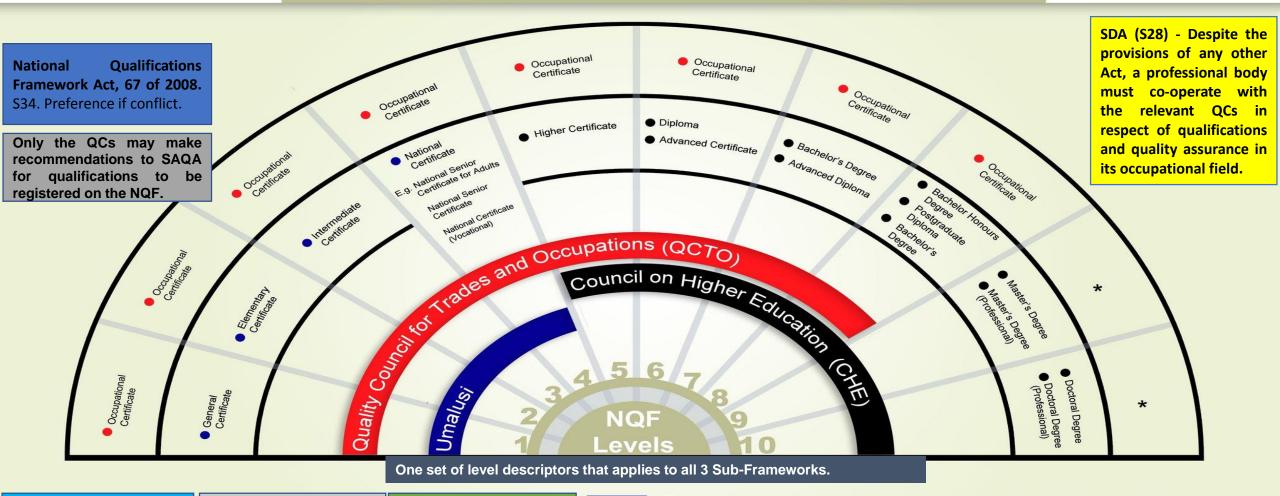Alvin Toffler - Future Shock; 1970

higher education & training
Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

SAQA
SOUTH AFRICAN QUALIFICATIONS AUTHORITY

National Qualifications Framework Act, 67 of 2008. S34. Preference if conflict.

Only the QCs may make recommendations to SAQA for qualifications to be registered on the NQF.

SDA (S28) - Despite the provisions of any other Act, a professional body must co-operate with the relevant QCs in respect of qualifications and quality assurance in its occupational field.

Occupational Certificate

Occupational Certificate

Occupational Certificate

Occupational Certificate

Occupational Certificate

Occupational Certificate

Occupational Certificate

Occupational Certificate

Occupational Certificate

Higher Certificate

Diploma
Advanced Certificate

National Certificate
E.g. National Senior Certificate for Adults
National Senior Certificate
National Certificate (Vocational)

Intermediate Certificate

Bachelor's Degree
Advanced Diploma

Bachelor Honours Degree
Postgraduate Diploma
Bachelor's Degree

Elementary Certificate

Master's Degree
Master's Degree (Professional)

General Certificate

Doctoral Degree
Doctoral Degree (Professional)

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*

Quality Council for Trades and Occupations (QCTO)

Council on Higher Education (CHE)

Umalusi

NQF Levels
1 2 3 4 5 6 7 8 9 10

One set of level descriptors that applies to all 3 Sub-Frameworks.

Higher Education, contemplated in the Higher Education Act; 101 of 1997, as amended, / Higher Education Amendment Act 9 of 2016 - QC CHE.

Trades and Occupations, contemplated in the Skills Development Act – QC QCTO.

General and Further Education and Training, contemplated in the GENFETQA Act; - QC Umalusi.

UMALUSI — Umalusi is responsible for the General And Further Education And Training Qualifications Sub-Framework on NQF Levels 1 - 4

CHE — Council on Higher Education is responsible for the Higher Education Sub-Framework on NQF Levels 5 - 10

QCTO — Quality Council for Trades and Occupations is responsible for the Occupational Qualifications Sub-Framework on NQF Levels 1 - 8

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NQF SUB - FRAMEWORKS

- The QC makes the recommendation to SAQA to register a qualification on the NQF.

- NQF Act, 2008 - S6. Statement of learning (level descriptor).

- The NQF is organised as a series of levels of learning achievement, arranged in ascending order from 1 to 10.

- (3) A level descriptor, referred to in subsection (2), provides a broad indication of learning achievements or outcomes that are appropriate to a qualification at that level.

HEQSF:

- HEIs develop their own qualifications.
- HEI's consult relevant stakeholders, and then seek CHE accreditation.
- The CHE recommends registration of the qualification to SAQA.
- Universities / PHEIs awards.
- All qualifications must be aligned to the HEQSF.

OQSF:

- The QCTO establishes a Qualifications Development Committee (representatives for the sector) develops the qualification.
- The QCTO recommends registration of the qualification to SAQA.
- After registration of the qualification by SAQA, providers apply for QCTO accreditation to offer it.
- Occupational qualifications and part-qualifications are awarded by the QCTO

GFETQSF:

- Qualifications are developed by a committee established by Umalusi.
- Umalusi recommends registration of the qualification to SAQA.
- After registration of the qualification by SAQA.
- Public institutions may offer it; Private institutions must apply for Umalusi accreditation to offer it.

Bologna Follow-Up Group (BFUG)'

- **A Report by the Structural Reforms Working Group to the Bologna Follow-Up Group (BFUG)' - *report considering 47 countries in 2014 –* highlights:**

a. The critical role of learning outcomes and capacity improvement required in HEI's.

b. NQF's are essential for 'fair recognition' - NQF must be used by HEIs in qualifications and recognition.

c. Appeals for common transparency infrastructure, including subject specific learning outcomes.

d. Calls for a common understanding of LO in relation to knowledge , general competence, and level.

e. Centres the curriculum expressed in terms of LO and aligned to NQF at the centre of educational reform.

Definitions & Context of LO's

Learning Outcomes are defined as: 'the contextually demonstrated end products of specific learning processes which **include knowledge, skills and values'** (DHET; 2017).

'**Learning outcome** are something that students **can do now** that **they could not do previously** … a change in people as a result of a learning experience' (Watson ;2002:208).

Learning outcomes (i.e. what learners **know, understand and can do** after a learning experience). (SAQA; 2017).

WIL is a real requirement (contrary to popular belief). We have Moral and Societal obligations – *Educate for Employment and Entrepreneurship.*

Learning outcomes should emphasize the **application** and **integration of knowledge**. Instead of focusing on coverage of material, learning outcomes articulate how students will be able to **employ the material, both in the context of the class and more br**oadly (Battersby; 1999).

Learning outcomes refer to **observable and measura**ble: (Spade; 1994) **KSA**
1. **Skill**s - by the time the course is completed.
2. **Knowledg**e - by the time the course is completed.
3. **Attitudes** - opinions will be about the subject matter of the course by the time it is complete

Learning outcomes are clear statements of what a learner can be **expected to know, understand and/or do as a result of a learning experience**. Learning outcomes provide a clear **statement of achievement.**

Taxonomies & Alignment

- **Taxonomies** (or classification systems) identify the type of **learning outcomes achieved at each level** within an NQF i.e. **'complexity of knowledge'**, **'degree of application'** and **'level of autonomy.'** (Coles & Bjørnåvold 2010).

- **Alignment** is the construction between learning outcomes, learning activities and assessment. An aligned programme **confirms that your learning outcomes**, **learning activities/assignments and assessments** match up so students learn what you intend, and you accurately assess what students are learning.

- When **learning activities relate directly to learning outcomes and assessments accurately measure what students are learning, it is easier to hit your targets**. If outcomes, activities and assessments are not in alignment: (University of Colorado; 2007)
    - ❏the course may be fragmented and ineffective
    - ❏students receive mixed messages about what they should learn
    - ❏students spend time on activities that do not lead to intended goals
    - ❏you may overestimate or underestimate the effectiveness of instruction

THE NQF & Learning Outcomes
Nested learning / aka stratified approach (Dr M - CHE)

- **A registered national qualification** consists of a **planned combination of learning outcomes** which has a defined purpose or purposes, intended to provide qualifying learners with **applied competence** and a basis for further learning and which has been assessed in terms of **exit level outcomes**, registered on the NQF and certified and **awarded by a recognised body** (SAQA, 2017).

- The South African NQF uses a **_nested learning outcomes approach_** (four layers) for qualifications design and standards development

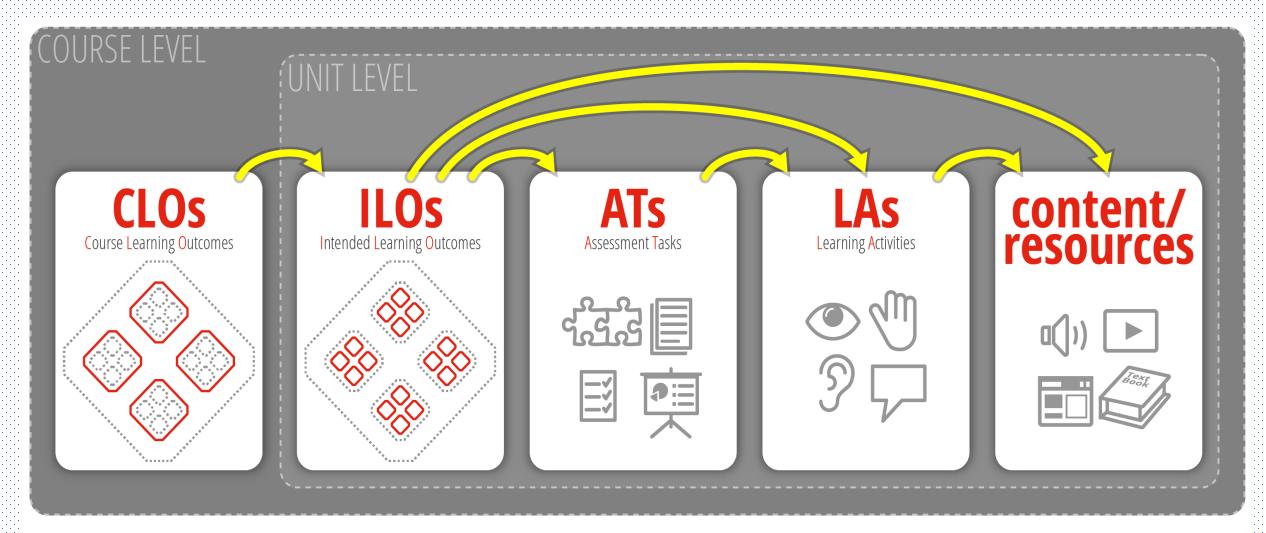| First layer	Generic learning outcomes	Level descriptors
Second layer	Specific learning outcomes	Qualification type.
Third layer	A Designator describes a generic field of study	As stated in the qualification nomenclature – (a system for giving names to things within a profession or field).
Fourth layer	Qualifier	Qualification specialisation.

The NQF & Learning Outcomes

- NQF qualifications are framed in terms of ***Exit Level Outcomes (ELOs)*** and their **Associated Assessment Criteria (AACs).** Modules/subjects in NQF qualifications have learning outcomes.

- The **level descriptors provide** the **generic outcomes** and the qualification descriptors describe the specific outcomes.

- The LO approach is agreed in **all NQF Sub-Frameworks**: HEQSF, OQSF and GFETQSF.

- The LO approach is being used for all qualifications in all Sub-Frameworks.

- The LOs of qualifications take account of ***societal and labour market needs.***

- LO's must address **content, skills, and long-term attitudes or values.**

- LO's are **fundamental for curriculum development** and must outline central and essential elements of a a learning programme.

The NQF & Learning Outcomes

❑ **The level descriptors** give an indication of the **general cognitive competencies** that should be developed by all qualifications **at all levels** and, therefore, give broad guidance for the development of **Exit Level Outcomes** (ELOs), **Associated Assessment Criteri**a (AACs), **curriculum content**, _Learning Outcomes (LOs)_ and **assessment** for qualifications at each level.

❑ The positioning of two **or more qualifications on the same NQF** level indicates that the qualifications **are broadly comparable in terms of the cognitive level** of the ELOs of the qualification and the generic cognitive competencies developed.

❑ The **qualification descriptors** provide more detailed information on **the purpose and nature of the qualification**. (SAQA; 2018:27).

❑ *By the time a qualification gets registered – certain LO's are outdated.*

Constructive Alignment

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Aligning Outcomes :

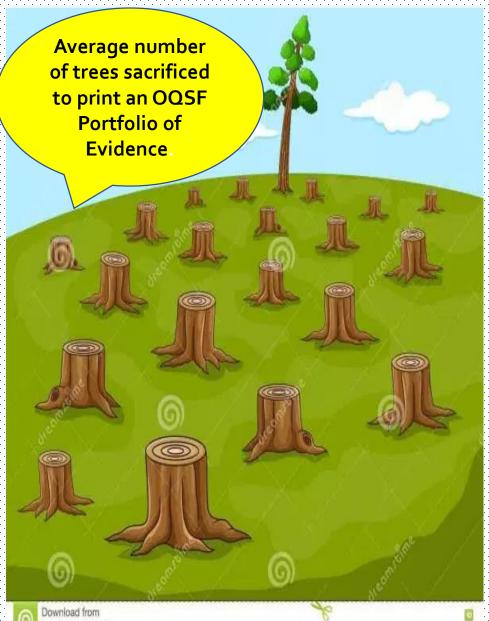|		
Programme-level Learning Outcomes	**Curriculum Map**	**Course-level Learning Outcomes**
Course-level Learning Outcomes	**Inspiration from Bloom's Taxonomy**	**Unit/Chapter Learning Outcomes**
Module Learning Outcomes	**Learning Activities**	**Assess and collect data.**

University of Colorado-The Center for Faculty Development 2007

The NQF & Learning Outcomes

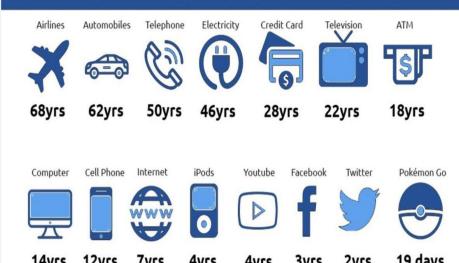Average number of trees sacrificed to print an OQSF Portfolio of Evidence.

- LO's are comparative reference point that shape assessments. The integration of roles, actions, skills, behaviours, etc. as specified in the learning outcomes.

- There is a **complex relationship** between sub-frameworks, descriptors and LO's. **Articulation is problematic – requires integration and coherency.**

- **Qualification frameworks play a vital role** in assuring linkage between programme objectives and course ILOs, as they assure that skills permeate the programme structure and skills are developed progressively year-on-year (Ulicna *et al.*;2011).

- The NQF also imposed a **new way of devising learning programmes based on outcomes-based education** within a demand-led stakeholder-based training and education system (Bester & Scholtz; 2012).

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The NQF & Learning Outcomes - HE

- Detailed descriptions of each of the qualifications in the HEQSF, including the permitted exceptions, can be found in *The Higher Education Qualifications Sub-Framework* published by the CHE in 2013.

- **The HEQSF qualification types are mapped according to NQF levels 5 to 10 and are described in terms of:**

  - Learning outcomes (generic and specific),

  - Total minimum credits required,

  - Purpose and characteristics,

  - Minimum admission requirements, and

  - Articulation rules with other qualification types.

  - **Robust quality assurance regimes (internal and external)** must be applied.

  - **HE qualifications -** national reviews have identified inconsistencies i.e. of the state of provision of LLB degrees in SA.

The NQF & Learning Outcomes

NUMBER OF YEARS IT TOOK FOR EACH PRODUCT TO GAIN 50 MILLION USERS:

Airlines	Automobiles	Telephone	Electricity	Credit Card	Television	ATM
68yrs	62yrs	50yrs	46yrs	28yrs	22yrs	18yrs

Computer	Cell Phone	Internet	iPods	Youtube	Facebook	Twitter	Pokémon Go
14yrs	12yrs	7yrs	4yrs	4yrs	3yrs	2yrs	19 days

- The Framework for Qualification Standards in **Higher Education** acknowledge contextual diversity, respect ==institutional autonomy==, **recognise the role of professional bodies**, ==avoids over-regulation==, identify ==graduate attributes==, not the curriculum or methods used to achieve them, establishes a benchmark for accreditation, national review, and other QA processes (external, internal) and steers clear of hierarchies and rankings (CHE; 2016).

- LO's must reflect modern day requirements i.e. **the 4th and 5th industrial revolution** to ensure transformational workplace readiness of graduates.

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BENEFITS OF A LEARNING OUTCOMES-BASED APPROACH (Adam; 2015)

1. Clarifies and establishes standards - NQF/level descriptors.

2. More accurate international comparisons - NQF, qualifications, etc.

3. Provides transparency so more objective judgements can be made.

4. The basis of recognition tools.

5. Facilitate the cathartic rethink of the curriculum.

6. Improve qualifications - fit for 21st Century.

7. Highlight the learning-delivery-assessment relationship.

8. Essential for student-centred learning, transferable skills and employability.

9. Aids recognition - RPL & more accurate decision making.

10. Facilitates the use of credits & credit allocation.

11. Improve articulation between sub systems.

12. Strengthen quality assurance mechanisms.

Aligning LO's to the NQF

- **Qualification frameworks play a vital role** in assuring linkage between programme objectives and course ILOs, as they assure that skills permeate the programme structure and skills are developed progressively year-on-year (Ulicna et al.;2011).

- **Qualification frameworks support HEIs in delivering better skills learning and produces higher quality graduates that attract employers:** (Allais; 2010)

  a. Aligning LOs authentication in criteria to programme objectives.

  b. Programme LOs must be correctly delimited.

  c. LOs are relevant to programme aims and appropriate to the course level.

  d. LOs are aligned with programme LOs.

IE.
- Identify basic human neuro systems and their functions.
- Apply the physiological principles that govern, maintain, and enhance motor skills.
- Record and describe observations with pictures, numbers, or words.

Aligning LO's to the NQF

The learning outcome approach is, above all, a perspective and a mode of thinking in order to develop valid programmes (Kennedy et al, 2012).

e. Programme and course requirements are comprehensively elaborated and presented.

f. The programme is designed with social responsibility and student participation.

g. Expected student outcomes are clearly identified.

h. Programme LOs are developed in line with NQF requirements and best-fit level.

i. Programme LOs are developed in line with NQF level descriptors and provides a progression in terms of level of understanding to the topic.

j. There are clearly defined assessment criteria, cross-referenced to each assessment method.

k. The programme is designed with coverage of required employability skills.

l. Verification process for programme objectives and course LOs, they must also assure that the objectives cover a wider range of employability skills.

Learning Outcomes

- Specify an action by the students/learners that is observable.
- Specify an action by the students/learners that is measurable and specify an action that is done by the students/learners - rather than the faculty members (Suskie; 2004).
- LO's describe what we want students to get out of a college education and importantly that "research has shown that students learn more effectively when they understand course and program learning outcomes" (Suskie 2016).

Good learning outcomes are:
- ☐ Active (Active / Action Verb)
- ☐ Attractive
- ☐ Appropriate
- ☐ Attainable & Manageable
- ☐ Assessable
- ☐ Clear
- ☐ Contextual
- ☐ Visible
- ☐ Real – Not aspirational
- ☐ Simple language
- ☐ Focus on High priority learning
- ☐ Measurable
- ☐ Learner Centred etc.
- ☐ Specify - level, criterion, standards of knowledge

Critical skills in a changing world!

INDUSTRIAL REVOLUTIONS

1ST
18-19th Century in Europe and North America, featuring steam engines

2ND
1870-1914, featuring steel, oil, electricity, and combustion engines

3RD
1980s Digital Revolution, featuring personal computers and the internet

4TH
21st Century advance of AI, big data, robotics, IoT, blockchain and crypto

5TH
Responsive 21st Century connection of innovation to purpose and inclusivity

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Complex problem solving
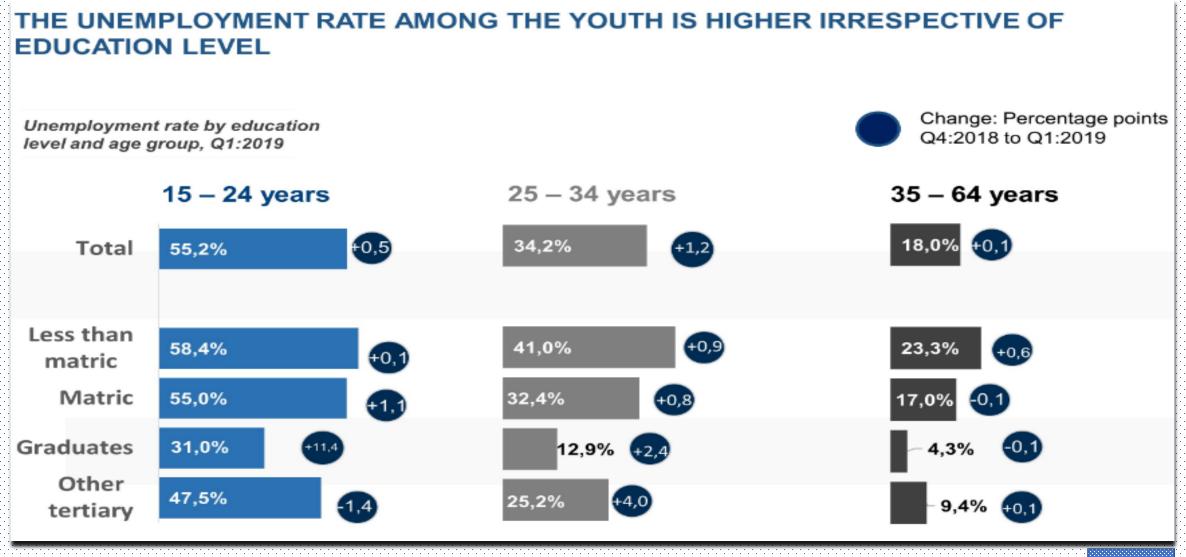
Critical thinking

Creativity

People Management / **Social interaction**

Coordinating with others

STEAM - Science, Technology, Engineering, Arts & Maths.

(World Economic Forum)

Our Contextual Reality = Joint Accountability

THE UNEMPLOYMENT RATE AMONG THE YOUTH IS HIGHER IRRESPECTIVE OF EDUCATION LEVEL

Unemployment rate by education level and age group, Q1:2019

Change: Percentage points Q4:2018 to Q1:2019

	15 – 24 years	25 – 34 years	35 – 64 years
Total	55,2% +0,5	34,2% +1,2	18,0% +0,1
Less than matric	58,4% +0,1	41,0% +0,9	23,3% +0,6
Matric	55,0% +1,1	32,4% +0,8	17,0% -0,1
Graduates	31,0% +11,4	12,9% +2,4	4,3% -0,1
Other tertiary	47,5% -1,4	25,2% +4,0	9,4% +0,1

2019/06/27

Stats SA, 2019

4TH & 5TH IR IMPACT ON ORGANISATIONS & TALENT MANAGEMENT 5IR

Breakthroughs in science and technology and their effect on business, labour markets, and ultimately, education systems.

A 2016 report estimates that automation will replace the jobs of 137 million people in Southeast Asia within the next 20 years.

The World Economic Forum predicts net job growth overall, with 4 new roles emerging for each lost role.

In the 5IR, humans and machines will dance together, metaphorically. Davos 2019 had the theme *"Blockchain+AI+Human = Magic"*. This equation seems impossible to some, but it can, and will, prove true.

AI will help increase human labour productivity. Blockchain will help give access to banking (and intangible forms of capital) to the unbanked.

• Robots will help humans align returns on investment (ROI) with purpose. But it will require intentionality and moral clarity.

(ILO; 2016)

5IR –
United Nations Sustainable Development Goals (SDGs).

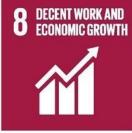Are we Preparing Responsible Global Citizens ?

CHANGES IN THE WOW & OCCUPATIONAL TYPES
LO CONSIDERATIONS - THE NQF AND OUR SOCIAL CONSTRUCT

Many existing occupations will disappear

New jobs are emerging

More hybrid jobs

The end of fixed job descriptions
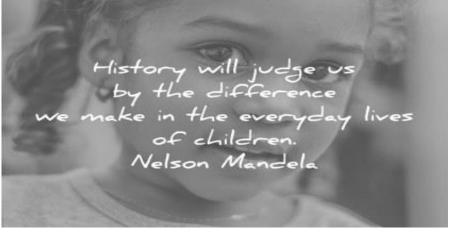
Cross-functional project teams
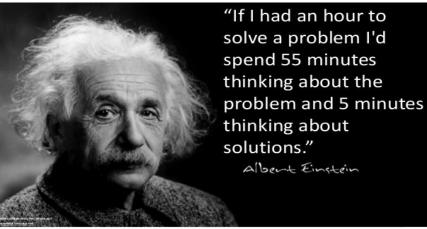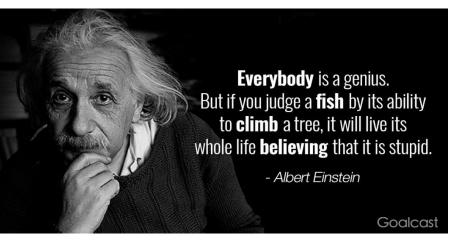
Workforce mobility and project-based work

Virtual organisations

"The real challenge for workers may lie not in being replaced by a machine but in how to reskill to work side-by-side with the new tools and capabilities that advanced technologies bring." (Deloitte, 2017: 197)

History will judge us by the difference we make in the everyday lives of children. Nelson Mandela

"If I had an hour to solve a problem I'd spend 55 minutes thinking about the problem and 5 minutes thinking about solutions." Albert Einstein

Everybody is a genius. But if you judge a **fish** by its ability to **climb** a tree, it will live its whole life **believing** that it is stupid. - Albert Einstein
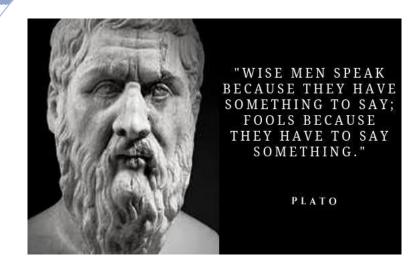
Goalcast

Nothing in this world can take the place of persistence. Talent will not: nothing is more common than unsuccessful men with talent. Genius will not; unrewarded genius is almost a proverb. Education will not: the world is full of educated derelicts. Persistence and determination alone are omnipotent. Calvin Coolidge

Education is the passport to the future, for tomorrow belongs to those who prepare for it today. Malcolm X

•Thank you.

"WISE MEN SPEAK BECAUSE THEY HAVE SOMETHING TO SAY; FOOLS BECAUSE THEY HAVE TO SAY SOMETHING."

PLATO