

Re-imagining the future of the Surveying Profession post 2020: A focus on the skills & talent that we need

Education: The Supply Chain Into Our Profession

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Outline

- **Status of Surveying Education**
- **Threats to Surveying Education**
- **Enhancing the future of surveying Education**

Status of Surveying Education

1. Surveying Qualifications:

- Surveying Education is offered at Universities or other Institutions of higher Learning, usually, under Faculties of Engineering or Built Environment.
- Usually a 4-5-year programme depending on the education system in each country.
- Graduates obtain a qualification (Surveying, Geomatics, Geomatics Engineering, Geospatial Engineering, Geo-Informatics, Topographic Engineering etc.)

2. Surveying Curricular:

- Core competencies (Measurement Science, Spatial Data Management, Land Management) Others include environment, ethics, law, business, communication.)

3. Teaching and Learning:

- Mixture of Lectures, Labs and Field practical measurement/data capture. Assessment through course works, tests and final examinations. Teaching in a physical classroom environment. Learning is mainly Teacher Centred, Distance learning evolving but still being understood especially in Africa.

For thought: (i) What skills and competencies does the Industry need in the post 2020 era?

(ii) Can we deliver such skills and competencies through the current qualifications, curricular and teaching/learning approaches?

Threats to Surveying Education

1. Threats to surveying Qualifications

- The name surveying associated with high cost, and unethical practices especially in the developing world
- Perception of qualification being inferior, if compared with other related disciplines such as Law, Engineering, Architecture and Urban/Regional Planning
- High surveying qualifications not required for some land measurement, positioning and mapping tasks.
- Many students who study surveying did not apply for it as first choice
- Positioning/mapping Technologies taught as units under other disciplines. Tendency by the public to believe that such units are sufficient for one to undertake work of a surveyor

2. Threats to Surveying Curricular:

- Surveying is a Technology driven Discipline. Difficult to develop curricular due to fast changing technology.
- The knowledge and skills keep on changing even before the update cycle for curricula (usually 2-5 years)
- By the time students complete the 4-5 year program, what they studied in 1st year will most likely have changed
- Current surveying approaches have not addressed tenure insecurity especially in developing countries.

3. Threats to current approaches for teaching and learning

- With challenges of Covid 19, Physical (face to face) teaching is becoming irrelevant
 - Teacher Centred learning cannot be sustained with increasing channels for accessing knowledge – Most teachers reluctant to change and many students interested in grades rather than toiling to obtain knowledge
 - There are barriers to distance learning, more especially in the developing world where ICT and Internet Infrastructure is limited. Teachers are not trained to deliver through open and distance learning.
- **For thought: (i) With these threats, how long will surveying education survive in the post 2020 era?**
 - **(ii) Should surveying curricular in developing countries take a different focus?**

Enhancing the future of surveying Education

1. Enhancing survey Qualifications:

- Emphasize Geomatics, Geo-informatics, geospatial as a replacement of traditional Surveying - to emphasize the changing role of surveyors from measurement technicians to Land and Geospatial Professionals; It should be another way of rebranding.
- Survey qualifications should include many new specialities so as to meet the expectations of the industry and society.

2. Surveying Curricula should emphasize

- Focusing curricular on addressing global agenda, regional and specific national agenda rather benchmarking content – in other words curricular should be fit for purpose.
- outcome-based curriculum that emphasizes learning outcomes rather than content - Content should be dynamic and decided upon by the teacher in consultation with faculty specialists.
- Flexible blended learning that combines face to face, distance learning (offline and online)
- Flexible and dynamic curricular that accommodates changes in technology and pedagogy paradigms
- Imparting soft skills in addition to core elements (communication, negotiation, networking, leadership, documentation, etc)

3. Teaching and Learning

- problem-based learning that is learner centred rather than Teacher Centred
- Emphasis on Imparting creativity, innovation rather than particular skills – Purpose of education is to ‘fill a blank mind with an open mind’
- Life long Learning – Education should not end at college. Professional institutions should continually work with training institutions and regulatory bodies to ensure that professionals are updated with current knowledge and skills through CPD

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