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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