



*The Hong Kong Polytechnic University
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Outcome-Based Approach to Teaching, Learning and Assessment in Geomatics Higher Education: the Hong Kong Experience

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Topics:

1. Why outcome-based approach (OBA) for geomatics higher education?
2. How to implement OBE?
3. OBA to geomatics curriculum
4. Conclusions
5. Q & A

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1. Why OBA for geomatics HE?

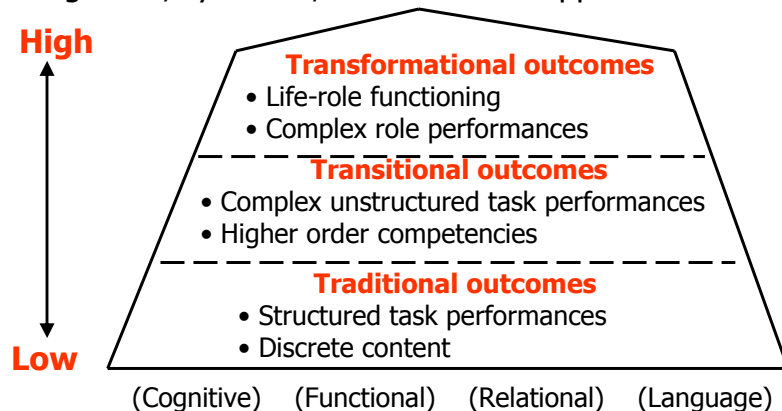
- **Outcome-based education (OBE)** focuses on what students can actually do (i.e., learning outcomes) after they are taught.
- It embraces learning outcomes with the knowledge, skills, attitudes and values that match the immediate social, economic and cultural environment of society.
- It has evolved from traditional OBE (Tyler, 1949), through transitional OBE into the era of transformational OBE (Spady, 1994).
- **Transformational OBE** is now a worldwide trend in higher education and has been adopted by local universities in Hong Kong (QAC, 2008).

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Fig.: OBE learning outcomes (Spady, 1994)

Complexity of outcomes: content demands, integration, synthesis, and functional application.



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2. How to implement OBE?

- At university or **program level**, WIE or coop programs are offered for all-round development of students.
- **WIE programs** in PolyU are: Summer Survey Training Scheme, Preferred Graduate Development Program (PDGP), Exchange Students for Technical Experience (IAESTE), community services.
- At **curriculum level**, (1) identify intended learning outcomes (ILOs); (2) curriculum design; (3) criterion-referenced outcomes assessment; (4) continual improvements (Fig. 1).

3. OBA to geomatics curriculum

- Illustrated by Engineering Surveying Course (LSGI 2961) (Tables 1 and 2; Fig. 2)
- **Steps** (Fig. 1):
- What are the intended learning outcomes (ILOs)?
- How to align the curriculum, teaching, learning and assessment with the ILOs?
- How to implement the curriculum and evaluate the learning outcomes?
- ILOs \cong Curriculum \cong Teaching \cong Learning \cong Assessment

4. Conclusions

- OBE = WIE + OBA to curriculum design, teaching, learning and assessment
- The success of OBE demands high standard of student learning outcomes and active involvement of all stakeholders – students, faculty, employers, parents, and others.
- Despite at high cost, the OBE approach offers students the opportunity to develop employability skills, preparing them for effective participation in labour markets, and allows learning and knowledge to be applied and integrated with work time and life time.

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5. Questions & Answers

Thank you.

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