

COMPETENCE BASED CURRICULUM & INSTRUCTION

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SESSION OBJECTIVES

- Definition of Competences
- Sources of Competences
- Characteristics of Competence Based Curriculum (CBC)
- Examples of Competences
- Importance of Competences in Education
- Implications of CBC to instruction

DEFINITION- COMPETENCE

- a group of skills that bring about proficiency in a specific field, which are assessed against pre-set benchmarks mostly defined by profession/industry.
- sets of knowledge, skills, and attitudes that enable a person to perform specific work.
- demonstrated capability
- “things you need to learn in order to perform a task” rather than ‘things you need to learn in order to pass an examination.

DEFINITION CBC

- a curriculum derived from an analysis of a **prospective or actual role in modern society**
- a curriculum that attempts to **certify student progress** on the bases of **demonstrated performance** in some or all of the aspects of that role.
- a framework or guide for the subsequent detailed development of competencies, associated methodologies, training and assessment resources.

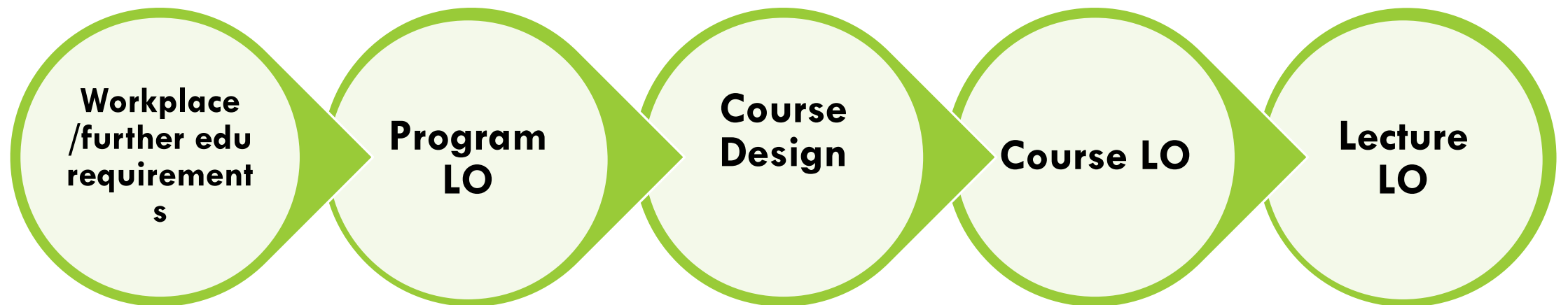
A competent person performing a task will possess a combination of skills, knowledge, attitudes, and behaviors required for effective performance of the task or activity.

SOURCES IN THE DEVELOPMENT OF COMPETENCES



- Professional requirements (KSA)
- Academic disciplines
- Level of target group (beginners, intermediary, advanced)
- Role (tasks, processes, people/machine-oriented)

COMPETENCES IN EDUCATION



CHARACTERISTICS OF CBE

- Focus on job performance not on course content
- Emphasise on outcomes/competences rather than the resources available to the students (inputs)
- **All** students can learn & succeed, & institutions control conditions of success through supply of quality, authentic learning experiences, therefore learners' success is **teacher's** responsibility.

CHARACTERISTICS OF CBE

- Focuses on student exit outcomes
- Designed downward to unit level,
- Focuses instructional strategies on clearly defined learner outcomes getting high standards with high expectations for all students
- Includes expanded opportunities for enrichment and remediation
- Requires learners to demonstrate that they have learned the required knowledge (know), skills (do) and attitudes (behave)

CHARACTERISTICS OF CBE

- Outcomes/competences are pre-set by the relevant professional/education agency
- Emphasise setting clear standards for observable/measurable outcomes (criterion-referenced-absolute terms)

Examples of competencies

PROFESSIONAL PRACTICE

Behaves in accordance with the standards and code of ethics of the Association of Professional Engineers and Geoscientists

- Prioritizes the safety, health and welfare of public and environmental protection
- Promotes health and safety within the workplace
- Undertakes and is responsible for professional assignments only when qualified
- Maintains confidentiality and avoids a conflict of interest
- Keeps informed to maintain competence
- Acts with fairness, courtesy and good faith towards clients, colleagues and others
- Extends public knowledge and appreciation of engineering

ENGINEERING KNOWLEDGE

Understands the broad scope of disciplines that support engineering theory and practice

- Demonstrates knowledge of the mathematical fundamentals of engineering
- Applies the correct statistical methods to analyze and investigate data
Understands the supporting natural sciences for their discipline of engineering
- Maintains a comprehensive knowledge of the engineering fundamentals
- Demonstrates an understanding of engineering economics
- Comprehends how engineering specifics integrate into a larger project
- Studies companion subjects to aid a projects success

WHAT IS DIFFERENT IN CBL?

- ❑ Emphasis on deep learning than on content coverage (surface learning)
- ❑ Holistic approach, rather than knowledge as discrete pieces
- ❑ Course alignment and hence coherence
 - Drive the course content, teaching/fieldwork activities, selection & design of teaching/learning materials & assessment.
 - Provide lectures & students focus & a sense of direction, avoiding digressions.
 - Help lecturers to reflect on what is worth teaching & how much time they spend on it.
 - Act as a form of accountability for lecturers in terms of what happens to students.

KEY QUESTIONS ADDRESSED IN CBC



- What do we want students to learn?
- Why do we want them to learn it?
- How can we best help them learn it?
- How will we know they have learnt it?
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IMPORTANCE OF COMPETENCES/OBJECTIVES

- Encourages us to clarify on what we want our students to accomplish
- Helps us select appropriate content, learning experiences, materials & assignments
- Assists us to develop our lectures logically
- Helps us in developing all-round students
- Helps us judge whether students have achieved what we had intended for them

IMPORTANCE OF COMPETENCES/OBJECTIVES

- Helps us improve on the relevance of what students learn
- Avoids traditional fragmentation of knowledge and skills
- Favours individual student's autonomy

IMPLICATIONS OF THE CBC

- Provide meaningful contexts
- Use a multi disciplinary approach
- Constructive learning – (construct their own knowledge by interactions with environment/peers/teachers
- Discovery learning (not receptive learning)
- Learning is flexible and self paced

. . .lecturer -facilitator

. . .success is
defined

. . .learner centered

. . .continuous
feedback,

Instruction

. . .deep learning,

. . .coaching &
mentoring,

. . .indiv.
instruction

AFFECTIVE DOMAIN

- Review text for content on definition of values.
- Participate in selected values clarification exercises for personal values provided by teachers (self-study or group work).
- Write up an analysis of a code of behavior and values and share with peers and teachers.
- For many learners, becoming a competent begins with observing positive role models of practice to reflect on:
 - *This is who a competent person is.*
 - *This is what a competent person does.*

PSYCHOMOTOR

- Review written description of a particular skill (text, handouts).
- Take time for repeated practice of skills in the safety using models, simulation if available, or peers as patients supervised by teachers until mastery of the skill is demonstrated.
- Seek out practical experiences that allow the learner to increase confidence as well as competence in the skills required.

LEARNER CHARACTERISTICS

- Understand how one learns best (style)
- Understand exactly what is expected outcome(s) of learning
- Take responsibility for one's learning
- Motivated to learn – goal oriented
- Ethical person and practitioner
- Critical thinker
- Self-assess learning & performance
- Commitment to ongoing learning

Thank you for Listening

REFERENCES

O'sullivan, N and Bruce A. (2014) Teaching & Learning in Competence based education.

Competences for Engineer - University of Victoria

suvic.ca/coopandcareer