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PROGRAM COMPETENCIES VS. LEARNING OUTCOMES

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AUTHOR BACKGROUND

D. Milan Frankl, B.Sc., M.Sc., MBA, Ph.D. has more than 35 years teaching experience with the University of Montreal, University of Sherbrooke, University of Victoria, Royal Rods University and University Canada West. He also taught online course at various U.S. based universities.

Dr. Frankl developed and delivered more than three dozen courses on topics including computer science, mathematics, statistics, and business related courses.

Before joining the academia, Dr. Frankl acted as a partner in a major Canadian consulting firm, and president and CEO of several high-tech companies.

Dr. Frankl published extensively on various topics including logic, mathematics, statistics, health management, computer science, and business management. His books are available on Amazon and Business Expert Press (New York).
Traditionally, university programs and courses are developed according to program and course learning outcomes.

In this presentation we propose a Program Competency Structure for undergraduate and graduate program development.

Similar to Learning Outcomes, Program Competencies Structures (PCS) are developed through course content, exercises, case studies, research projects, and simulations.
HIGH-LEVEL COMPETENCY FRAMEWORK

According to the University of Toronto’s website, “Good learning outcomes are focused on what the learner will know or be able to do by the end of a defined period of time and indicate how that knowledge or skill will be demonstrated.” (Toronto 2013)

On the other hand, “A core competence is the result of a specific set of skills or production techniques that deliver value to the business and its customers.” (Prahalad and Hamel 1990)
GENERAL DEGREE PROGRAM COMPETENCIES

For easier understanding of the Competency Structure (CS) when developing a university degree program we have chosen a topic that may illustrate better the process proposed.

The program’s competency structure (PCS) in this presentation builds on the foundational IT knowledge and practical experience of students aspiring to fill executive IT positions in business.

For example, in a graduate program for information technology management the PCS develops advanced IT management and leadership skills and knowledge with course focus on areas, such as IT service management and leadership, IT management across multiple boundaries, IT innovation management, and IT driven business leadership.

We name this program IT-PCS
PROGRAM COMPETENCIES

General degree program competency stages include:
- Learner-focused Competency Elements or Core Competencies,
- Contextual Competency Elements,
- Functional Competency Elements, and
- Integrative Competency Elements.

These broad competency stages represent the building blocks of progressive student skills and capabilities that consider the required contextual, functional, and integrative competency elements of the desired business skills achievement.
PROGRAM COMPETENCIES

Core competencies (learner-focused)

Learner-focused core competencies (CCs) are to be acquired by the student in every course and are not necessarily course specific. Achieving these competencies is measured in a manner consistent with the progressive capability of student development in broad stages of:

- Practical Critical Thinking
- Applied Integrative Thinking
- Responsibility and Accountability
- Academic and Practice-based Research Methods

Learner-focused competencies are present throughout the program and covered within each course.

They include practical critical thinking expressed verbally and in writing, integrative synthesis capability, responsibility assessment, understanding accountability, and proficiency in practical research methods.
PROGRAM COMPETENCIES

Contextual competencies (IT example)

Contextual competency elements cover the directing and management of IT services within both the business context and the rapidly developing IT context.

They include grounding in the multiple roles and responsibilities of the IT professional and current perspectives on IT professional development.
Functional Competencies (IT example)

Functional competencies constitute the functional elements typical of many large IT organizations and departments, and reflect the diversity and specializations within the IT area.
Integrative Competencies (IT example)

Integrative competencies reflect the coordinating and integrating aspects of IT direction and management.

They include various configurations of contextual and functional aspects of IT in the application of strategically aligned actions.
In summary, program competencies are developed through lectures, exercises (including assignments), and readings, and may be evaluated through projects, essays quizzes, and exams in the course.

Every competency identified in the course chart must have one or more associated assignments or assignment components.

Furthermore, these competencies are measured by final grading in content courses with competency achievement identified by a target course grade.
The IT-PCS program coursework needs to provide a thorough understanding of technology management foundations and its leadership.

Knowledge of methodologies and research

- In the IT-PCS program students will acquire the ability to analyze research critically, and to conduct and lead applied research.
- Upon completing their research cycle of courses, students will have a solid grounding in both quantitative and qualitative research methods, and ethical practice.
- In addition, all coursework will require students to demonstrate that they have the capacity to develop and sustain an argument that includes an assessment of current research in information technology management.
- Graduates of this program will be prepared to pursue further applied research studies or inquiries, particularly as it might apply to their workplace.
DEPTH AND BREADTH OF KNOWLEDGE

Application of Knowledge

- The nature of the course assignments within the program requires the student to demonstrate his or her ability to use theory to inform practice.
- Many of the assignments need to have direct applicability to the student's workplace.
- In addition, the research process will require the student to engage actively in a project designed to improve his or her instructional program or some aspect of his or her work environment.
Communication skills

- All students in the IT-PCS program will be required to demonstrate both written and oral communication skills through seminar discussions, individual written assignments, individual presentations, group written assignments, and group presentations.
- Therefore, the IT-PCS program focuses on developing the student’s ability to communicate ideas, issues, and conclusions clearly and effectively to specialist and non-specialist audiences.
DEPTH AND BREADTH OF KNOWLEDGE

Awareness of limits of knowledge

- *Courses in the proposed IT-PCS program will be designed to make students aware of their limits of knowledge by reflecting a variety of approaches to knowing*

- *Courses will provide a foundation for recognizing the complexity of knowledge, its various interpretations, methods, and disciplines.*
DEPTH AND BREADTH OF KNOWLEDGE

Professional capacity and autonomy in IT management

- The IT-PCS program is professionally oriented and intends to provide students with extensive information technology experience foundations necessary to further enhance their professional skills and be successful in their future IT leadership roles.

- Throughout the program, students will have demonstrated their ability to apply their coursework and enhance their professional capacities within their own work environments.

- Through research projects students will demonstrate their knowledge, ability, autonomy, and decision-making skills to evaluate and improve the quality of information technology management in business.

- They will demonstrate an understanding of the complexity of knowledge as well as an in-depth understanding of the multiple interpretations, methods, and disciplines relating to information management.
LEARNING METHODS AND PROGRAM DELIVERY

A variety of teaching and learning methods will be used in the delivery of the IT-PCS program. The main pedagogical approach will be based upon the principles of constructivism and adult learning.

Learning methods may include
- Active, student-centered learning
- Experiential learning
- Independent study
CONCLUSION

Program Competencies result in specific skills students can apply in the workplace. Those skills are directly related to the jobs they intend to pursue.

The objective of most university program curricula is to prepare students for employment. Most students do not intend to pursue an academic research career; however, this needs to remain an option for those choosing to pursue this type of career.

Numerous exchanges with industry representatives confirm their preference for the Competency Structure approach to university program and course development for students intending to enter the workforce.
REFERENCES


REFERENCES


University of Toronto (2013), http://www.teaching.utoronto.ca/topics/coursedesign/learning-outcomes/examples.htm

