

EDUCON2019: Dubai, UAE

g9toengineering

a virtual community of practice in knowledge creation



uOttawa

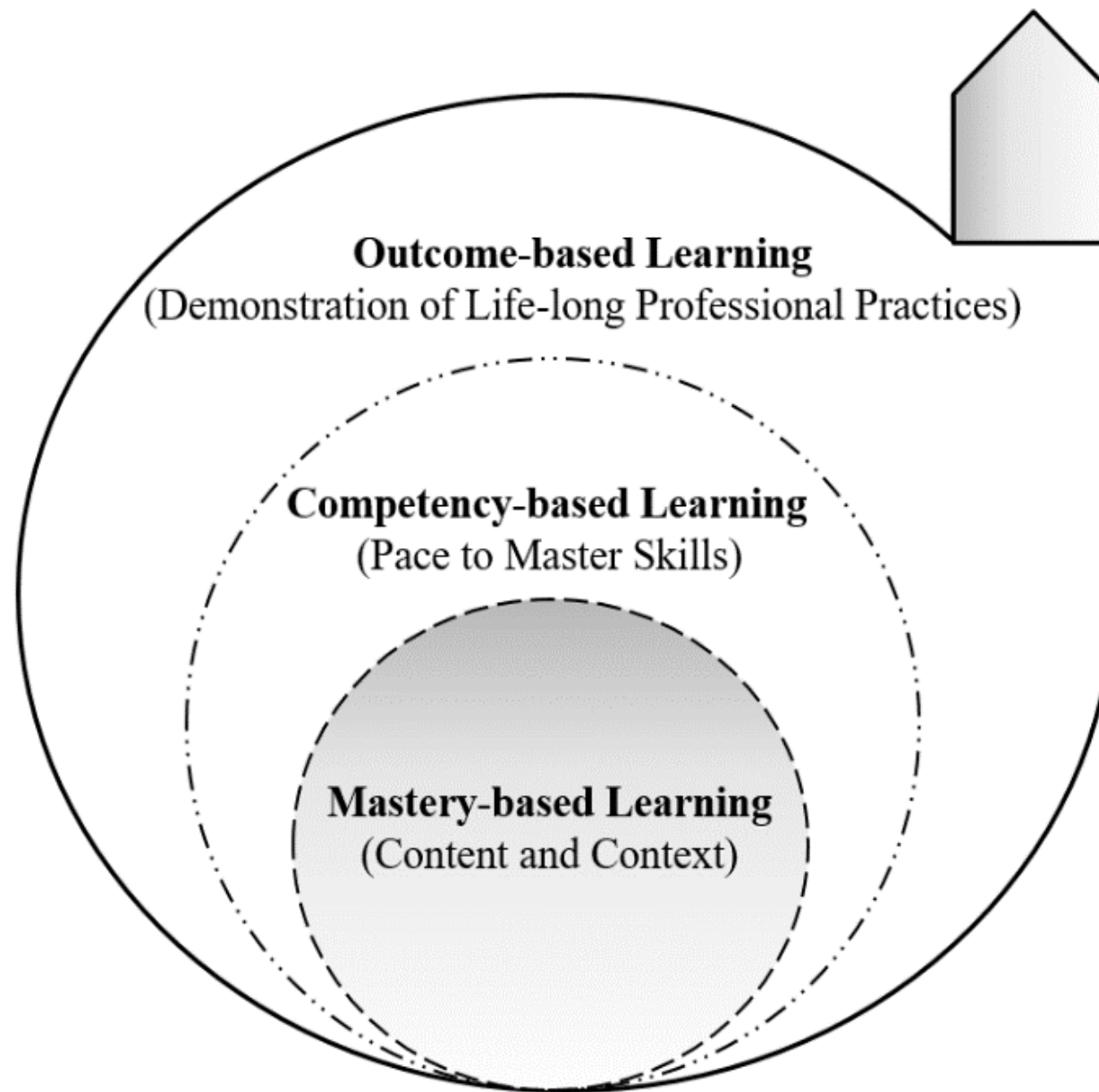
Faculté de génie
Faculty of Engineering

Riadh Habash, PhD, P.Eng

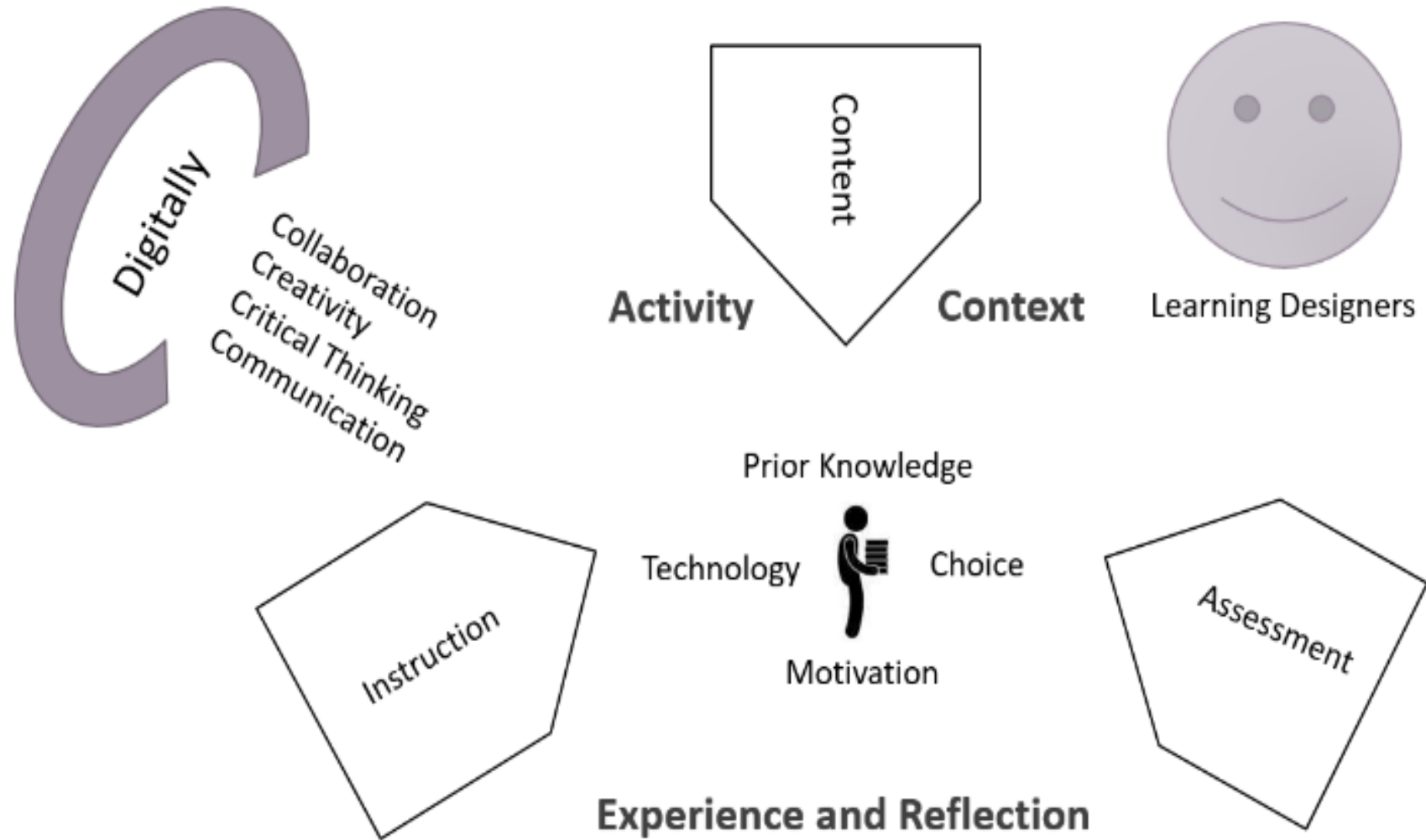
the message

to transfer knowledge and practice in context

where knowledge content is a means to an end, not an end in itself.



Learning for life-long professional practice



Digital tools to support the language of reflection



Knowledge Creation

(High-level use of technology)

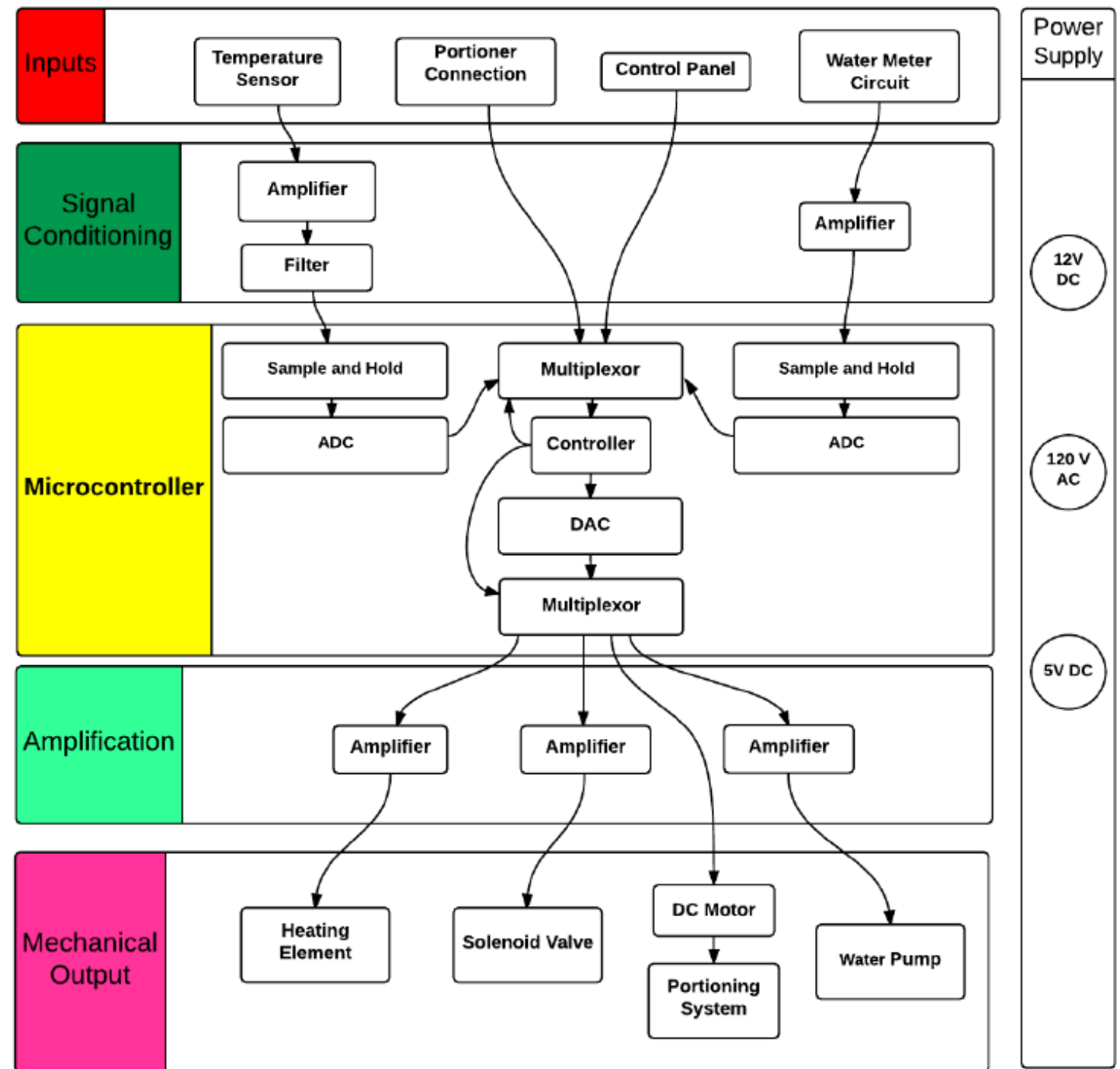
Analyze data; collaborate with peers and teachers; develop and use simulations, build products; create presentations.

Information Consumption

The “bucket theory of knowledge”

Practice skills and procedures; take test or turn in homework; find information in the Internet; write reports, etc.

whole mechatronics
as a “system- case-
project-based” platform
for teaching mechatronics
engineering.



g9toengineering.com

was developed by the author in 2007 and maintained by students from an undergraduate mechatronics class to enable knowledge creation and sharing.

OpenCourseWare
shared educational material online

Circuits Control Electronics Design BioEM Mechatronics Power

Knowledge Creation
students reveal surprising "learning by doing" online

A MECHATRONICS PROJECT

Spinning Spices The Thumper

Bartender Quadcopter

Robotic Hand Auto Bartender

RC Plane Prosthetic Hand

The Virtual Mechatronics Lab is approaching **60 Videos**

Channel ▶ 3336

Simple Machines

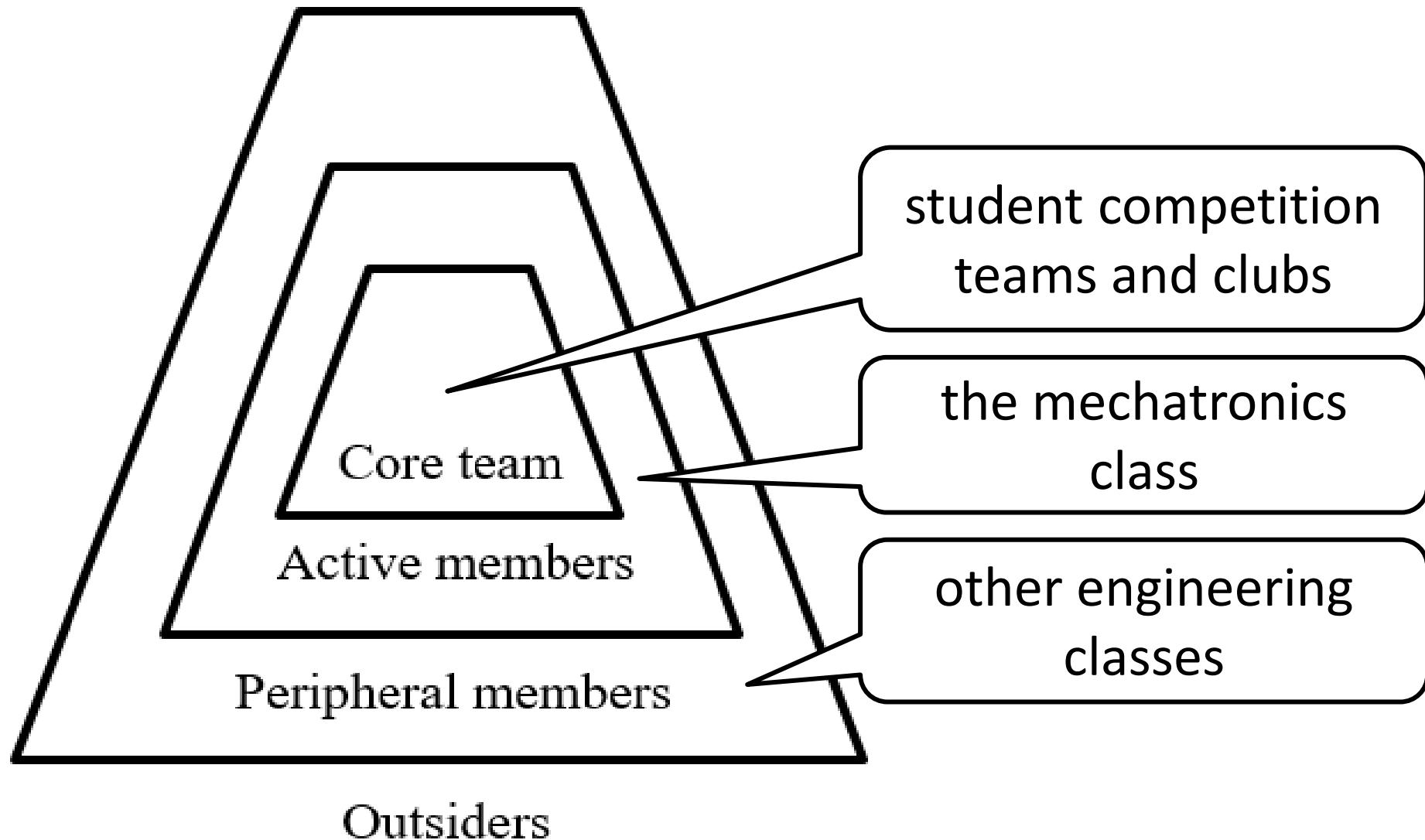
Fish Tank Mo The Robot

RC Hovercraft Replenishing Robot

Dynamometer Pill Dispenser

Vokal Drawing Robot

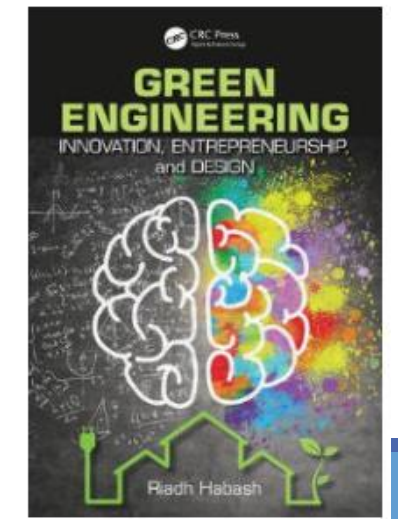




the uOttawa virtual community of practice



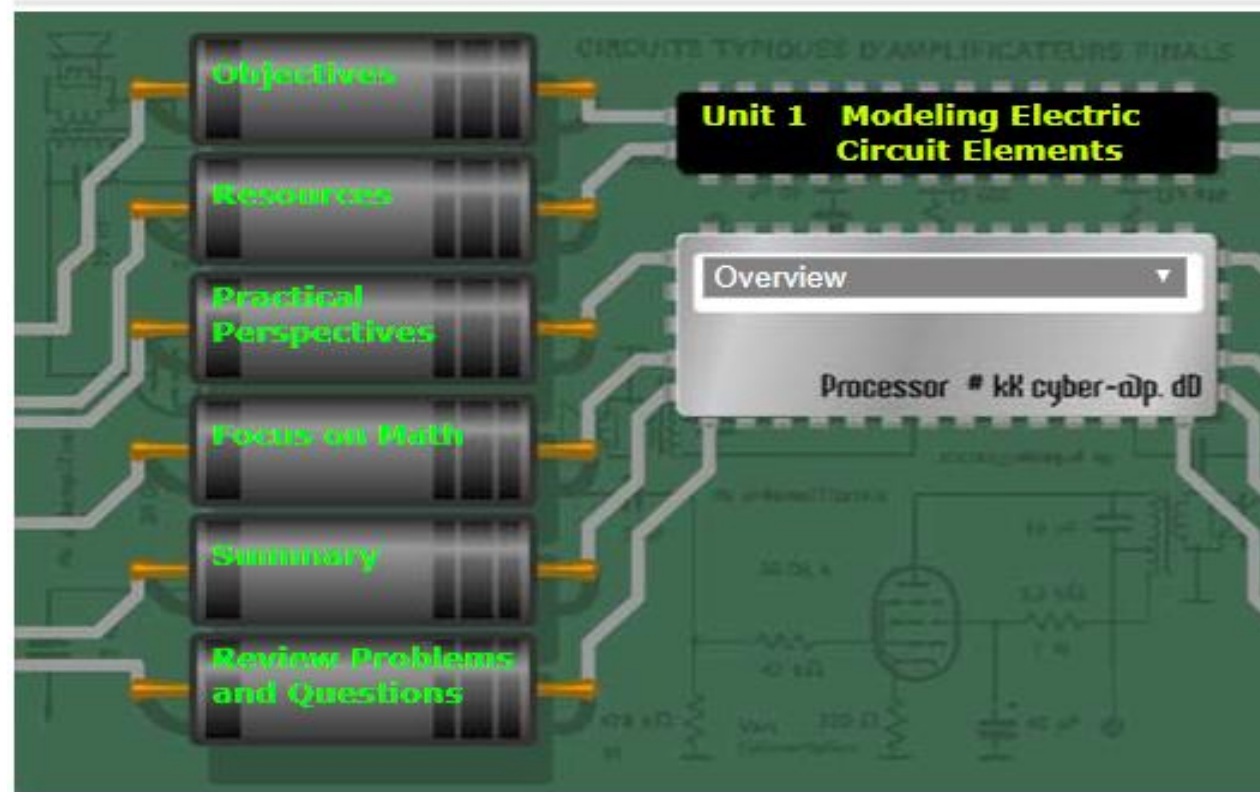
Focused with attention: the power of brain, the force of muscles, the feel of complete immersion in the moment, absorbed in the activity, tired without notice: that is the state of flow experience!



Greenengineers.ca is a complementary virtual community of practice hub developed by the author in 2010 to strengthen the main OER especially by student competition teams and clubs.



Math as a tool
is an interactive OER
developed by the author
in 2004 to make a
connection between
electric circuits and math.

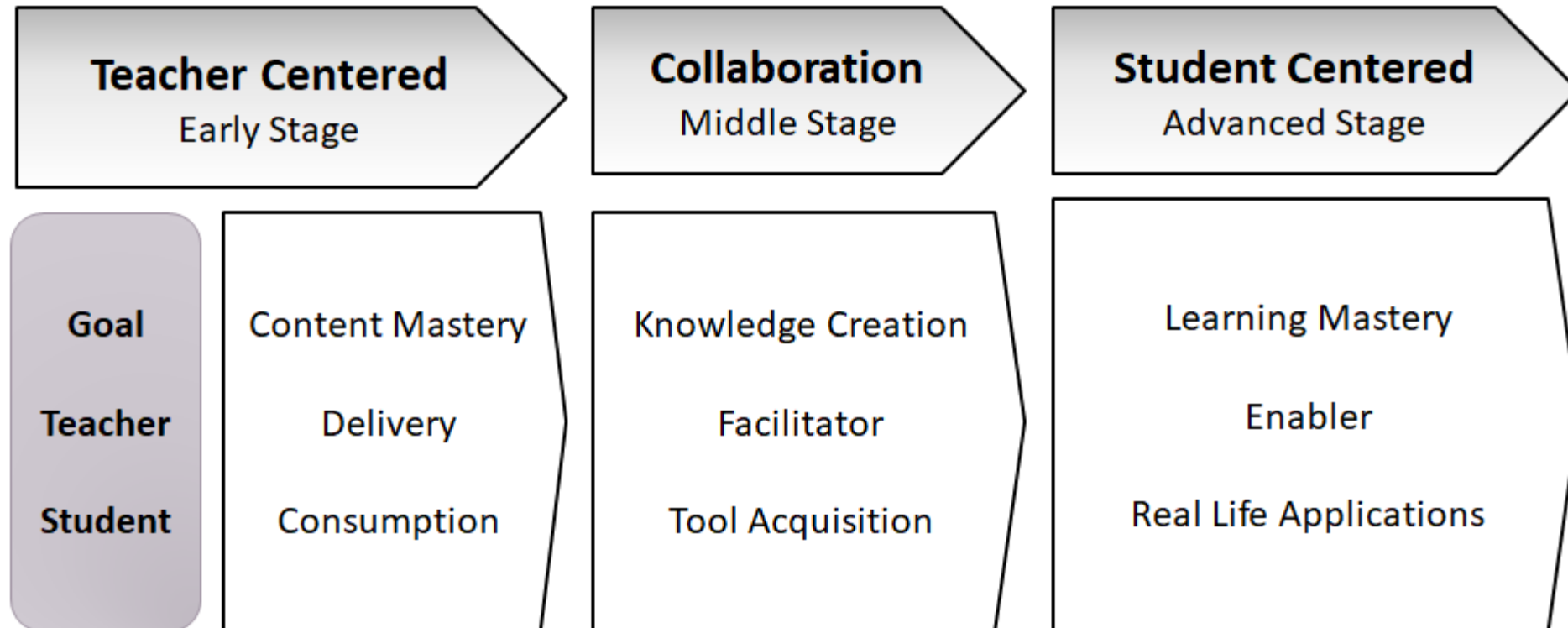


Welcome to the University of Ottawa's
Online Engineering Learning Resource!

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Toward state of flow experience



A state of flow
experience
with
uOttawa SAE
Aerospace
March 9, 2018
Florida Air
Museum



Questions

a learning journey from routine and unfeeling to

enlightenment

empowerment

emancipation

entrepreneurial mindset.