

Transformative Learning through Student-Faculty Partnerships in Curriculum Development and Community Engagement



University
of Windsor

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Objectives

1. Introduce diverse models of student engagement within both the classroom and community settings
2. Demonstrate how to initiate and implement these models
3. Allow participants the opportunity to reflect on their own student engagement practices

Transformative Learning



Transformative Learning



- Engaging students in pedagogy through the creation of dynamic student-faculty partnerships that are both *collaborative* and *experiential*
- These partnerships fall within an engagement framework that includes five major elements:
 - *Personal*
 - *Academic*
 - *Intellectual*
 - *Social*
 - *Professional*



Transformative Learning

- Promote a deeper understanding and application of course content
- Enriches capability to acquire, analyze and disseminate knowledge in a relevant and meaningful manner.
- Promotes leadership
- Transforms outlook, motivation, values, and skills with respect to their learning

Student Engagement



- These opportunities include the development and implementation of:
 1. Interactive online tools used within the classroom for formative assessment
 2. University programs in partnership with the University of Windsor's Faculty of Science
 3. Community education programs in partnership with the Windsor Cancer Research Group



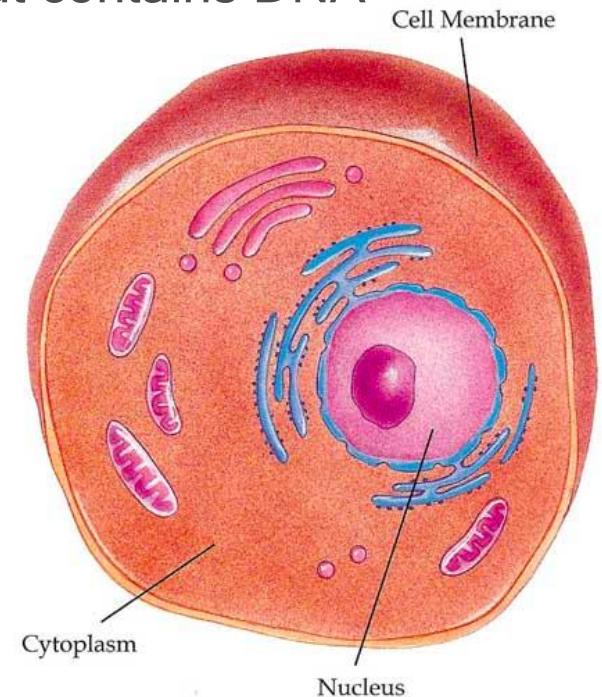
Within the Classroom

- Interactive online tools used within the classroom for formative assessment
- **Development of Kahoot Games**
 - Type of formative assessment that would include use of electronic devices (e.g. cell phones, tablets, laptops)
 - Students worked in teams (2 teams)
 - Work with Faculty
 - Multiple choice format
 - Varying degree of difficulty
 - Identified topics that were challenging for students
 - Links to visual learning
 - Free - no cost to students

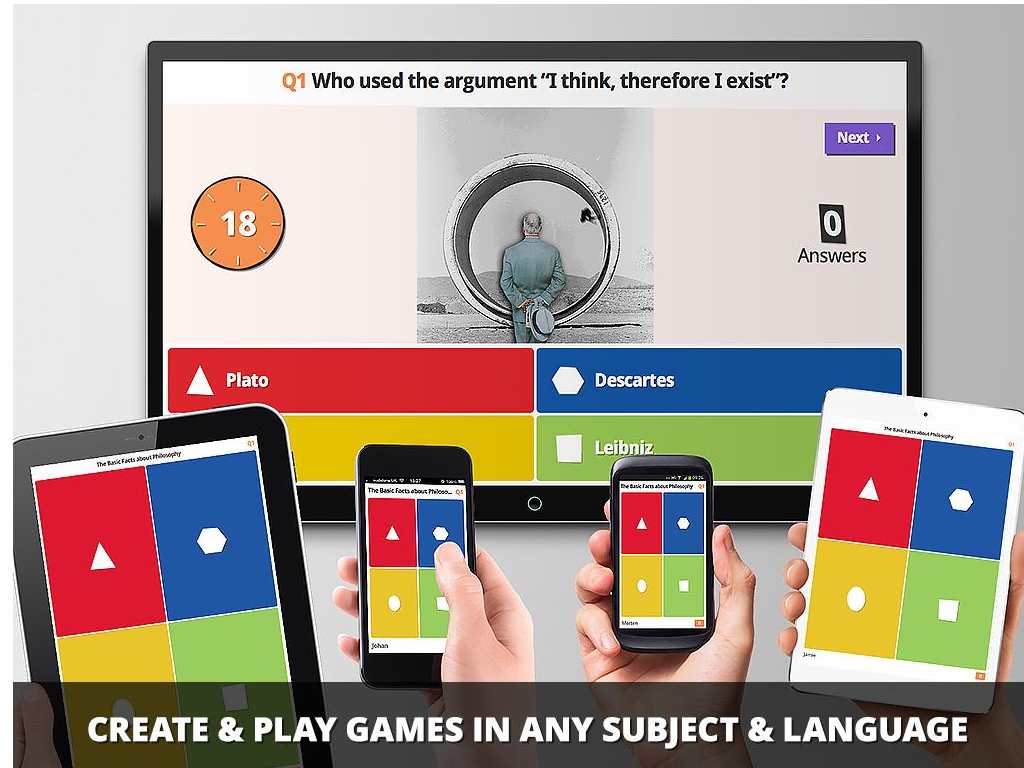
Kahoot Demonstration - The Cell



- The cell is the basic unit of life
- All living things are made up of cells
- All cells have a membrane and many have a nucleus
- The membrane encloses the cell and all its contents
- The nucleus is an organelle that contains DNA
- DNA carries genetic information (genes) that can be passed down generation to generation



Let's Play Kahoot



1. Type ***kahoot.it***
2. Enter the game pin number
3. Enter your nickname

Within the Classroom



- Outcomes:
 - Implemented into the first year biology courses
 - Developed a set of chapter questions (31 chapters)
 - Developed a set of lab review questions (16 labs)
 - Anonymous
 - Challenging
 - Not linked to marks
 - Mid-semester evaluation showed the activity was ranked high among students (up to 88 % participation)

Within the University



- Partnership with the University of Windsor's Faculty of Science
- Development of "Amazing Science Race" for UWindsor Science Academy
 - Outreach program for top, local high school students interested in Science
 - Amazing Science Race is a interdisciplinary science challenge
 - Mimics the TV show "The Amazing Race"
 - Undergraduate science students design the challenges and are leaders for the various high school teams

Amazing Science Race



Amino Acid Match

Chemistry

Guess the Anatomy

Biology



Trivial Pursuit

Economics

Canadian Ecozones

Environmental Science



Binary Numbers

Computer Science

Scramble Challenge

Mathematics



Parachute Drop

Physics



Within the University



Within the University



- Outcomes:
 - Work in teams with the high school students
 - Apply what they have learned in undergrad
 - Share their undergrad experiences
 - Take on leadership role
 - Work with faculty to design activities
 - Fosters a sense of pride about university and program of study
 - Very interactive and multidisciplinary
 - Highly ranked by high school students

Within the Community



- Partnership with the Windsor Cancer Research Group (WCRG)
- Development of Cancer Activities for Community Outreach
 - Students worked in groups to design cancer biology and research related activities
 - Goal to promote cancer research awareness within the local community
 - Students interact with faculty in the design and execution of activities
 - Students interact with the public at various community forums

Cancer Activities Demonstration

Who Uses Which Tools?

Scientist, Doctor or BOTH



BOTH



SCIENTIST



BOTH

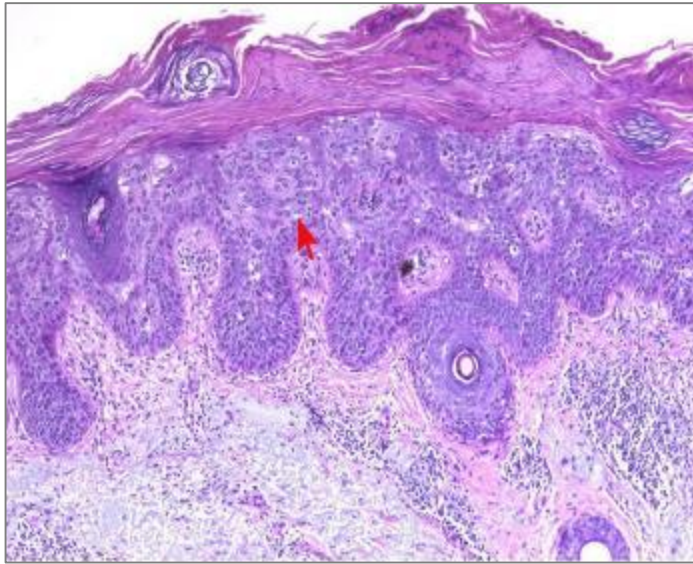


DOCTOR

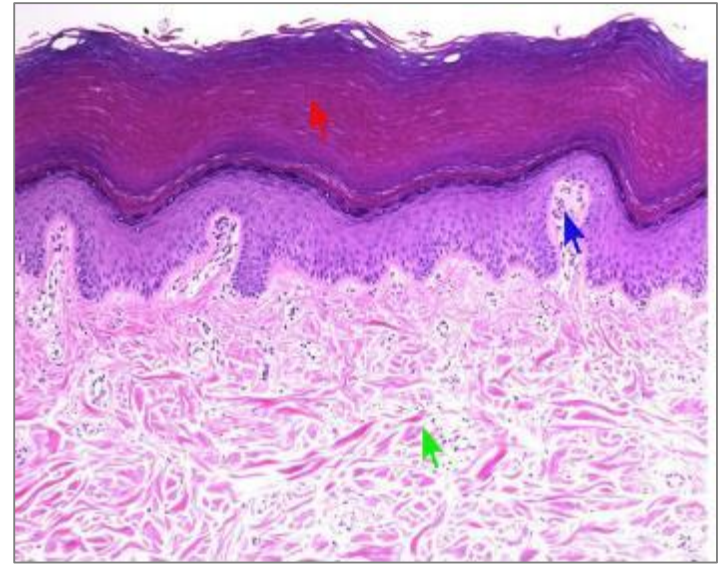


Cancer Activities Demonstration

Guess the Cancer




A




B

Within the Community






VOLUNTEER



Windsor
Cancer
Research
Group

INFORMATION



Within the Community



- Outcomes:
 - Students interact with faculty and clinicians in the design and execution of activities
 - Opportunity to apply content learned in the classroom and the lab
 - Students interact with the public share their educational and research experiences
 - Opportunity to be educators
 - Fosters a sense of community and pride for their university and program

Student-Faculty-Community Partnerships



Faculty
Comp. Sci.

Student
Comp. Sci.

Students
Biology

Staff
Windsor Cancer
Research Group

Clinical Researchers
Windsor Regional
Hospital

Ongoing Projects



- Expanding Kahoot tool
 - Kahoot collaborate for group work
 - Analysis of data for research
- Creating a USci Network
 - Online website connecting Science resources for undergraduates
 - Development of science workshops
- Development of a Cancer Biology Lab/Workshop
 - Student-driven
 - In collaboration with community groups
(Windsor Cancer Research Group; Let's Talk Science)



How have student-faculty partnerships transformed learning and the experience?

- Using knowledge to teach others
 - Effective way to retain knowledge
- Allowed practical application of knowledge
 - See impact of this in the community
- Formation of close bonds between students and faculty
- Increased sense of connection with the school
- Development of leadership skills while being sensitive to different learning styles
- Gave the ability to share our experiences to younger students to stimulate their interest

How can you build student-faculty partnerships?



- Take a few minutes to think about ways in which you can create student-faculty partnerships in your courses, programs, departments, institutes.

*"Tell me and I forget.
Teach me and I remember.
Involve me and I learn."
- Benjamin Franklin*

Thank you for
your attention.
Questions?

Student **Faculty**
Partnerships



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