

Learning After Lockdown: "Infinite Classroom"

A MODEL FOR A POST-COVID DOUGLAS COLLEGE

THE PROBLEM AND THE OPPORTUNITY

The light is at the end of the Covid tunnel; no longer will professors and students be banished from the classroom. Douglas college, its staff, and students now have more hard-earned experience with distance learning. The United Nations aspires to Quality Education and Decent Work while addressing Climate Change. While students stayed home from school their carbon emissions declined, but they lost opportunities for face-to-face interaction. Can we combine the strengths of in-class and remote learning to improve access to quality education while reducing our carbon footprint and maintaining or improving teaching opportunities?

HYBRID CLASSES AT DOUGLAS

Hybrid courses are delivered partially in the classroom, and partially online. Traditional face-to-face instruction and activities are blended with the Blackboard environment, which is used to provide course content, submit assignments, take tests, and participate in online activities. The necessity to be on campus is reduced with this model. Note that a commitment to course participation in both the face-to-face classroom and the online classroom is required.

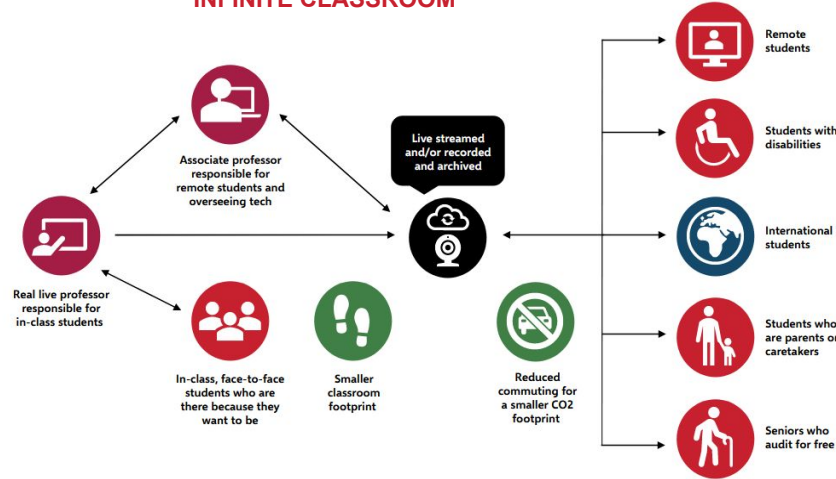
LITERATURE REVIEW

While it's too early for the anticipated flood of papers about teaching in the pandemic, there is literature on these relevant topics.

- Comparisons of in-class vs. remote learning.
- Student acceptance and interest in remote learning.
- Remote learning opportunities, participation, and success.
- Social presence in online learning.
- Improving post-secondary for students with disabilities.
- Whose job is it to set policies and initiatives?
- The mental health of online instructors.
- VRI synchronous impact on student performance and engagement.
- Use of livestreaming in the classroom.



INFINITE CLASSROOM

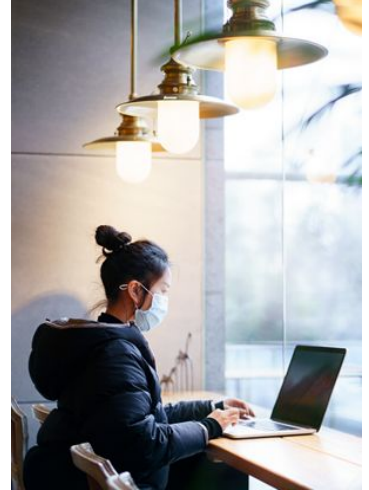


CONCLUSIONS

- Many of the classes held at Douglas before covid were entirely on-site.
- Douglas College has some hybrid classes but requires the student to be on site.
- All the technological components for this model already exist.
- Synchronous education is superior to Asynchronous.
- Livestreaming can improve access for underrepresented groups.
- The creation of dual Professor teams can reduce stress and provide employment opportunities.
- Reduced commuting lowers our individual footprints.
- The proposed model has the potential to deliver all these benefits.
- The economic impact of this model will need to be investigated.

RECOMMENDATIONS

1. Approach college management to determine if there is enough interest in this model to support a proof-of-concept project.
2. Run a pilot project led by two "champion" professors and resources from systems to work through the technical, teamwork, and pedagogical hurdles.
3. Perform a post project analysis of student and staff attitudes and experiences.
4. Determine if this model is economically supportable.
5. Determine the scale and extent to which this model will be used.
6. Track its progress and adjust, as necessary.



THREE UN SDGS AND RESEARCH QUESTIONS



4 QUALITY EDUCATION
Inclusive, equitable, lifelong, and quality education for all. What are the strengths of online, offline, and streaming teaching modalities that could be combined into an infinite classroom?



8 DECENT WORK AND ECONOMIC GROWTH
Decent, sustained, inclusive, and productive employment and work for all within sustainable economic growth. What are the impacts of online learning on the quality of employment for instructors?



13 CLIMATE ACTION
Urgent action is required to reduce greenhouse gas emissions. What is the footprint cost of commuting to school every day?



17 PARTNERSHIPS FOR THE GOALS
Global Partnerships. In addition to serving the above three SDGS, infinite classrooms reach around the world to form global interactions.

FINDINGS

Remote learning can reach students who are underrepresented in colleges such as those in remote indigenous communities or people with disabilities.[1] However, both faculty and students can feel isolated and othered when using remote learning[2][3]. Although in-class learning can maximize student engagement[4] and generate energy in the classroom, it requires physical learning spaces that have a footprint and require travel to reach.

Online instruction puts additional stress on professors, particularly when trying to make those courses the equivalents of face-to-face courses[5]. Pacing, as well as technical and connection challenges can leave instructors feeling burnt out, isolated and lonely[6].

A hypothetical student commutes to the New West campus from Burnaby (5km) on weekdays. Based on the [footprintcalculator.org](https://www.ecotricity.com/footprintcalculator.org) calculator footprints increase by: Walking or bicycle: 0 Earths, Public transit: 0.1 Earths, Honda Civic: 0.2 Earths. For comparison, removing red meat from your diet will lower your footprint by about the same amount.

- [1] Michalski et al
[2] Mellieon & Robinson (staff)
[3] Mather & Sarkans (students)

- [4] Francescucci and Rohani
[5] Makarenko and Andrews
[6] Makarenko and Andrews

CONNECTING THE DOUGLAS STRATEGIC PLAN TO THE SDGS

Climate action = environmental justice

I. Design and implement a climate action strategy that commits to reducing carbon emissions, energy usage and waste.

Double or triple the class size with the same student-teacher ratio, but in a single classroom with reduced commuting

Quality Employment = reduced inequality

II. Encourage the development of curriculum that is responsive to environmental and social needs

A more flexible classroom and a larger student body allows for greater variety in curriculum and more employment opportunities.

Access to education = reduced inequality

III. Review and revise college policies and practices to promote diversity and inclusion, eliminate systemic biases, and support anti-racism initiatives

Flexibility across time and space enables remote (indigenous), disabled, and foreign students to study while allowing seniors to take or audit courses.

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