Impact of the Bimodal Format on Teaching and Learning at the University of Ottawa

Appendix of Report 1 — Student Perspective
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Office of the Vice-Provost, Academic Affairs in collaboration with Teaching and Learning Support Service (TLSS)

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Report
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Appendix 1: Limitations of study
The installation of bimodal technologies, training offerings, and course delivery were conducted under exceptional pandemic circumstances that may have impacted participants’ perceptions and the results of this study. Instructors and students experienced a new learning curve for bimodal courses, only one year after the first learning curve of adapting to teaching and learning completely online while health safety guidelines were still in place.

Furthermore, as this was the first year that bimodal courses were offered on a large scale at the university, we chose a combination of cohort and cross-sectional study to find potential causes and impacts, to approximate the prevalence and predictive value of different variables, and to inform future decisions and investigations. We collected only the perceptions and experience reports of randomly selected instructors and students who experienced bimodal courses and observed classes. Therefore, no discipline-specific case studies were conducted, and no control or comparison groups were selected a priori.

Although the detailed analysis of the course codes of participants shows that the human sciences disciplines such as social sciences (55%), arts (20%) and law (16%) are the most represented in this report, the low percentage of each discipline does not allow us to make meaningful inferences about the impact of bimodal courses in each discipline.

The coding and cross-coding process via NVivo is ongoing. The result in this report does not show all results of the qualitative data analysis.

Appendix 2: Student grades
Institutional research verified the grades of participants who gave us permission to verify their scores. Our participants received high grades, mostly in the A range, in their bimodal courses. They also self-reported a satisfactory level of learning in their courses. However, the wide range of disciplines and courses of our participants does not allow us to make meaningful inferences about the impact of bimodal courses on students’ grades. Institutional research at the University of Ottawa also reports grade inflation in nearly every discipline at the university during the pandemic, making it difficult to take a position on the impact of bimodal courses on official student outcomes.

In the next phase of the project, in collaboration with institutional research, we plan to compare the grades of bimodal courses with the same courses before the pandemic and during online learning in 2020-2021 within a University of Ottawa faculty where
Grade inflation was not reported for 2021-2022, and to compare online and face-to-face student outcomes in a single 1000-student, first-year Chemistry course with the same professor in the French section. In a longitudinal design over several consecutive years, and on the assumption that the bimodal format will remain an option for course offerings, we also aim to collect more samples for each course or discipline with the goal of evaluating the effectiveness of the bimodal format for student outcomes.

**Appendix 3: Demographic characteristics of the participants**

Most participating students were female, without accommodation needs, full time traditional students starting university after high school/college, not a first-generation student, and contributing totally or partially to financing their education.

In terms of financing their education, a quarter reported paying for their own education (including jobs, scholarships and/or personal loans/lines of credit), a quarter reported paying for their own education in combination with government support, 17% reported receiving support from their parents but also contributing to the payment of their education, and 7% reported contributing to the payment of their own education with support from both parents and government. In contrast, 19% of participating students

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1Of the 1425 responses, 61% identified as female, 36% as male, 2% other and 0.7% prefer not to say. 78% said they have no disability, 19% said they have a disability and 4% prefer not to say. 55% do not identify as a member of an equity-deserving group versus 40% who so identified and 4.5% who preferred not to say. Among participants, 80% were full time students, 79% traditional students starting university after high school/college, 15% non-traditional, 14% international students and 5% part-time students. Also, among participants 74.5% did not identify as first-generation students versus 25.5% who identified as first generation.
reported not contributing to the payment of their education and receiving support from their parents, while 7% reported paying for their own education only through government support.

Over half of the student-participants (55%) did not identify as members of an equity-deserving group versus 40% who so identify it and 5% who prefer not to say.

**Appendix 4: Participants’ Faculty and discipline**

For the questions about the learning experience in a bimodal course, each student was asked to respond with only one course in mind, for which they could optionally specify the course code.

The faculties of Social Sciences (50%) and Arts (20%) were the most represented in the survey followed by the Faculty of Law (16%).

![Distribution of respondents by Faculty](image)

Among respondents who indicated their code course, 38% of participating students were in Psychology, followed by 17% in Political Sciences, 10% in Civil Law, 10% in Common Law, 9% in Economics, 7% in Teacher Education, 7% in Philosophy, 3% in Communication 3% in other disciplines.

**Appendix 5: Number of courses taken by participants**

Out of the 1,425 responses, over a quarter (27%) stated that they had taken 6 bimodal courses, 18% two bimodal courses, 16% one bimodal course, 13% four bimodal courses and 11%, 5 bimodal courses.
Appendix 6: Characteristics of bimodal courses
The most represented bimodal courses that were commented on in the survey were the undergraduate, second year course, lecture-based course offered in Winter 2022 and that were managed by the instructor without the assistance of teaching assistants. One half of responses comment on a Faculty of Social Sciences course.

Out of 1,425 responses, 78% of the courses for which students responded to the survey were Winter 2022 courses, compared to 22% of participants who chose a Fall 2021 course. Of the 1,150 responses, 62% indicated that the instructor managed all aspects of the bimodal course compared to 18% who indicated that a professional (perhaps a technical assistant) helped the instructor manage the bimodal environment.

Out of 1419 responses, 79% of student participants chose to report on a lecture-based bimodal course, versus 16% discussion-based courses, 4% other, 0.7% lab-based courses and 0.4% field-based courses. The 'other' category mainly represented the responses of participants who described their course as both lecture-based and discussion-based or both lecture-based and laboratory-based courses.
Appendix 7: Modality chosen by students

More than half of the participants (56%) used the online modality for the bimodal course, 33% both modalities, in person and online, and 11% the in-person modality.

Students who used both modalities, 37% have attended their bimodal course mostly online, 32% mostly in person and 31% equally online and in person.

Modality chosen by students

The majority of respondents reported having the choice to attend online or in-person\(^3\). 10% of students said that they did not have the choice and 4% chose the option “I don't know if I had the choice”. Among those who answered “No, I did not have the choice” (103 responses), half of participants (51%) said it was because the in-person section was not available to them (e.g., full, timetable conflict), 39% said it was because they made their choice based on their personal circumstances (e.g., internet access, distance from campus, health concerns), and 10% because the online section was not available to them (e.g., full, timetable conflict).

\(^3\)Almost half of students (49%) reported that they had the choice to attend online or in-person on a class-by-class basis, 36% said that they had this choice at the moment of registration.
Flexibility of choice

Did you have the choice to attend this course online or in person?

N=1422

- Yes, on a class-by-class basis: 49%
- Yes, at the time of registration: 36%
- No: 10%
- I don't know: 4%
Appendix 8: Reason of choosing the modality

Flexibility followed by a required course and schedule are the top three reasons most cited by students as a reason for choosing the modality.

![Chart showing the primary reasons for choosing the bi-modal course.]

What was the primary reason you chose this bi-modal course?

- Required: It was a required course that was only offered as Bimodal
- Flexibility: I wanted the flexibility to attend in person or online to fit my circumstances (e.g., internet access, distance from campus, health concerns)
- Schedule: It fit best in my schedule
- Other: Another reason not listed (please specify):

In a more detailed question, we also separately asked in person, online and students who choose both modalities to rank the top 3 reasons for why they like a Bimodal course.

The top reasons chosen by in person students are linked to a better fit to their learning styles and needs, seeking for a sense of community and more responsibility and engagement.

- I learn best in a physical classroom (e.g., greater motivation, more focus) (84%)
- I feel more of a responsibility to attend class when it’s in person (72%)
- I feel more part of a classroom community when I attend in person (66.5%)

The top three reasons chosen by those who participated in both modalities were flexibility, handling emergency without missing a class, and time management for doing other activities.

- I can attend online whenever it is more convenient for me (e.g., out of town/live abroad, bad weather, personal circumstances) (88%)
- If I am unable to attend in person, I can attend online as a back-up plan (85%)

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4 Over 39% of participating students said they chose a bimodal course because of its flexibility, 33% selected a bimodal course because it was a required course, 16% because it fitted more to their schedule and 12% because of another reason.
• If I attend online, I can replace my commute time with other activities. (66%)

The top reasons chosen by online students are accessibility, accommodation, and time management for doing other activities.

• I like the convenience of attending online (e.g., out of town/live abroad, bad weather, personal circumstances) (91%)
• I do not have to worry about COVID-19-related issues when attending class remotely (78%)
• I can use the time I would have spent commuting for other activities (71%)