

FRezCa: Role of Collaborative Learning Communities in Higher Education

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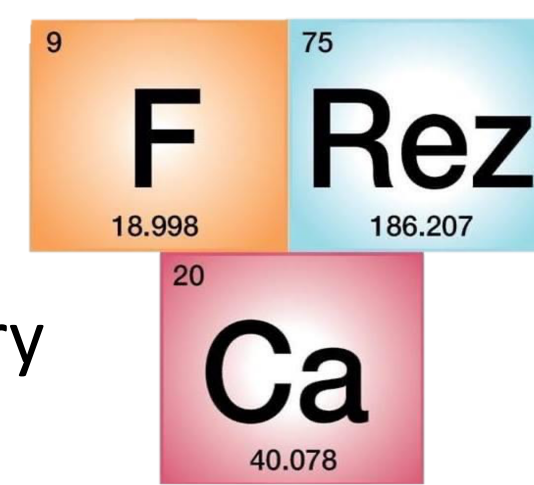
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Completed as an FSCI 396/397 independent research project of the Office of Science Education, McGill University



What is FRezCa?

- Stands for **F**irst-year **R**esidence **C**afeteria
- Learning community targeting **first- and second-year STEM students**
- Bridge **students, TEAM, TA's, professors**
- Academic Help**
 - Math, physics, biology, chemistry
- Collaborations** + Forming connections



What does my project focus on specifically?

- To investigate the factors making FRezCa and, more generally, learnings communities **useful**, and discover ways to **improve** the program in order to **maximize student success** (FSCI 396)
- To assess the role of **metacognition** in higher education and explore ways for its **incorporation** into collaborative learning communities like FRezCa (FSCI 397)

Research Methodology

FSCI 396 - Quantitative & Qualitative Data Analysis

Quantitative

- Attendance**
 - Student ID + Course** they are at FRezCa for

Qualitative

- Observation System**
 - Student Interaction** (Individual, Peer-peer, Peer-TA/professor)
 - Task Distribution** (Literacy, Assignment, Discussion, Other)
- Optional **Survey Questions**
 - Rating** of FRezCa (1– Terrible, 5 – Fantastic)
 - Amount of **Time** Students Spend at FRezCa
 - Location** Suggestions
 - Other comments

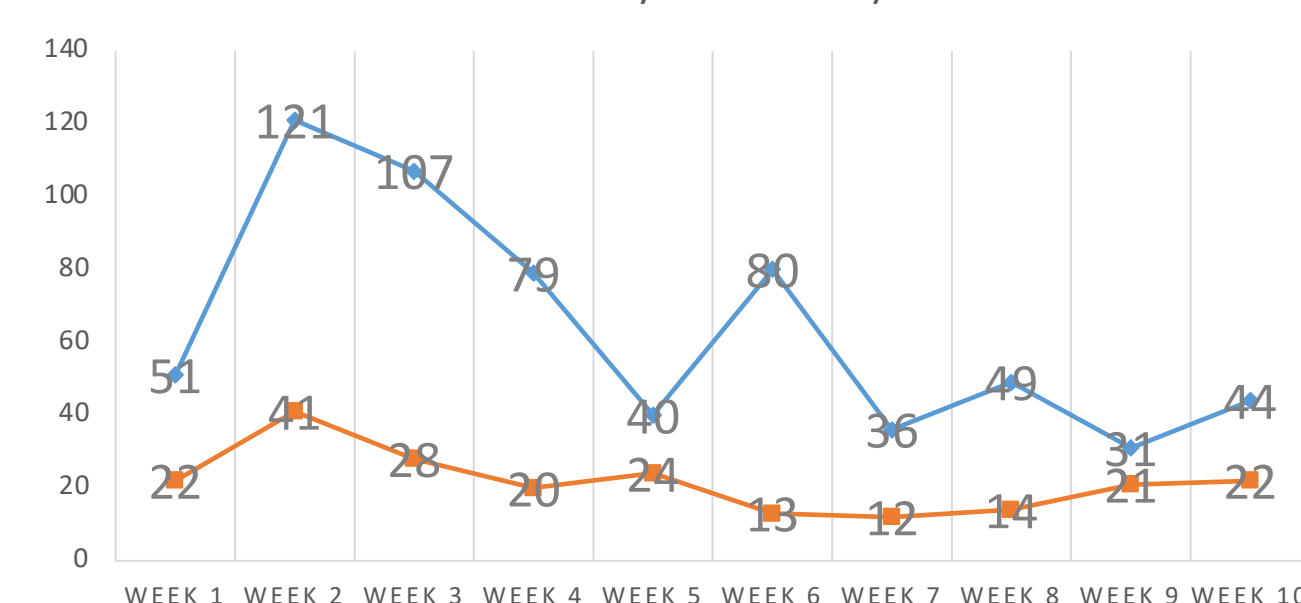
FSCI 397 – Theory-based Approach

- Literature Search**
 - Relevant Articles on **Metacognition**
- Feedback** From Interviews, Training Sessions, & Meetings
 - Professors**
 - TA, TEAM**
 - Expertise Resources:** Office of Science Education (OSE)
- Personal **Experiences**

FSCI 396 Results + Discussion

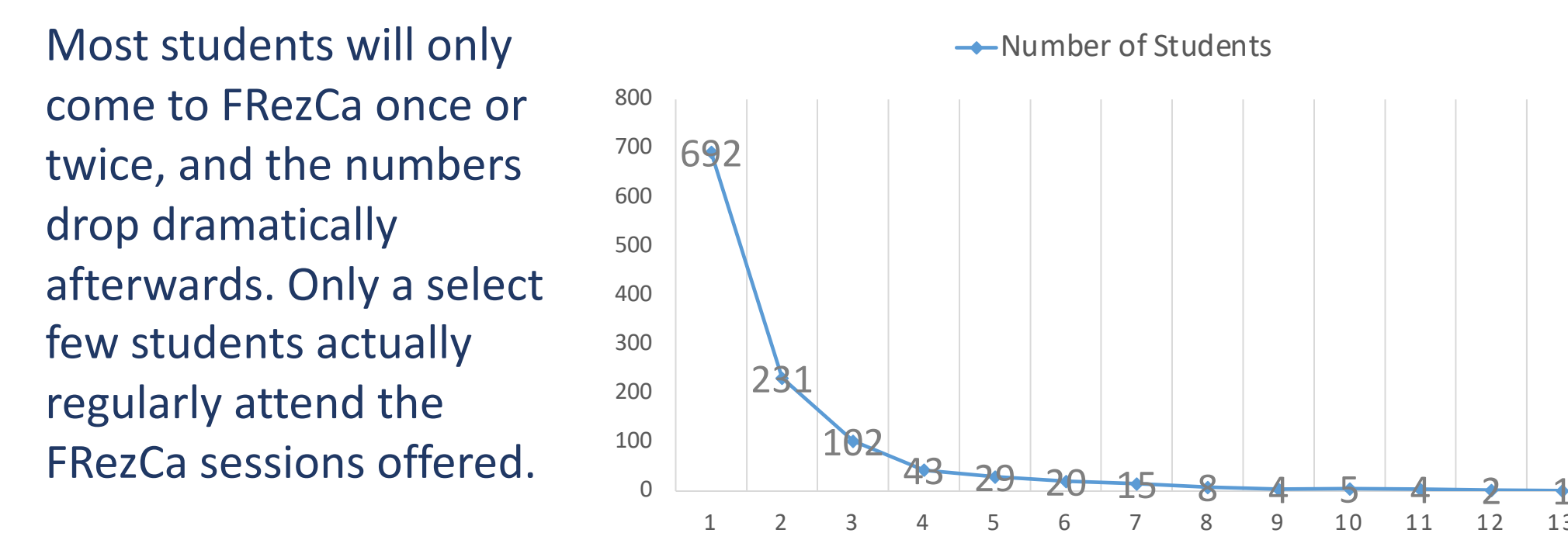
Quantitative:

ATTENDANCE BY U1 AND U0 DAYS



U0 days have constantly higher numbers in attendance than do U1 days, which makes the space more crowded and mentors less accessible on these days of the week compared to others.

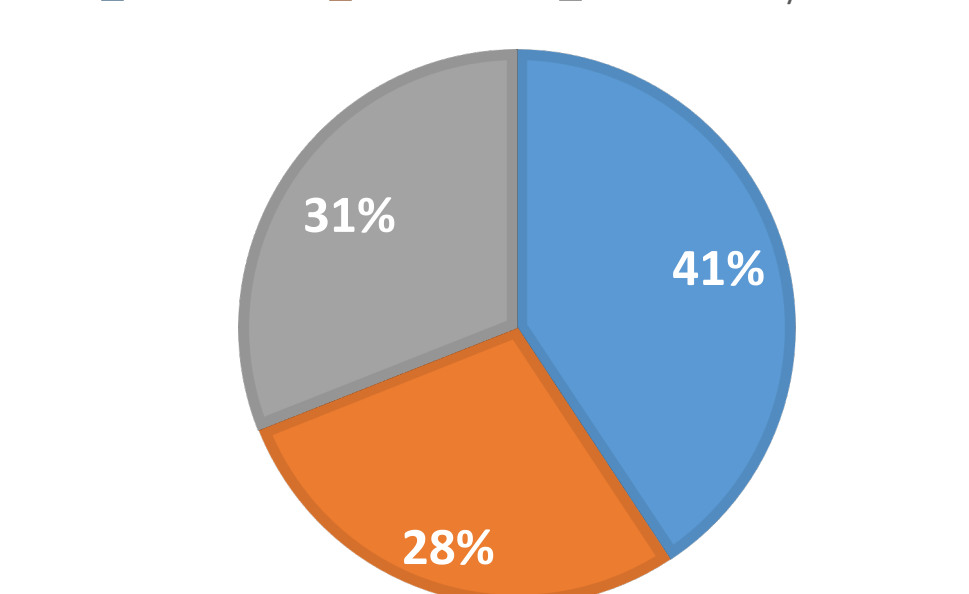
NUMBER OF TIMES STUDENTS ATTEND FREZCA



Most students will only come to FRezCa once or twice, and the numbers drop dramatically afterwards. Only a select few students actually regularly attend the FRezCa sessions offered.

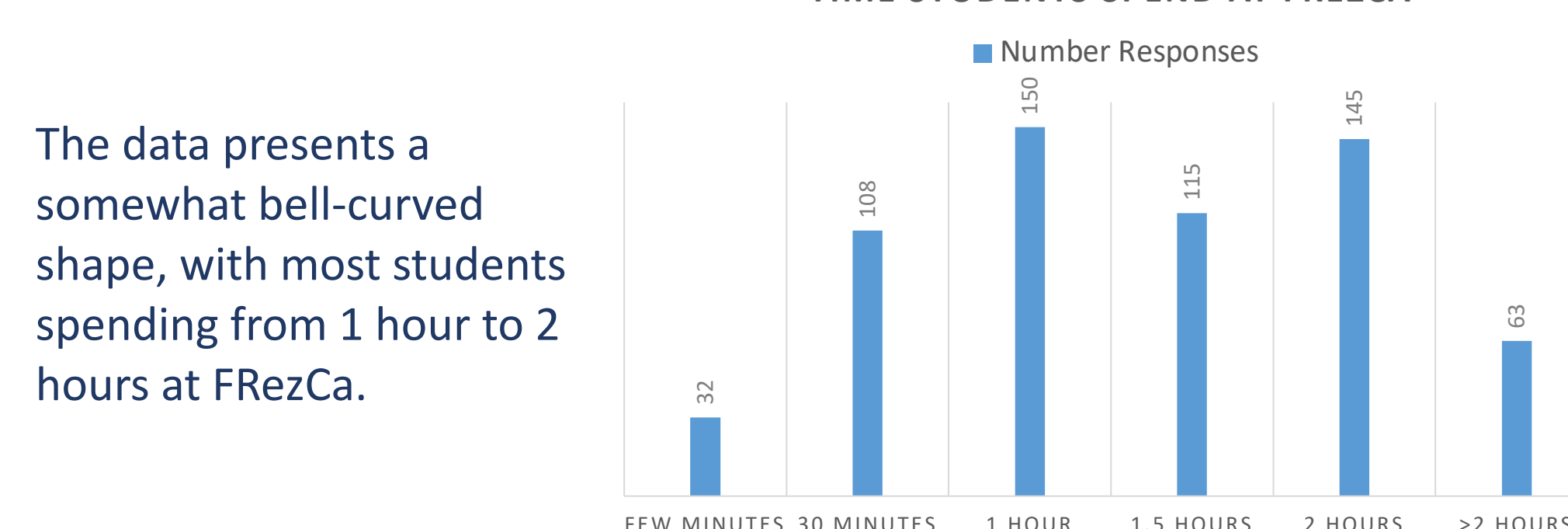
Qualitative:

OVERALL STUDENT INTERACTION AT FREZCA



Although a majority of the student population are working collaboratively with their peers, mentors, or professors, there is also a large number of students working individually at all times throughout the session.

TIME STUDENTS SPEND AT FREZCA



The data presents a somewhat bell-shaped curve, with most students spending from 1 hour to 2 hours at FRezCa.

GENERAL THEMES	SAMPLE RESPONSES
FRezCa is good/helpful	"I love FRezCa" "If I could stay longer I would" "The TAs really helped with my understanding and I really appreciate it." "Very productive study environment"
FRezCa is busy/not enough mentors	"Make sure tutors circulate and give everyone time" "More people to answer students' question especially around test dates" "Too crowded of a space" "Sometimes there's too many people to ask individual questions" "More TAs for the amount of people here" "capa is SO hard"
Subjects are difficult	"I really need help for the chem quiz" "Need more help for 150!"
FRezCa should have more times	"I really wish the times were early in the morning or at night in the evenings. I almost always have labs during FRezCa, which always makes me very sad" "Need more times because I have class during FRezCa"
Organizational Suggestions	"Have better organization for the designation of tables" "Help those who have not been to FRezCa before know what to do" "Is there any way to tell students which days will have more of which people? Sometimes I come and there's like 30 chemistry people but sometimes there's like 2 for example"

This table presents general comments and suggestions from students regarding anything about the FRezCa program.

FSCI 397 Results + Discussion

Need for Metacognition

Literature

- Social **interactions** from learning communities foster **metacognitive** development
- Form of **reflective thinking** to plan, monitor, and evaluate learning: "knowing what you don't know"
- Potential for pedagogical **interventions** to facilitate metacognitive development



Personal Experiences

- Student **confusion**
- Variable **teaching methods** from TEAM mentors

Feedback

- Professors: recognize need for deeper thinking

Question: student tutorials VS mentor workshops?

Proposed Workshop Model

Metacognitive Questions

- Comprehension:** what concept(s) are we looking at?
- Strategic:** how can we address this problem?
- Connection:** how can I relate this to the real world?
- Many types!

Combine Theory with Practice

- Alternating roles** of student asking for help, mentor providing assistance, and observer giving feedback
- Multiple sessions** throughout the year

Assessment – Does this really work?

- Awareness of Independent Learning Inventory (AILI)**
 - Metacognitive Knowledge: be aware of the thinking process
 - Metacognitive Regulation: able to put skills to practice
 - Metacognitive Responsiveness: adapt strategies to the changing environment
- Learning Strategies Inventory

Conclusions

- FRezCa & collaborative learning communities are helpful!**
- Some **improvements** can be made:
 - Better mentor **training** and communication
 - Reduce busyness so more students can receive help
- Metacognition** is a potentially useful skill to incorporate into learning communities
 - Can be **trained** explicitly
- TEAM mentor workshops** can facilitate this incorporation
 - Combine **theory and practice**

Future Work

- Construct & implement TEAM mentor workshops
- Assess the **effectiveness** of these workshops and make necessary changes
 - Questionnaires
 - Feedback
- Analyze other data collected
 - Grades of students
 - Survey results
- Continue to improve FRezCa!

References & Acknowledgements

I would like to acknowledge the Office of Science Education and University Advancement at McGill University, and Oulin Yu and Cynthia Feng for their help and support with this project.

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More Information and Contact

I am a third-year student pursuing an Honours in Anatomy & Cell Biology at McGill university. I am currently working as a FRezCa admin.

If you have any questions, suggestions, comments, concerns, or would like more information regarding this project, feel free to email me at:
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