MacEwan UNIVERSITY

aheerk/SIGCSE2020-International-At-Home

Internationalizing the Student Experience Through Computing for Social Good

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Our Project

Computing for Social Good

&

Internationalization at Home

Designed by Macrovector

Computing for Social Good

“See a need fill a need”

- Bigweld – Robots

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Internationalization at Home

Designed by Macrovector & Pikisuperstar

Our Project

Computing for Social Good

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Goals

Experience goal:

- Expose first year Canadian and Mexican computer science students to the concept of Computing for Social Good in a global context.

Research question:

- Is there a **difference** in Canadian and Mexican students' ideas and approaches towards Computing for Social Good?

Participants

MacEwan University
Edmonton, Alberta, Canada

Tec De Monterrey
Guadalajara, Jalisco, Mexico

	MacEwan University	Tec De Monterrey
Survey 1	32	52
Survey 2	20	26
Virtual Discussion & Survey 3	17	18

Created using mapchart.net

Activities

Introductory Presentation

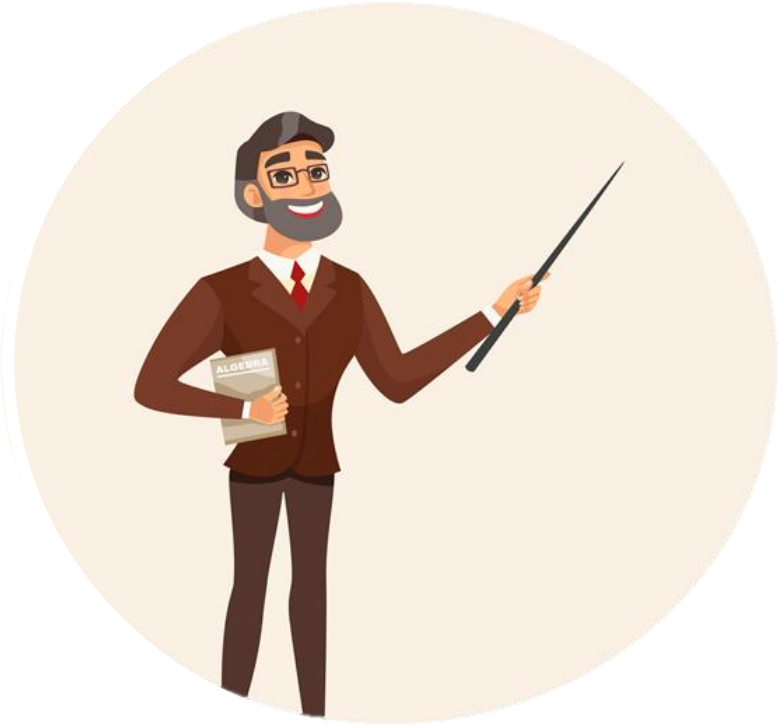
Survey 1 (Propose Apps)

Survey 2 (Rank Apps)

Virtual Discussions

Survey 3 (Reflection)

Project Activities



Introductory Presentation

Email Invitation

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Survey 1: Propose Apps

Issue	Solution
My family needs a better way to organize the shopping list.	A grocery list / to do task coordinator.
Our city is crowded with lots of traffic and cars.	An application that gives you discounts or some benefits by using public transportation.
People use phones while driving.	An app that disallows phone use while the car is in motion.

Survey 1 Sample Responses

Designed by Freepik

Survey 2: Rank Apps

Sample of Common Applications from Survey 1

- An app that records one's ecological footprint, displays information about current air quality, and indicates various ways to live an environmentally friendly lifestyle.
- An app in which a user can create a work profile and be connected to suitable job opportunities.
- An app that supports charities by transporting money, donations, or supplies to those who need it.

Videoconference Discussions

Designed by Pikisuperstar

Survey 3: Reflection

Sample Responses: ***What is the most interesting or surprising thing that you learned from this experience?***

- “Computing for social good has more benefits that I thought.”
- “The fact that we all chose similar apps surprised me. regardless of how developed a country may be there are certain common issues that are inevitable.”

Hypotheses

H1: Are the **top three** social good applications that students choose as most important associated with their school?

H2: Are the **types** of applications that students chose associated with their school?

H3: Are the **scope** of applications that students chose associated with their school?

H4: Are students feelings of **similarity** associated with their school?

Hypothesis 1

Are the **top three** social good applications that students choose as most important associated with their school?

Survey 2

α: 0.05

Test Statistic: 12.27

p-value: 0.267

Failed to reject H1Ø

Thematic Analysis

Themes:

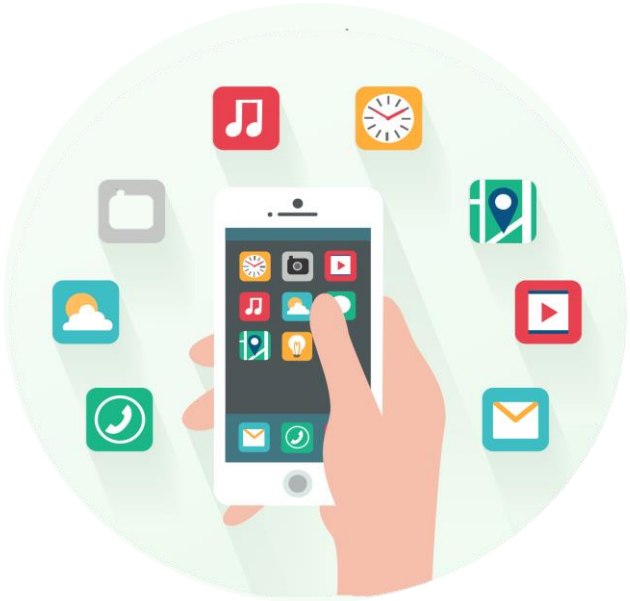
Type of Application

Scope of Application

Similarity

Designed by FreePik, studiogstock, & johndory

Thematic Analysis



Type of Application

- Education
- Environment
- Health
- Jobs
- Networking
- Productivity
- Security
- Other

Type of Application

MacEwan University			Tec De Monterrey		
Coding	**N**	**%**	**Coding**	**N**	**%**
Networking	21	32.8	**Networking**	27	26
Education	14	21.9	**Productivity**	24	23.1
Productivity	11	17.2	**Education**	20	19.2
Health	7	10.9	Health	15	14.4
Security	6	9.4	Environment	8	7.7
Jobs	3	4.7	Other	6	5.8
Environment	2	3.1	Security	3	2.9
Other	0	0	Jobs	1	1.0

Survey 1 Type of Application Coding Frequencies

MacEwan University			Tec De Monterrey		
Coding	**N**	**%**	**Coding**	**N**	**%**
Education	21	35	**Education**	22	28.2
Networking	13	21.7	**Security**	19	24.4
Security	12	20	**Networking**	12	15.4
Jobs	5	8.3	Health	12	15.4
Health	5	8.3	Jobs	7	9.0
Environment	4	6.7	Productivity	3	3.8
Productivity	0	0	Environment	3	3.8
Education	21	35	Education	22	28.2

Survey 2 Type of Application Coding Frequencies

Hypothesis 2

Are the **types** of applications that students chose associated with their school?

Survey 2

α: 0.05

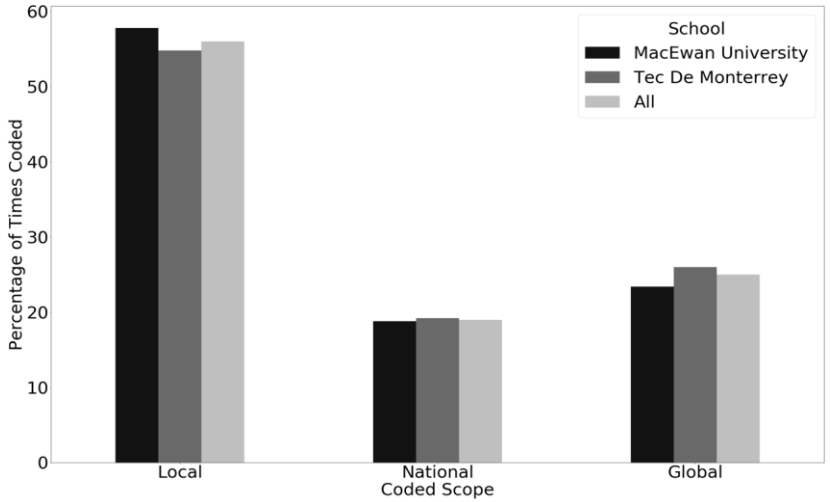
Test Statistic: 6.91

p-value: 0.329

Failed to reject H2Ø

Hypothesis 3

Are the **scope** of applications that students chose associated with their school?



Survey 1 Scope of Application Coding Frequency

Survey 2

α: 0.05

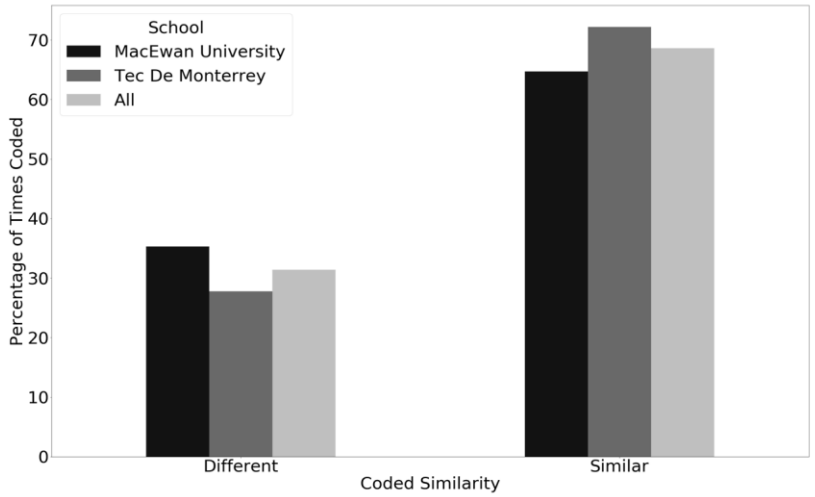
Test Statistic: 0.42

p-value: 0.81

Failed to reject H3Ø

Hypothesis 4

Are students feelings of **similarity** associated with their school?



Survey 3 Similarity Coding Frequency

Survey 3

α: 0.05

Test Statistic: 0.013

p-value: 0.908

Failed to reject H4Ø

Limitations

- No random selection
- Degree of participant interest
- Attrition

Conclusion

Canadian and Mexican Students:

- Focus on similar issues
- Focus on local communities
- See similarities across borders and cultures

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