

# A QUALITATIVE EVALUATION OF SUSTAINABILITY-RELATED COURSES AT UBC

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## INTRODUCTION

Climate and environmental changes are the most serious threat faced by our human society today. Teaching and learning about these issues are the most essential and crucial ways to not only investigate and solve these problems but also increase awareness, monitor, and evaluate these ongoing challenges and propose alternative modes. Universities are looked upon as change agents, where both knowledge creation and knowledge exchange occurs.

With the underlying theme of globalization and encouraging students to be global citizens, UBC adopted a sustainable development policy in 1997 and revised it in the most recent UBC Sustainability Academic Strategy (SAS) 2009. The new UBC SAS focuses on promoting sustainable practices through teaching, learning and research. UBC offers over 350 courses related to sustainability and has several research projects aimed at this issue as well. However, no research has been conducted to evaluate whether - and how - these courses are promoting sustainability, literacy about climate change, and citizen action among the students who take them.

This study seeks to evaluate the impact of teaching and learning initiatives involving sustainability and sustainability-related courses through a qualitative approach using focus groups and in-depth one-on-one interviews. Further, the study aims to investigate students' understanding of sustainability concepts and how they may implement the strategies for environmental stewardship they have learned. Hence the question: how do courses translate sustainability into sustainable actions or awareness?

## RESEARCH QUESTIONS

1. What aspects of course curricula indicate sustainability content and aim to foster sustainable actions and behaviour?
2. How do the students understand and translate sustainability as framed in the courses?
3. What course related experiences influence student attitudes towards and motivation for sustainability in their career and personal lives?

## THEORETICAL FRAMEWORK

The study will employ behavioural change theories (social-cognitive theory, trans-theoretical theory, theory of reasoned action and theory of planned behaviour) to interpret and understand the impact of UBC's courses. According to these theories both personal interaction and environment play a crucial role in the learning process and they attempt to explain how individual behaviour change and patterns occur. These theories provide an interpretive lens to understand the study's results and explain them in terms that identify how sustainability curricula could work towards changing behaviour. This will enhance our understanding of how students learn and integrate these strategies into their everyday lives so that we can adapt our teaching and pedagogy accordingly.

## RESEARCH METHODOLOGY

The three proposed research questions were examined using a qualitative collaborative research approach; focus groups, in-class observations, and interviews. Focus groups were conducted mid-semester and were meant to provide the preliminary base data to help guide interview questions. The research questions were developed using an interpretive and descriptive approach in order to investigate the concepts and personal rationale of each student.

The focus groups provided a more exploratory and descriptive type of data whereas interviews gave a more explanatory and confirmatory type of data. These methods sought to procure a more in-depth study and investigation of students' concepts and behaviours. The study included 3 sustainability-focused courses at UBC:

- *Visualizing Climate Change* – a pilot course (CONS 499C)
- *Climate Change: Global Challenges and Local Responses* (RMES 500G)
- *History and Philosophy of Environmental Thought* (RMES 501).

A total of 13 students and 3 instructors were interviewed. The interviews were conducted 2 months after the end of the course to provide a better measure of the impacts of the course and a more realistic impression of the course on the students. In addition, all course instructors, the Associate Director of the Teaching and Learning Office and the Director of the UBC Sustainability Initiative were interviewed in order to evaluate the course curriculum and the overall impact of the sustainability teaching and learning initiative.

## PRELIMINARY FINDINGS

Interview analysis is still in progress but the following preliminary findings were shared at the presentation. These findings are the result of the focus group analysis:

1. **Long-term exposure:** Students with long-term personal engagement with the issue tended to have relatively less influence from the course than students who became interested in sustainability more recently before enrolling in this course or were introduced to various topics

through the course. The length of the course or the program also seemed to influence attitudinal changes in terms of integrating sustainability into their career or personal lives.

2. **Student discussions:** Peer engagement and group discussions were considered more valuable in terms of understanding and grasping the material than lectures.
3. **Project-based learning:** Students preferred group work on a relevant topic, during which they are able to use the knowledge from the course and apply to implement strategies.
4. **Type and level of awareness:** Students reacted differently to the type of knowledge used to further their appreciation of – and interest in – sustainability. Compared to the *History and Philosophy of Environmental Thought*, which provided students with knowledge of how behaviours and attitudes change over time, *Visualizing Climate Change* provided a more scientific approach to understanding sustainability with some practical applications and strategies. The latter provided a more knowledge-based approach compared to the former, which provided a more transformational and deeper understanding.
5. **Inter and trans-disciplinarity:** Students appreciated being exposed to various disciplines and thoughts through their interactions with their peers. Not surprisingly, those who worked together on a similar problem provided different viewpoints and perspectives.

## KEY THEMES

Certain key themes started emerging during the analysis of the data; the following were shared during the presentation:

1. **Scientific understanding:** Students have the scientific knowledge to understand climate change and sustainability issues.
2. **Communication:** Students feel comfortable talking about and communicating climate change and sustainability issues with accurate scientific knowledge.
3. **Resourcefulness:** Students feel they are equipped with the tools, strategies and experiences to face current and future challenges.
4. **Motivation/inspiration:** Courses motivate and inspire students to make a positive change.
5. **Awareness:** Courses engage students in discussions and activities that promote a consciousness and deeper understanding of issues. This fosters in them, self-realization, reflection and integration of knowledge.
6. **Mode of learning:** The kind of learning that employed in the course is correlated to how students understand the material.
7. **Technological awareness:** Courses provide students with technological - past and present - modes of dealing with issues.

8. **Global/local research:** Courses present students with both global and local research to enhance their understanding and awareness.

## **ANTICIPATED OUTCOMES, SIGNIFICANCE, AND EXPECTED IMPACT OF THE STUDY**

According to the UBC Sustainability Academic Strategy, these courses are meant to enhance a students' understanding, interest, and their commitment to a more sustainable lifestyle. Moreover, they are meant to aid them in becoming global citizens.

This study will show how and whether these courses are making a difference, and will provide feedback and a framework for the adaptation and further modification and development of the sustainability curriculum at UBC. In addition, it will also provide an evaluation of the effectiveness of long-term sustainability impact in three courses, and suggest additional evaluation of other similar courses at UBC.

Through this research we will be able to answer some broader questions regarding the issue of sustainability education: questions such as "to what extent can we solve the problem of sustainability through education?" and "what kind of sustainability curriculum is required to bring about the necessary and timely change?"

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