OVERCOMING SUSTAINABILITY IMPLEMENTATION BARRIERS IN THE
COLLEGE SECTOR: OLDS COLLEGE 2010-2014 BUSINESS PLAN

By

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We accept this thesis as conforming to the required standard

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Abstract
Implementing sustainability initiatives within a post-secondary institution can start with educating and influencing staff and students. It requires thoughtful planning and preparation in order to realistically expect the target audience to accept, implement, and adopt such plans. Assuming education and encouragement towards sustainable behaviour are the foundation of successful implementation, including the stakeholders in the planning process would seem to be a logical approach in educating for sustainable behaviour. Since post-secondary institutions are communities within communities, they provide a logical starting point to research the challenges of implementing a sustainability education initiative. This thesis explores potential implementation barriers of a recently proposed initiative within the 2010-2014 Olds College Business Plan of educating staff and students of Olds College about sustainability, so that they become engaged participants in the creation of a College-wide sustainability plan.
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Introduction

Located in the Town of Olds, Alberta, Olds College is a post-secondary institution whose vision is to be a front runner in integrated learning and applied research (Olds College, 2010). In June 2010, a four-year business plan was adopted and within it has identified a goal of implementing a sustainability education initiative for the staff and students of Olds College (S. McNabb, personal communication, September 13, 2010).

What are the barriers to implementing staff and student sustainability education within the context of the Olds College 2010-2014 Business Plan and how can they be overcome? To answer this question, this thesis is presented in four major components: Introduction, Methodology, Data Analysis, and Recommendations. This research is designed to explore a recently adopted initiative within the Olds College 2010-2014 Business Plan; the focus being to educate the students and staff of Olds College about sustainability, its scope, and its benefits. The rationale of educating staff and students about sustainability is that during this process staff and students will have opportunities to present concepts for inclusion in the College’s sustainability plan (Olds College, 2010, p.14).

This research takes a proposed sustainability education initiative within the Olds College 2010-2014 Business Plan, identifies current and perceived understandings of and attitudes towards sustainability, identifies general gaps in knowledge and information relating to sustainability, identifies potential benefits and barriers associated with the implementation of this initiative, (Dale, 2001; Mazmanian & Kraft, 1999) and presents recommendations to address these issues.

This study is important because the information gained through this research is currently beyond the scope of the Olds College business plan (Olds College, 2010; S. McNabb, personal communication, September 13, 2010).
McNabb, personal communication, September 13, 2010) and this study can open a constructive dialogue (Dale, 2001) of sustainability awareness among staff and students. Such dialogue could encourage participation in sustainable living, and both staff and students interviewed could play key roles in energizing the implementation of the suggested options to overcoming those barriers (Steinemann, 2003).

The methodology section sets out the research approach, discusses recognizing limitations, and reducing biases. There is discussion about the research question, the interviews, and determining the final sample size.

The research findings and data analysis section discuss the “key findings and issues” arising from data collected during the research interviews and summarizes the findings.

The recommendations section presents a process-based approach to help get sustainability initiatives into practice by addressing the need for language clarity, identifying implementation barriers and how to assess and encourage staff and student participation. This section also discusses the benefits and challenges of using a problem-based learning approach to engage staff and students in implementing sustainable behaviour within post-secondary institutions which may be beneficial to Olds College in the implementation of their proposed sustainability initiative.
Research Context

Established in 1913, Olds College operates under authority of the Post-Secondary Learning Act and is board governed (Olds College, 2010), currently staffing 436 permanent full-time, permanent part-time, temporary, and contract staff members, and have an enrolment equivalency of 1271 full-time students (Olds College, 2009).

On March 26th, 2009, the Olds College Board of Governors reaffirmed the College’s vision to be a front runner in integrated learning and applied research (Olds College, 2010). On April 22, 2010, the Olds College Board of Governors approved six outcomes and four goals which “form a structure for the development of associated performance measures”. (Olds College, 2010, p. 8).

To continue to enable its students to exceed market requirements, Olds College, as an institution, is faced with several key opportunities and challenges based on several situational realities (Olds College, 2010). These opportunities include having the ability to understand and react to the needs of global customers and consumers, the promotion of research and innovation, rural economic development, a mandate for regional stewardship and environmental and water issues, a rapidly changing labour market in Alberta, and the demand from the Oil and Gas industry for trained personnel (Olds College, 2010). Meanwhile, the College is challenged with the decline of traditional post-secondary enrolment groups, budget constraints and the need to implement innovative and proactive solutions due to the economic slow-down, and the declining number of young Canadian farmers (Olds College, 2010). Therefore, in its changing marketplace Olds College has recognized that it must be proactive, strategically positioned, and visionary (Olds College, 2010), hence the proposed initiative.
The accompanying strategy is aimed at achieving “sustainable operations based on multiple bottom line concepts” (Olds College, 2010, p.14) by engaging College stakeholders to “create a sustainability vision and plan” (Olds College, 2010, p.14). The proposed actions to accomplish this strategy include educating staff and students about “sustainability, it’s scope and its benefits” (Olds College, 2010, p.14). Concurrent and subsequent to the implementation of this initiative, success will be measured by having staff and students gain knowledge about the concept of and issues associated with sustainability, by their use of this knowledge in presenting concepts for inclusion in the development of a College sustainability plan, and through their support of future sustainability initiatives (Olds College, 2010).
Methodology

Based on background research and information obtained during discussions with the Vice President of Student and Support Services, the attitudes and understanding regarding sustainability within the College staff and students were expected to vary. To set a benchmark for analyzing the degree of understanding staff and students have about sustainability, sustainability is defined as a process by which ecological, social and economic imperatives are reconciled (Dale, 2001; Seghezzo, 2009). This will be further discussed in the recommendations section.

Approach

Interviewing participants was the preferred method of data collection based on several strengths. Interviews fostered face-to-face interactions which was useful for uncovering participants’ perspectives and facilitated immediate follow-up for clarification. During the interview, data was collected in a natural setting for the participant who engaged in free and open discussion (Marshall & Rossman, 2006). Additionally, interviewing participants provided contextual information, facilitated analysis, validity checks, triangulation, and may possibly facilitate future staff and student cooperation (Marshall & Rossman, 2006).

Recognizing Limitations

Prior to conducting the interviews and while reviewing literature for this research, I considered the possible limitations or restrictions to be faced when conducting research in a familiar area (Marshall & Rossman, 2006) as an alumnus of Olds College. I also considered the availability of interviewees, and my own availability, due to heavy workloads and variable schedules. The limitations I did not consider were the amount of transcription time required for each recorded interview, and the financial realities associated with the amount of time required to be away from work.
In addressing the limitations of conducting research in a familiar area, Marshall and Rossman (2006) indicate that this familiarity brings with it potential concerns as well as positive aspects. Concerns include the acceptance of transitioning from a more familiar role to the role of researcher, and the risk of uncovering or relaying damaging information (Marshall & Rossman, 2006). There was a possibility that the research project or my shifting to the role of a researcher may not be taken seriously by College staff because some were once my instructors. The concerns about confidentiality were mitigated through the process of the request for ethical review before conducting research. In the end, none of these concerns were realized nor did any potential issues arise. The positive aspects of conducting research in a familiar area included the ease of access to participants and living in the same community, which reduced the amount of time I had to spend travelling to collect data. Additionally, the possibility of establishing and building trusting relationships and conducting research within a group of my peers was also viewed in a positive light (Marshall & Rossman, 2006, p.63).

To address the limitations associated with participant availability, as well as my own, a semi-rigid schedule was maintained. Data was collected within a one week time frame to accommodate my schedule and the best time of day and place to conduct the interview was left to the discretion of the interviewee. In some cases, the day-to-day availability of many interviewees required my conducting interviews with a narrow window of opportunity and little lead time, in addition to navigating through bureaucratic channels to access other interviewees. Midway through transcribing my first recorded interview, I realized how much time was required to transcribe one hour of voice recorded interview data. Despite approximately four hours of transcribing for every one hour of interview conducted, fifteen hours of interviews were transcribed.
All research costs were self-incurred as this research was not sponsored. The amount of time available to conduct research during the working hours of the interviewees was restrictive in that it meant I had to take unpaid time from work to complete the interview and then completed the transcribing on my own time. Even though it was a limiting factor, a well balanced schedule, effective time management and a tremendous amount of support from my family offset unrelated workloads thereby freeing me up to collect sufficient data to complete this research project.

Reduction Biases

To reduce biases and help evaluate the trustworthiness of my thesis, the project and research were evaluated using four basic criteria identified by Marshall and Rossman (2006). They are credibility, transferability, dependability and confirmability.

Credibility - This research topic was identified as a component of the sustainability strategy within goal four of the 2010-2014 Olds College Business Plan. The Business Plan has a specific strategic component involving educating College staff and students about sustainability (Olds College Business Plan, 2010, p. 14; S. McNabb, personal communication, September 13th, 2010). Following an initial meeting with the Vice President of Student and Support Services and an initial interview with the Vice President of Academics, subsequent interviewees were randomly selected using a snowball approach, putting the onus of selecting the next interviewee or department back on the interviewees.

Transferability - In addition to the key findings and issues identified by this research being useful in developing a plan to educate staff and students about sustainability, this research could also serve as an additional source of information to refer to during the development of a sustainability plan or how to approach the creation and implementation of
future plans affecting Olds College, or other colleges in the Association of Canadian Community Colleges (ACCC).

**Dependability** - During the course of this research and until the submission of the thesis, the administration, business plan and social community of Olds College has remained unchanged. It is because of this and the approach used to acquire participants, which was not based on my familiarity of the individual interviewee, that I believe this research could be replicated (Marshall & Rossman, 2006).

**Confirmability** - To limit biases in interpretation, I have included time for cross-checking and for peer debriefing to search for negative instances. To ensure that the findings reflect the view of the participants rather than representing any of my biases, all interviewees were afforded an opportunity to review this paper and to prepare a statement directed at the reader in the form of a memo statement (See Appendix “C”) (Denzin, 2009; Marshall & Rossman, 2006).

**Research Questions**

Research interview questions were comprised of ten semi-structured, open-ended questions (See Appendix “A”) and were designed for the staff and students of Olds College. Questions had minor degrees of overlap so that throughout the interview, responses could give rise to themes related to sustainability plan implementation barriers, elements for inclusion, and to promote the successful implementation of such a plan.
Interviews

As mentioned in reducing biases, a snowball approach to interviewing was used. Interviews were conducted with staff (vice presidents, administrators, department heads, faculty, and other facilities staff), students and one Board of Governors member (A. Dale, personal communication, August, 2010; Denzin, 2009). This approach began with an initial interview conducted with the Vice President of Academics. The last question of the interview was, “can you suggest any other people I should interview?” (A. Dale, personal communication, August, 2010; Denzin, 2009). From the list of people the Vice President of Academics recommended, I selected the next interviewee and contacted them with a letter of invitation. From the list of people recommended by other interviewees and based on voids in the sample cross-section of College staff and students, the remaining interviewees were selected and approached. Some potential interviewees were contacted by a letter of invitation, but declined to respond. When this occurred, another person from the list was selected. The goal was to obtain a reasonable cross-section of staff and students and, using this approach to selecting interviewees, I was fortunate to have conducted fifteen one-hour interviews (See Appendix D).

Prior to each interview, the interviewee was given a research consent form (See Appendix “B”) to review and was afforded an opportunity to ask questions or express any concerns before signing. There were three individuals who requested to remain anonymous. Data was collected by means of voice recorded, in-person interviews with the recording device in plain view of the interviewee. Voice recorded interviews were conducted to encourage free discussion of topics ordinarily unattainable during surveys (Henwood, & Pidgeon, 2001). Short, semi-structured, open-ended questions were used to better understand specific barriers and glean realistic implementation suggestions from the interviewee’s
perspective (Davies, 2005; Kvale, 1996). The main objective of the interviews was to understand how the interviewee defined sustainability, their current understanding about sustainability, what they feel others understand about sustainability, what gaps exist in knowledge and implementation, and how could this be resolved. Following the interviews, the voice recordings were transcribed, signed consent forms were scanned to file, and both datasets were copied to a folder and backed up for data security. The digital recordings were deleted from the recording device.

The transcribed participants were then sorted into three groups: academic, non-academic and Board of Governors (See Figure 2), to correspond with the interviewees association with the College. The seven interviewees on the academic side are under the leadership of the Vice President of Academics and the seven interviewees on the non-academic side are under the leadership of the Vice President of Student and Support Services (S. McNabb, personal communication, September 13, 2010). The Board of Governors member did not belong to either of these groups as that person (and the Board) is not involved in the day-to-day operations or activities of Olds College.

*Figure 2: Olds College Interviewees*
On the academic side of the College, seven, one-hour interviews were conducted. Three interviews were with non-administrative personnel comprised of a six member student focus group (considered to be one interview), and two instructors: one from the School of Environment and one from the School of Business. The remaining four academic interviewees held administrative positions within the College including the Vice President of Academics, Chair of the School of Environment, Chair of the School of Agriculture and the Program Manager for Continuing Education, Agriculture, Land and Environment. The group of six students were randomly selected by a staff member associated with Campus Life to participate in a group interview. The students varied in age, gender, program, and year of study. The group was asked the same ten questions that were posed to individual interviewees and all were given equal opportunity to respond.

On the non-academic side of the College, seven, one-hour interviews were conducted. Four interviews were with non-administrative personnel. One participant was from caretaking, two from grounds keeping and one from the College farm. The remaining three non-academic interviewees held administrative positions within the College including the Vice President of Student and Support Services, the Executive Assistant to Vice President of Student and Support Services, and a representative from Olds College Business Services.

Sample Size

The final sample size was determined by the number of interviews required to capture a representative sample of a cross-section of the College personnel (staff and students) and by the regularity of data saturation. With the participation of multiple individuals, an increased knowledge of the study subjects was gained facilitating a form of action research (A. Dale, personal communication, September 8, 2009; Marshall & Rossman, 2006).
Research Findings and Data Analysis

This summary identifies key findings and issues gleaned from data collected during face-to-face interviews. The collected data was transcribed, themes and issues identified, and interviewees quoted to narrow the possibility of misinterpretation of the response.

The first four questions were related to examining the definition, importance, understanding, and attitudes staff and students have about sustainability within Olds College. The next four questions probed interviewees for elements they felt were necessary to include in a College sustainability plan, explored why integrating sustainability into this planning process would be beneficial, examined the implementation barriers associated with the proposed initiative, and then had the interviewee explain the roles of the Board of Governors, the Vice Presidents of Academics and the Vice President of Student and Support Services. Question nine closed any conversational loops and the last question determined the next interviewee using the previously described snowball approach to selecting participants.

While the questions had a certain degree of overlap, they were posed separately in order to engage the interviewee in a process of uncovering sustainability plan implementation barriers throughout the entire interview. Quotations are included to highlight a participant’s response and maintain flow of the document. All interviewees have been assigned a “subject” identity with the exception of the responses given by the Board of Governors member, the Vice Presidents of Academics and Student and Support Services, two Chairs, and two instructors.

Definitions of sustainability

Question 1: How do you define sustainability? During the interview process, the academic and non-academic participants defined and approached sustainability as either a single concept or as a set of concepts (Robinson, 2004, p. 381) in ways which suited their
particular applications, and for the most part originated from the relationship between humans and the resources we use (Voinov & Smith, 2004). Stewart (2010) says: “like many concepts, sustainability is nebulous and lacks explicit learning outcomes” (p.2), while Robinson (2004) said that it is more useful to think of sustainability “as an approach or process of community-based thinking that indicates we need to integrate environmental, social and economic issues in a long-term perspective, while remaining open to fundamental differences about the way that is to be accomplished and even the ultimate purposes involved” (p.381).

Student interviews were conducted with six students in a group setting. When the question to define sustainability was posed, the definitions evolved as others weighed in. The definition started off as “any actions minimizing environmental impact” to “actions and reactions to help things along”. One student went on to say mankind needs to be aware that “our current rate of resource consumption will come to a point where the available resources are not going to keep up with [mankind’s] demand” and referred to sustainability as a “tool” for a solution: “by using sustainability, we can at least understand what we need to do and what course of action we need to do it by”.

The academic staff varied in their definitions of sustainability. Instructor “C” defined sustainability as the ability “to carry on indefinitely without exhausting some aspect making it impossible to do so”, Instructor “D” tied it to “being able to maintain, and continue on with whatever your primary function is”. As interviews moved from instructional staff to the chairs, Chair “A” defined sustainability as being relatable to one’s particular role or position within the College by saying “it depends on what area you are in: technical, if you are at the chair level and economic at the V.P. level”.
Three of the non-academic interviewees related their definitions of sustainability to the process of making thoughtful operational decisions which have the least negative impact on the College, staff, students and the environment, with the intention of maintaining those decisions into the future. The Vice President of Student and Support Services defined sustainability quite simply as “good business” and explained that when practicing good business, one approaches “decisions and measure[s] success based on different criteria such as economics, environment and social aspects”. Finally, the Board of Governors member defined sustainability as “a balance within the organization that assures it will thrive into the long-term future”.

*The importance of sustainability for Olds College*

Question 2: Why is sustainability important for the College sector? This question expands on the interviewee’s definition of sustainability from question one. The first question establishes a personal definition of sustainability; the second question builds on that definition by taking what they believe sustainability to be and applying it to why they would perceive it to be relevant to Olds College thus establishing a better understanding of the interviewee’s perception of sustainability.

More than half of the responses from the academic side indicated sustainability was socially important for Olds College in order to maintain its program base followed by the importance of financial sustainability. The interviewees stated that Olds College has a social and economical obligation to produce a high quality, relevant product because, as Instructor “D” put it, “if [Olds College is] not producing a product and people are out there [speaking negatively] about their program and what they got from their time here at Olds College, then you are not going to be able to sustain your programs”.
Instructor “C” responded: “sometimes I think maybe [sustainability] is not important. When something uses up its useful life and goes off track enough, it’s probably not important that it sustains itself. But when you have an organization that is working properly, it can only do so if it is sustainable”.

Three of the non-academic interviewees related the importance of economic sustainability for Olds College to economics, with respects to funding requirements and being sensitive to current funding cuts. Five of the non-academic interviewees indicated that in order for the College to be sustainable, there is a current need to be more efficient especially given the current reality in the reduction of available funding. Subjects “G and H”, from the non-academic, non-administrative side indicated that if the organization was more efficiently and effectively operated, it would “ease the current workload, reduce employee frustration, enhance progress, create a pleasant work environment, and enhance productivity”.

The Board of Governors member believes the College has been sustainable given it is nearing its 100th year of operation and reflecting on the legacy thus far. The member also said “sustainability of the College is important to us as the leaders of the College because we cannot be sustainable if we are not able to provide students what it is students are looking for” such as a “knowledge base that will allow them to participate in society”.

Understandings of sustainability

Question 3 – What is the College’s current understanding of sustainability? This question also builds on establishing the interviewees understanding of sustainability and what they perceive the College’s understanding of sustainability to be. Who specifically the “College” is (such as staff, students, administration) was not specified; it was left to the discretion of the interviewee. Within the group of interviewees, there were varied individual definitions of sustainability.
The students believe that College staff “have a clear understanding” of sustainability whereas the students are not likely to be well-informed. The student group added that sustainability “is not currently promoted” on campus which may be a contributing factor.

Eight believe the College, as an institution, has an understanding of sustainability which is economically driven and when a tension is presented between the economic and the environmental imperatives, five of the academic side believe ‘economic sustainability’ comes first while some on the non-academic side acknowledge that economics is important in the College’s understanding of sustainability.

Chair “A” believes that when it comes to the understanding of sustainability, “different [disciplines] will have different ideas” being relatable to one’s particular job description. Chair “B” validates this sentiment by saying “higher levels will have a better understanding, however, faculty and students may not [understand sustainability]”. On the non-academic side, there are two people who believe that the College has some ideas about sustainability, but Subject “J” says “their vision is not clear” and one of the vice presidents suspects the overall understanding of sustainability is “limited and scattered”. The Board of Governors member believes that [the students] have an environmentally influenced understanding of sustainability because there is a vast majority who lack economic experience, meaning the students who are newly out of high school would likely associate sustainability with environmental initiatives such as recycling. However, the Board member also added that the understanding of sustainability throughout the College will also be based on or influenced by the individual’s role in the College, whether that person is staff or student.

A key observation arising from this question is the perception held by a significant portion of the academic side of the College that the institution views sustainability through
the lone lens of economics or based on the need to balance the books. They suspect that if faced with a tension between the economic, social or environmental imperatives, the resolution required would be to the detriment of the environmental imperative. While those charged with the College’s higher level governance may realize that staff and students conceptualize sustainability differently, the message or position the College has regarding sustainability is not getting back to those same staff and students to align them with the goals of the institution.

Attitudes towards implementing sustainability

Question 4 – What are current attitudes within the College towards implementing sustainability? This question attempts to fill in any blanks from the preceding question about the College’s understanding about sustainability and to act as a segue to the next question about elements of a sustainability plan. Therefore, the question “What are the current attitudes within the College towards implementing sustainability” delves deeper into specific attitudinal barriers with the overall responses to this question markedly divided into two categories, those who feel the current attitudes would be positive and those who feel the current attitudes would be negative.

Five interviewees believed the current attitudes towards implementing sustainability would be negative. The students stated that “it is an uphill battle to educate students outside of the curriculum and that it will take too much effort on their part”, adding that even with the recycling program in residence, students are “too lazy” to bring their recycling to a central location on each floor. Subject “F”, who works on the non-academic, non-administrative side of the College, was initially ambivalent in saying, “it depends on what the initiative is” but then said, “students value their dollar, so if it costs a lot of money, they will not support it”. Instructor “C” believes that the introduction of a sustainability initiative will be met with
“scepticism” and people will not be interested because “it lacks credibility, people are too busy and it is a top down idea”. Chair “A” said, “it sounds like motherhood and apple pie. There will be high energy initially, but will lack vision and will not have a finish line due to lack of communication and being continually uninformed”.

Within the group of ten interviewees who felt the current attitudes would be positive, half were from the non-academic, administrative side of the College and the remaining interviewees were a blend of the rest of the school. Subjects “G and H” also believe that there will be initial excitement but cautioned that the excitement may turn to resistance due to the cost of implementing such a plan. The Vice President of Student and Support Services believes there will high levels of support and will require those involved to have long-term thinking on their mind. However, he acknowledged that currently what is lacking is a “common vision” which could prove problematic. The Vice President of Academics added that “a policy is required” to resolve future tensions between the economic, environmental, social and learner imperatives because “when there is a conflict between social, economic and environment, the environment loses”. The Board of Governors member believes that such an initiative would be met very positively and likened the attitudinal response of the faculty and administration to that of a release of pent up energy with an exclamation of: “it’s about time”.

**Recommended elements of a sustainability plan**

Question 5 – What elements should be in your sustainability plan? Asking the interviewees what elements should be in their sustainability plan provided further insight as to the interviewee’s comprehension of a sustainability plan. Which lens would the interviewee use to interpret this question? It was assumed that people’s understanding of sustainability would be influenced by factors directly involving them and those within their
sphere of influence. If that was the case, then the answers should differ in the context of the role the interviewee has at Olds College. For example, the students should have conceptual elements which are geared more towards their needs as opposed to the higher level governance of the institution. Also, this question was designed to facilitate interviewee valuable information for the recommendation portion of my research, as well as giving direct feedback to the leaders and decision-makers charged with overseeing the creation and implementation of the sustainability initiative of the Olds College business plan.

The students indentified several elements for inclusion in their sustainability plan: “environmental”, “consideration for learning disabilities”, “relevant education using visual media”, “a participation plan geared to encourage students, an adequate time commitment”, and a “succession strategy aimed at getting new students on board with the plan”. Instructor “C” also suggested a “succession strategy for education and ideas as well as mentoring” to ensure the support is there to encourage participants.

Eight interviewees recommended that the sustainability plan have an environmental imperative, both in curriculum and in procedures and practices. Others added economic and social imperatives to the list of elements. Two interviewees indicated that the sustainability plan “must have something attached to it which is fundamental to my values” and “is important to me”.

Themes gleaned from all responses to this question were the importance of having “a clear and sincere definition of sustainability” which isn’t “green-washing”, “bandwagonish”, or “all motherhood and apple pie”. The plan should have “clear objectives” in clear language with “an explanation as to why this is important” for the staff and students of Olds College.
All of this should be supported by “adequate resources”, “feedback mechanisms”, and “a defined organisational structure of who answers to who [sic], who is responsible for what, and in the event something changes, how does that change who answers to who?” Decisions should be based on the input from an adequate cross-section of stakeholders though out the College and all should be put on the table before the plan is created.

There was an expression of the need to have “players” or experts brought in to lead this initiative and also to have “enforcement” mechanisms in place to deal with non-compliance. The single most recurring theme is the request by nearly all parties, outside of the administration, for clear lines of communication.

During the interviews, interviewees became frustrated when they raised the need for communication within the institution as a necessary element of a sustainability initiative. There is a sense that when the “next big idea” is being prepared, the staff and students are being told what to do as opposed to being included in how to decide what is the best approach to take. The interviewees have provided a snapshot of “must-haves” to be considered by the leaders and decision-makers of Olds College, whether in the context of the proposed sustainability initiative or relating to any planning processes forthcoming. The interviewees understanding of sustainability was influenced, but certainly was not limited by factors directly involving them and those within their sphere of influence.

**Benefits of integrating sustainability**

Question 6 – What are the benefits of integrating sustainability into your planning process? Although the question was not specifically designed as a decompression mechanism for the interview, having the interviewee focus on the positive aspects of integrating sustainability into any planning process shifted the tone of the conversation to slightly optimistic.
Eight interviewees believed that integrating sustainability into their planning processes will realize long-term benefits such as reducing costs and having “less reliance on Government money”. One interviewee felt that the benefit of long-term thinking would be a “window of what the future is going to look like and how you are going to get there”. Another interviewee said that long-term thinking could lead to the creation of “an appropriate policy which would mean you operate in harmony with reality rather than with arbitrary goals” and include provisions “for a succession strategy”. Long-term thinking would also make room for “environmental goods and services to have value on the balance sheets” and can be regarded as “short-term pain for long-term gain”. The students feel that integrating sustainability into the planning process would permit communication throughout the campus because “sustainability crosses a variety of boundaries and applies to everyday life” which could deal with “long-term financial and enrolment issues as well as social and economic aspects”.

Whether it is directly associated with the economic, social, or environmental imperative, interviewees recognize that the integration of sustainability into their planning process will increase the range of focus on policy or procedural planning from being short-term, with arbitrary or instantly gratifying goals, to that of a longer term, transdisciplinary vision with consideration for the greater good (Kevany, 2007).

Potential barriers to implementing sustainability

Question 7 – Please describe the potential barriers to implementing sustainability.

Throughout the interview there were implementation barriers emerging out of responses to other questions. For example, in responding to question five, “What elements should be in your sustainability plan?, Instructor “C” indicated that they have not “seen a demonstration of leadership for big ideas. We don’t have that. What we have is management at a distance. I
call it the Wizard of Oz School of Management. To make things happen, you send out missives, you download everything and you just wait and see how it goes, and then you send out some more”. Similarly, in responding to question four, “What are the current attitudes within the College towards implementing sustainability?”, Chair “A” brought up “lack of communication” as a barrier.

The overlap in the questions seemed redundant to some interviewees; however, the replies seemed to be more objective and coming from a higher altitude perspective at this stage of the interview. Seventy-one implementation barrier responses were recorded (some being the same or similar in nature) and have been organized into the broad categories of logistical, communication, attitudinal, institutional, conceptual, and educational (Jacobson, Morris, Sanders, Wiley, Brooks, Bennetts, Percival & Marynowski, 2006). These categories of implementation barriers will also be discussed in the recommendation section.

**Logistical barriers** occur when people believe the management plan and data collection cannot be implemented due to lack of “resources, time, and staff… and [because of] a lack of clear timelines, goals, and objectives” (Jacobson et al, 2006, p.1518). When asked to identify potential barriers to implementing sustainability at Olds College, the majority of interviewees responded that resources would be a limiting factor. In particular, nine of respondents said the financial cost of implementation would be the biggest barrier. There were also challenges of resource availability and the ability to secure adequate resources to implement a sustainability initiative as well as provide the required subsequent support systems. Several interviewees feel that the current short-term vision of the College is a barrier and that successful implementation of a sustainability plan would mean the College would have to think and plan further down the road than its current capability. Other barriers identified revolve around what the interviewees feel the College is lacking. As previously mentioned,
there is a current sense of scepticism around the College’s organizational approach to plans due to “lack of research planning”, “lack of a common goal or common view” and “lack of focus”. The student group identified their length of tenure as a limiting logistical factor, citing that while they are typically on campus for two years or less, during the first year they are focused on trying to get their footing and the second year they are focusing on graduating.

*Communication barriers* “arise from the inability to interact across disciplines, the lack of interaction among stakeholders, and the lack of information flow within the management [of an] institution” (Jacobson et al, 2006, p.1518). Three of the interviewees have been employed by the College for “many” years and share a sentiment that the “current lack of face-to-face contact” among all staff (administration, faculty, and staff) has had a negative effect on inter-disciplinary communication. The historical, mandatory, “all faculty” meetings regularly brought all staff members together in one room which, facilitated the sharing of ideas, issues, energies, and any other topics currently on the minds of staff in other departments. The interviewees who feel negatively impacted by the cessation of the “all faculty” staff meetings said that “people are now uninformed”, “they lack the information and are not sharing or communicating the information with each other”. They feel that disconnected departments lose the potential for interdisciplinary collaboration, and that a “need to build the necessary bridges” between departments exists if the College staff is going to work together across disciplines.

Some interviewees share the belief that there is “a lack of communication between the board, administration, and faculty” which makes “current bureaucracy a limiting factor” and when plans and ideas are to be implemented “the official word is not coming down from the President”. Two of the interviewees view a shift towards sustainability as possibly pitting department against department because there is a sense “if one gains the other loses” and for
those reasons, there would be resistance towards new ideas. Subjects “G” and “H” stated there was “lack of interaction with those with relevant technical knowledge”. They were referring to recent changes on campus where they believe their input could have tweaked or influenced the decision-making process. They believe their current operational knowledge, experience, and input could have helped the final decision be more cost effective for the institution in the long run, and made their day to day activities more efficient and effective. Another interviewee commented that the College may not engage stakeholders because “getting stakeholder buy-in is too time consuming”.

Attitudinal barriers stem from misconceptions people have of each other (Jacobson et al. 2006) or the lack of communication between attitudinal and behavioural entities (Sidique, Lupi & Joshi 2009). The general consensus among the student interviewees was that “the students themselves” are barriers “because the average student is lazy or thinks that it is cool to be lazy”. Another interviewee said that “getting the people to believe that the College believes in this and [that the College] will have long-term vision” will be a significant barrier. Several interviewees indicated that the proposed sustainability initiative seems “bandwagonish”; the College is merely looking to “be part of the next big thing” and historically, they have done so without adequate planning and preparation. Some interviewees believe “people’s negative attitudes” or “current mindsets” could be an implementation barrier because “people don’t understand sustainability and don’t see the relevance”. When this happens, one interviewee said: “it will be hard to get support the second and third time a plan is initiated” because people lose “the will to proceed”.

Institutional barriers “stem from organizational culture and structure that is not suited for sustainable behaviour management… such as collaborative decision-making, flexibility, and learning” (Jacobson et al, 2006, p.1518).
Within the context of sustainability, five interviewees believe that past decisions may have started out with the intention of achieving a sustainable outcome, however, when there was a tension between the social, economic and environmental imperatives, “the environment and social aspects lose out to economics” and that the College’s “demand of functionality overrides efficiency”.

One interviewee felt that if they wanted to participate in College initiative planning or the implementation process then the “lack of roads in” or a lack of opportunities to participate would be a barrier because of the current bureaucracy. In regards to a sustainability initiative, there is a belief that the leaders and decision-makers would be challenged when it comes to deciding on an area of focus or “trying to agree on what the definition of sustainability [would be]”, “having long-term vision” and that, if a plan should emerge from the institution, it would likely “lack identifiable structure” in which to follow and not include actual “solutions”.

**Conceptual barriers** “arise from an individual’s lack of understanding or experience with the process” (Jacobson et al, 2006, p.1518). Even though the interviewees understood the benefits of a sustainability initiative, two of the fifteen interviewed expressed a concern that ultimately “sustainability will mean loss of jobs” because the more efficient we become, the less workers will be needed. Another interviewee said that they would expect the misunderstanding of what sustainability is or means to be a barrier because it is “hard to conceptualize”.

**Educational barriers** “relate to the level of knowledge… key stakeholders have of [sustainable behaviour]” (Jacobson et al. 2006, p.1518). Nine interviewees had indicated that when it comes to sustainability, there is a current “lack of knowledge” or a knowledge gap.
Not only is it a conceptual issue, but there is a sense that, beyond the creation of a sustainability plan, the College will have to prove to the staff and students that “its implementation is worthwhile”. Instructor “C” said that within the College, there is a certain lack of “knowledge that there is a problem” when it comes to balancing the social, economic and environmental imperatives, and a “stereotyping of those who do [believe there is a problem]”.

Understanding of administrative roles

Question 8 – What is the role of: The Board of Governors; the Vice President of Academics; the Vice President of Student and Support Services? The rationale for asking interviewees to describe the roles of the Board of Governors, Vice President of Academics, and Vice President of Student and Support Services was to understand whether the roles of the leaders and decision-makers were understood by staff and students. My assumption was the further the interviewee’s current role or position within the College was from having a direct working relationship with the Board of Governors or the offices of the Vice Presidents, the more diluted their understanding of the offices’ actual role would be. This may be problematic when an initiative is directed from either of these offices.

On the academic side of the College, some members of the student group did not know or could not provide a definitive answer as to what the roles of the Board of Governors, Vice President of Academics or the Vice President of Student and Support Services were; some appeared to make assumptions about the role based on the office title. The remaining six academic interviewees, who were composed of chairs, program managers and instructors, had similar responses as to the roles of each office and understood that the Board of Governors are not involved with day-to-day operations of the College, whereas the vice presidents are.
On the non-academic side of the College, those working in an administrative role or directly associated with the Board or vice presidents, provided similar responses as to the role of the respective office. However, the responses of interviewees working in a non-academic, non-administrative role, such as caretaking and grounds keeping, were not similar or aligned and were not as specific as those working in administrative roles on the non-academic side of the College.

Additional thoughts emerging from the interviews

Question 9 – Is there anything you would like to add? This question was intended to add to the robustness of the face-to-face interviews and to ensure there were no outstanding thoughts they wanted to discuss or questions they may have wanted to pose during the interview. Eight of the fifteen interviewees responded when asked “is there anything you would like to add?”. Here are their transcribed responses:

Vice President of Student and Support Services: “I am interested in the way in which we would have to educate staff and students.”

Chair “B”: “School is looking at sustainability through an agricultural lens. There are plenty of sustainability initiatives. The model of a post-secondary institution is to measure success by growing enrolment, but growing into a market that has no additional capacity may reduce the quality of the product.”

Instructor “C”: “You may find different people have different levels of openness and varying levels of interest. If you can inspire the twenty percent of those who make things happen; if they can see something in it for them or their department (quality of education, the environment, something that builds social strength), different people will pick it up. The College is going to have to commit to this for a long time (a five-year plan is a good start)
and will need to state the objectives and why it is good for us. Having a sustainability plan is good business. The chairs are going to have to believe in this as well, and now is a hard time. It feels like it is a flavour of the week right now, based on how it is presented in the business plan.”

Subject “E”: “There are studies that indicate that traditional student bodies are not going to grow. So we need to offer accessible learning to part-time students but we are putting our resources into full-time students.”

Subject “G”: “I cannot express the concerns I have about sustainability and where the College is at, the problems we see every day and are trying to control at our end.”

Subject “I”: “Things have to be kept going as efficiently as possible.”

Subject “K”: “Sustainability is new and people are now talking about it because it has to be the way now because of the way the world is. Longer term vision and back tracking is required to look back and not be defensive.”

Students: [Only one student had something they wanted to add] “Is there any way the College can make this sustainability plan go viral within the college instead of using traditionally obvious methods? Make it seem underground.”

Identifying participants

Question 10 – Can you suggest any other people I should interview? (See Appendix “D”)

Analysis

As previously introduced, sustainability is defined as a process of reconciling ecological, social and economic imperatives (Dale, 2001; Seghezzo, 2009). Using this benchmark, the research interviews revealed that the current levels of understanding about
sustainability at Olds College are diverse with varying degrees of sophistication (A. Dale, personal communication, December 5, 2010).

It appears that participants are not only influenced by their relationship with the resources they use in their day-to-day lives (Davis, 2009; Voinov & Smith, 2004), they are also influenced by their individual occupations or roles within an organization. It was observed, during the interviewing process, that the higher up the chain of command one climbs, the more politically correct and economically influenced the use of language became (Voinov & Smith, 2004). If the College intends to embrace and institutionalize sustainability, one of the key issues to be addressed by the leaders and decision-makers before moving forward, will be the diverse and varying degrees of understanding about sustainability. The College should work to clarify sustainability language on campus. The definition can serve the entire campus, while being vague enough to have adaptive capacities for the individual departments. To bridge the current gaps in language, staff and students together can be engaged and motivated to become involved in indentifying small problems and creating solutions through an approach such as problem-based learning.

The majority of the students interviewed narrowly regarded sustainability as an action or reaction to protect the environment. The students believe their impact on the environment will begin once they enter the workforce and that “they should have sustainability in their thought process, being at the College level”. The students said that while sustainability is not currently promoted on campus and the students are typically uniformed, they believe that College staff has a very clear understanding about sustainability. The student interviewees hold the opinion that their not being informed is partly due to the general lack of motivation students have to become involved in what they consider to be ‘extra-curricular’ activities. With regards to sustainability, the students say their primary focus remains with the
environment, while acknowledging that the College is influenced and affected by the economic imperative of sustainability.

College staff members appear to have higher levels and breadth of understanding about sustainability. Some the staff members have a narrow focus regarding sustainability, while others were close to providing the definition given in the context of this thesis. This may be partially due to the individual’s history with the College, the position or function they serve within the institution, peer influence, and life experience. Despite the varying levels of sophistication, the key theme rising from the interviews hedged around the interviewee believing the College had a need for ‘economic sustainability’.

Gaps in sustainability knowledge and information were noted between interviewee departments, disciplines and roles within the College and appear to be related to the lack of common sustainability vision and the lack of a clear sustainability language. Even so, most interviewees related the importance of the social imperative of sustainability as being necessary for Olds College to maintain a viable program base and produce a relevant product for both students and their related industry. Economically, there is a high level of awareness of the need for outside funding and that the impact of recent cuts has been felt across the campus. Having said that, there is the pervasive opinion that the College could be running more efficiently and effectively throughout its day-to-day operations, thereby making the limited resources go further in light of the current cuts to annual funding. Some of the interviewees feel improving operational efficiencies will also prove beneficial to staff moral and overall physical well-being. While the interviewees did touch on all three imperatives, there is a current lack of understanding that a sustainable process or system is not one of three individual imperatives in isolation from the others. It is one integrated system whereby the
economic imperative is embedded in the social imperative, which is ultimately embedded in the all encompassing ecological or environmental imperative.

The majority of the interviewees believe that the implementation of a sustainability initiative would be met with a positive response. There is also an undertone of caution to be considered by the leaders and decision-makers who may make assumptions, whether positive or negative, as to how the status quo would view a plan or change being generated and implemented from the top down. Staff and students would not necessarily resist change; they would most likely “resist having change imposed on them” (Capra, 2002, p.100).

While concerns about cost seem to be ubiquitous, those who operate outside of the policy and governance offices of the College are making it very clear that, before plans are to be brought forward or brought down, the decision-maker must take a whole-systems approach to plan implementation, which includes having a clear, sincere vision with the necessary support structure in place before the plan is kicked off.

The identification of potential sustainability initiative implementation barriers related to educating staff and students should not be regarded as a series of complaints about the College as an institution, administration, staff or students, rather, it provides a real-world snapshot of how the proposed sustainability education initiative would be received. Whether the barriers are related to logistics, communication, attitudes, the institution, misconceptions or education, the initiative should be designed and supported to identify, acknowledge and tackle the issues head on. The initiative should not be designed to legitimize existing hierarchical structures but to transform this institution and facilitate more effectively shared decision-making (Dale, 2001).
Using the research findings and data analysis, literature reviews, and a course research assignment specifically chosen to tie into this research, from “Sustainable Development – From Theory to Practice”, a framework was created to guide Olds College in the development of campus-wide implementation strategy. The strategic tools discussed in the recommendations section place emphasis on language clarity, identifying implementation barriers, encouraging participation and a problem-based learning approach. This type of College-wide engagement process approach (problem-based learning) can move the theory of sustainability into practice, thereby helping to facilitate the College’s movement towards campus wide integration of sustainability.
Recommendations

Possibly “the greatest challenge we face in responding to issues of the day is not necessarily one of scientific or managed origin, it is about dealing with people and their diverse cultures, interests, visions, priorities and needs (Norgaard, 1994)” (Community Research Connections, n.d.). There is a responsibility held by initiative planners to include their staff and students in the scoping, planning and implementation of sustainability initiatives in order to realize the highest potential of its acceptance, adoption and implementation. Whether a learning institution is considering implementing a sustainability initiative or currently has a sustainability plan in place, leaders and planners must also encourage sustainable behaviour among staff and students (Lucas, Brooks, Darnton, & Elster-Jones, 2008). Sustainability initiatives also require a collective effort whereby leaders, decision-makers, staff and students have the knowledge and capacity to develop solutions specifically for their community (Ling et al., 2009) or to incorporate them into their daily routines (Mazmanian & Kraft, 1999). Whether sustainability initiatives can be implemented by the staff and students or whether it is why staff and students would not commit to shifting their behaviour, the gap between policy and practice will continue to expand unless leaders and decision-makers improve their understanding of which components of their sustainability initiatives are integral and align to the values of staff and students. Leaders and decision-makers must also understand which initiatives are currently being adopted locally, identify the characteristics of those participating, and address the barriers for those who are not (Dale, 2001; Mazmanian & Kraft, 1999). It is assumed that the majority of staff and students want to work and live in a community in which their current lifestyle will not negatively impact the ability of their children to enjoy the same in the future. If there is lack of thoughtful planning, there may be crucial missed opportunities for effective implementation.
When College leaders, decision-makers and planners put forward initiatives and then wonder why staff and students are not participating in initiatives, plans, and policies related to sustainability there are several checks and balances which can be made. Conroy and Iqbal (2009) have identified the following broad techniques which can be used by leaders and decision-makers to evaluate or re-evaluate their implementation methods; assessing language clarity, identifying stakeholder participation, identify staff and student implementation barriers, and encouraging staff and student participation.

Sustainability implementation is more effective when the existing resources within the learning institution can be utilized. It is essential that the College be committed to the plan as it will rely heavily on this support. Planners should recognize that sustainability is as much a bottom-up approach as it is top-down (Cooper & Vargas, 2004) and that sustainability education grows from a variety of sources and is delivered through both formal and informal strategies (Pearson, Honeywood & O’Toole, 2005).

This recommendation section explores a basic process by which leaders, decision-makers, and planners can consider to help encourage staff and student participation during the various stages of implementing sustainability initiatives.

**Language Clarity**

Since the word sustainability may mean many things to different people (Conroy & Iqbal, 2009; Cooper & Vargas, 2004; Dale, 2001; Ling et al, 2009; Steinemann, 2003), the term sustainability must have a clear, concise and acceptable definition within the context of the initiative to avoid confusion by leaders, decision-makers and planners. There must be a collective vision about its meaning specific to the College and, once a definition has been agreed upon, the vision should state why the sustainability initiative is necessary. This may
spawn new ideas to be considered within the initiative and contribute to the success of the implementation.

Dale (2001, p.35) says “sustainable development can be regarded as a process of reconciling three imperatives: …ecological …social and …economic”. The ecological imperative means to live within the carrying capacity of the earth while simultaneously maintaining biodiversity. The social imperative means ensuring governing systems are democratic and able to create sustainable, commonly accepted values. The economic imperative means allowing the basic needs of people to be met all around the world (Dale, 2001). This is echoed by Seghezzo (2009, p.539), who specifically ties this in with policymaking when he says “sustainability is usually seen as a guide for economic and social policymaking in equilibrium with ecological conditions”. Arguably the definition of sustainable development and sustainability are not interchangeable (Robinson, 2004), however they are complementary. The process of reconciling each imperative for the sake of development or opportunity can be regarded as the vision and sustainability can be regarded as the lens.

Cooper and Vargas (2004) point out that defining what sustainability is not is equally as important as defining what it is. They state that sustainability is not “a one-plan way to utopia” nor a “simple plan”, but note that it can be applied to current plans and initiatives as an assessment tool or as the basis of larger scale planning (Cooper & Vargas, 2004). Sustainability, while based upon environmental protection, should not be an approach which solely focuses on the environment because that is not where sustainability ends (Cooper & Vargas, 2004). Sustainability is not married to the model of physical planning because it is not merely about the process of “input and feedback” (Cooper & Vargas, 2004) or
abandoning current plans (Cooper & Vargas, 2004). With these clarifications in mind, planners can focus in on what sustainability will mean to their efforts.

**Identify Implementation Barriers**

To implement sustainability planning, leaders, decision-makers and planners should aim to identify why staff and students are not participating, which components of their current initiative are being adopted and identify the characteristics and/or the behaviours of those who are implementing the practices within this initiative (Mazmanian & Kraft, 1999). To further identify barriers of sustainability implementation, staff and student surveys and personal interviews could be conducted (Jacobson et al, 2006) and, if necessary, reformatted and conducted again. The College can lead a forum like a ‘World Café’. This could serve as a conversational process to evoke and make visible the collective intelligence of any group and give students the *viral forum* of sustainability requested during the research interviews. Websites such as theworldcafe.com offer a style of forum based on a set of integrated design principles that reveal a deeper living network pattern though which our future can co-evolve collectively, “thus increasing people’s capacity for effective action in pursuit of common aims” (The World Café, 2010).

As introduced in the data analysis section, Jacobson et al, (2006) sorts the potential initiative implementation barriers faced by a community into the six broad categories of logistical, communication, attitudinal, institutional, conceptual, and educational. As well, social innovations, and identifying novel solutions to complicated problems, are inherently collaborative and without a community engagement process to identify novel ways to go around or break down barriers, they remain firmly in place.
Logistical barriers occur when people believe the management plan and data collection cannot be implemented due to lack of “resources, time, and staff… and [because of] a lack of clear timelines, goals, and objectives” (Jacobson et al, 2006, p.1518). The lack of thoughtful presentation of a plan to stakeholders can cause confusion, lack of confidence, and result in a lack of much needed public support. Staff and students may even resist the notion of the public funding and tuition dollars funding such initiatives, or feel that it is taking away from other programs.

Communication barriers “arise from the inability to interact across disciplines, a lack of interaction among stakeholders, and a lack of information flow within the management institution” (Jacobson et al, 2006, p.1518). Everyone involved in the process has a basic responsibility to contribute constructively and strive to communicate well if there is to be any level of productive interaction and mutual learning (Walker & Daniels, 2001). If leaders, decision-makers, planners, staff, and students cannot effectively communicate and interact with each other due to the gridlock of bureaucratic solitudes, silos and stovepipes (Dale, 2001), precious motivational energy and enthusiasm will be lost.

Attitudinal barriers spawn from misconceptions that people have of each other. Concerns about how implementing sustainability plans will affect their current lifestyle and livelihoods (Jacobson et al, 2006) can limit or stall a person’s desire to accept the benefits of sustainability initiatives and that the notion of implementing sustainable behaviour means they will have to lose or sacrifice something. If the audience has a preconceived notion, shifting their thought process and overcoming this barrier will be that much more difficult. Even if the other barriers are considered minor, some people will feel so “alienated, frustrated, intimidated, or unempowered [sic] that they do not enter the process at all”. Rather, some will adopt an “us-versus-them” attitude (Walker & Daniels, 2001, p. 259).
Institutional barriers “stem from organizational culture and structure that is not suited for sustainable behaviour management… such as collaborative decision-making, flexibility, and learning” (Jacobson et al, 2006, p.1518). Harding (2005) also raises the specific issue of institutional barriers, more specifically in applying them to governance processes. Harding (2005) says with regards to making progress towards sustainability outcomes, that how much people understand or how committed they are to sustainability is of no consequence without actions facilitated by the institutional frameworks which are in keeping with sustainability.

Conceptual barriers “arise from an individual’s lack of understanding or experience with the process” (Jacobson et al, 2006, p.1518); we fear what it is we don’t understand. Some people lack the will to understand, some lack the ability to understand and some are merely ignorant to the issue. Most people, given sufficient information or education, exposure and experience, should be able to make well-informed decisions.

Educational barriers “relate to the level of knowledge… key stakeholders have of sustainable behaviour” (Jacobson et al, 2006, p.1518). The level of knowledge an individual has about sustainability will affect their participation and adoption of such initiatives, as the level of sustainability knowledge held by policy makers will affect their ability to create effective plans to engage those individuals (Jacobson et al. 2006).

Encourage Participation

Encouraging participation in sustainability initiatives requires laying a thoughtful foundation on which to create the plan. The goals must be understood by the plan developers and be understandable, acceptable, practical, and achievable within the communities in which it must function. Through policy, research, education, infrastructure, and outreach activities,
Steinemann (2003) identifies five ways post-secondary institutions have encouraged participation in sustainability initiatives.

*Policy* – Post-secondary institutions have created groups committed to campus sustainability by signing the public, institution, staff and students, exemplars, funders, practitioners, schools, and their organizations onto a guiding policy of sustainability. These include initiatives such as recycling, cycling, conserving energy, and promoting in-class environmental stewardship.

*Research* – Post-secondary institutions have brought the students, staff, and faculty in on the research with the goal of developing more sustainable technologies through the use of institutional, financial, and regulatory incentives (Steinemann, 2003). Others promote research on eco-industrial development, labour, and the environment while promoting research and being proactive in the co-ordination of on-campus sustainability activities (Steinemann, 2003).

*Education* – The implementation of newly designed courses and restructuring of existing courses facilitate student education about sustainability, especially if linked to campus demonstration projects, environmental audits leading to a deeper understanding of the institution’s barriers and solutions for implementation.

*Infrastructure* – Post-secondary institutions have increased their sustainable infrastructure as well as implementing sustainable practices on campus thus realizing reductions in waste generation, reduction in resource use, cost savings and a reduction in the amount of toxic substances being produced and disposed of. One institution has gone as far as implementing an organic farm and creating a “campuswide [sic] composting program” (Steinemann, 2003, p.217). There is much to be learned from other colleges that are leaders
in sustainable infrastructure, including universities, notably, Algonquin College and the University of British Columbia, to name only two.

*Outreach* – Under the umbrella of sustainability, post-secondary institutions have brought communities, academia, and industries together. The dining facility of one university created a program of “responsible purchasing, composting, and recycling… which involves local organic farmers, homeless shelters, and soup kitchens” (Steinemann, 2003, p.217). Administratively, this method can serve to benefit the economic side of campus operations. The profits from sustainability can be realized through reductions in cost, both direct and indirect, and increases in benefits. Reductions in costs include reductions in liability, waste generation, resource use, absenteeism, and expenditures. The increases in benefits come in the form of improved productivity, efficiency, and public relations as well as an improvement in the quality of life on campus.

So how does one define success? Simple evaluations or a baseline report can be established to analyze the effectiveness of the initiative. This raises the need to anticipate outcomes for the sake of comparison and establish specific measures for evaluation, taking into consideration how the campus culture and competing departmental demands can influence these evaluations (Conroy & Iqbal, 2009).

Involving staff, students, local businesses, and residents at the front end is a form of participatory planning and an opportunity for stakeholders to gain education. This strategy shifts the role of the planners and knowledge providers, making them more of “a facilitator or coordinator of community needs” (Ling et al, 2009, p.231). Encouraging staff and student participation is a long-term approach which can help build the support necessary in order to deal with difficult policy decisions, new ideas, as well as reinforce staff and student
commitment to the pending change, while at the same time providing wider links into the community (Ling et al, 2009). An important factor to consider when seeking staff and student input is to implement a feedback mechanism by which they can understand how their input changed or influenced the decision-making process (Walker & Daniels, 2001).

A starting point for creative thinking about sustainability could be introducing basic education approaches into current curriculum, such as ecological footprint calculations as a useful step in understanding (with limitations) the individual staff or students baseline environmental impact (Ling et al 2009, p 235) and need for sustainable planning. Olds College could initiate a problem-based learning approach to facilitate and emphasize collaborative interaction between staff, students, leaders, decision-makers, and planners. This approach could also be extended to include citizens, municipal planners and local managers (Walker & Daniels, 2001).

**Problem-Based Learning**

The emphasis on a problem-based learning approach is to motivate learning by doing. In this approach, the College gives its students real world campus problems to solve. By becoming involved in the solution, the students commit to the project by taking ownership in it and in the process of solving the problem. The implementers and instructors shift from role of expert to that of ‘cognitive coach’. Rather than telling the students how to solve the problems, the art and science of teaching places the emphasis on helping them develop and hone their own problem-solving skills (Steinemann, 2003). The use of problem-based learning may present several benefits and challenges to both staff and students. The five themes of problem-based learning benefits identified by Steinemann (2003) were applicability, problem solving, active learning, motivation, and professional skills.
Applicability – Problem-based learning has the ability to increase the accessibility and application of knowledge by its use in solving real world problems. This permits a better understanding and skill development that would be realized as opposed to traditional methods of instruction which give the information rather than an applied opportunity to solve problems.

Problem-solving – The problems faced in practice, rather than theory, are unpredictable, lack structure, and are open-ended as opposed to the narrowly defined textbook problems of intellectual exercises. Steinemann (2003) contends that “this is especially true with sustainability problems, which require flexible, integrative, multidisciplinary problem-solving approaches, rather than singular solutions” (p.218). Steinemann (2003) also believes that, through problem-based learning, “students can acquire additional skills, often social and political skills, necessary to implement solutions” (p.218). One approach could see the designing of curriculum assignments involving students conducting environmental audits of their own campus, developing sustainability business plans, or, from a more technical perspective, demonstration projects.

Active learning – In this case, the students are responsible for conducting their own research on campus and within the community, evaluating material and sourcing their own experts. This permits the replacement of outdated knowledge with more current and applicable information thereby providing a foundation to learn how to learn.

Motivation – Problem-based learning motivates participants and maintains or creates interest because it takes the abstract concepts and makes them more meaningful by making them more personally or socially relevant. The problem-solving exercises may create current solutions which could help meet institutional or societal needs.
**Professional Skills** – The problem-based learning approach assists the student in their development of professional skills such as dealing with multiple and conflicting goals and values. Working under timelines and other constraints are required to determine the most appropriate action based on decisions often made in the absence of certainty or complete information. As the students create solutions to their problems they must use their initiative, become resourceful, and exercise personal accountability. This process should “enable students to confront issues of implementation and to work directly with decision-makers, advisors, other stakeholders, and the public” (Steinemann, 2003, p. 218).

There were six primary challenges within problem-based learning pointed out by Steinemann (2003). The challenges are finding the appropriate balance in instruction, helping students to overcome barriers they have identified, designing suitable and feasible projects, time, maintaining enthusiasm, and course preparation, delivery and evaluation.

**Finding appropriate balance in instruction** refers to balance in the amount of project design and implementation freedom the students could be given, while aiding them with sufficient feedback so they can stay on track and motivated. The students looked to the instructors for direction without being told what to do.

**Helping students to overcome identified barriers** was accomplished by allowing the students to go down dead-end roads to help them learn project assessment, feasibility, and the understanding that a barrier can be overcome. The surprising lesson for the students here was that good ideas often face resistance or rejection, but through this problem-based learning process, they were able to mould or remould their ideas and “work with stakeholders to improve project acceptance” (Steinemann, 2003, p.223).
In the design of suitable and feasible projects, the students, not the instructor, developed their specific sustainability project, with general guidance, ideas and resources obtained from their instructor. This, and a relationship with the campus staff, was necessary as the students were designing projects which needed to mesh with the current operations, needs and wants of the campus. During the design stage, the students reviewed and documented other post-secondary initiatives to help save time and demonstrate potential benefits through the outcomes documented by those other initiatives.

Time is most always a constraint and the implementation of any initiative takes time. Because of the commitment to the project, some of the students continued to work with the project implementation even after this course ended. Even if their projects were not implemented by the campus, the students were given the feedback that they should still be encouraged by their efforts because their projects still may be implemented at a later, more suitable time.

As most change occurs slowly, student enthusiasm was maintained by their instructors through constant encouragement. For Olds College, in addition to maintaining student enthusiasm, maintaining the staff enthusiasm would require additional support structures to be in place. In other post-secondary institutions this example was also followed by the students who were proactive in maintaining the enthusiasm and involvement of their project stakeholders. In this particular course, students found success when stakeholder enthusiasm could be maintained and when they could demonstrate “project benefits, cost savings, precedents, and feasibility to campus officials and staff” (Steinemann, 2003, p.223). Despite this, some of the staff were still resistant to change and would likely require influence from the top-down, which showed the students the complexity of initiative implementation within a willing community.
The final challenge was more from a curriculum standpoint as it deals with *course preparation, delivery, and evaluation*. According to Steinemann (2003), the problem-based learning program required more preparation, administration, and evaluation time than traditional lectures because helping students learn, while coaching them throughout the process, can “require more effort and attention than delivering information through a lecture” (Steinemann, 2003, p.223), not to mention the additional facilitation with and among the campus staff, faculty and administration.

**Summation**

Identifying and solving problems is not something to approach with a cookie-cutter solution, especially when implementing sustainability, which is a holistic, integrated concept requiring whole systems thinking. The process requires taking the principles outlined in this research and putting them into practice, understanding that there can and will be many times when the plan has to be adjusted, altered or sent back to the drawing board (Steinemann, 2003). Through the process of thoughtful planning, consideration, participant inclusion, and initiative implementation, the likelihood of a plan being successfully accepted, adopted and actually implemented will increase (Steinemann, 2003).

Steinemann (2003) says that the World Commission on Environment and Development’s definition of sustainable development - “*development that meets the needs of the present without compromising the ability of future generations to meet their own needs*” (World, 1987, p. 4) - is “scant” in its provision of “guidance for implementation”. Robinson’s (2004) view on the World (1987) definition is that “there is no emphasis on spiritual values or individual responsibility… rather the focus is on collective institutional responses, efficiency gains and social responsibility” (p.373). Sustainability in real-life settings requires changing the state of mind, not just the state of the problems, which opens a
door to problem-based learning. A post-secondary campus can “serve as a useful laboratory to test ideas and methods of implementation” (Steinemann, 2003, p.217).

Olds College will face many challenges in the pursuit of taking the goals of their sustainability plan and putting them into action. Keysar (2005) wrote “sustainability requires a holistic, systems-based perspective that engages stakeholders and allows for feedback and adjustment” (p. 565). Individuals may not portray all of those characteristics but when people and credible agencies work together, they have a better chance of filling the voids (Keysar, 2005). As a cohesive unit, they can focus on the plan and any implementation problems. To effectively do so, Olds College could integrate measures that have overlapping functions or community participation requirements, recognize and attend to implementation barriers, set and communicate common sustainability goals (Keysar, 2005) and consider something other than a one-size fits all approach when creating their sustainability initiative and plan. Finally, Olds College must decide on clear definitions and a common vision for moving forward. Without a common definition and collective vision, there can be no measurement and no implementation plan. However, both should be dynamic and evolving, and adjusting to the context of Olds College as it moves further into the 21st century (A. Dale, personal communication, December, 5, 2010).
Conclusion

Reflecting on the evolution of this paper, I feel the end product will have valuable information for the intended audience. However, I would have liked to have had the available resources to take several weeks off work and do more detailed research conducting two to three times as many interviews on campus, which would have started a small buzz about sustainability before the education initiative even gets off the ground.

Throughout this journey, I have had previously held positions shift and other ideas, which I thought were solid positions, pulled from beneath me. It was with an open mind I began this research and feel better about the perspective I hold today regarding my own definition of sustainability and what I want to do to shift my own behaviour. Even though sending a copy of the completed thesis to each interviewee was intended to be a form of action research, it also served as my own attempt to introduce sustainability education to the staff and students. Should an opportunity arise where I can act as a facilitator of, or within the context of sustainability, the higher altitude and deeper understandings gained from the Master’s of Environment and Management program will serve as the necessary tools to be an efficient and effective leader or decision-maker.

There are a few key areas where Olds College could benefit from future research stemming from issues and ideas raised in this paper. While problem-based learning was the approach chosen to help staff and students work through sustainability initiatives and the associated implementation barriers, a more specific process could be researched where the primary focus would be related to educating educators about sustainability. Another question is how can Olds build a dynamic evolving process for sustainability planning, implementation, continual feedback and learning, linking operations, and teaching, while still very much siloed in the college sector? This approach would require detailed research of the
entire College, finding common sustainability issues within clusters of people or roles (as opposed to a cross-section of the entire campus in which to build a single initiative around) and develop a sustainability education initiative specifically geared towards those clusters of people. Finally, to build on this thesis specifically, follow up interviews with staff and students in 2015 could be conducted to see where the plan is and how things are being measured. This would serve as a robust feedback mechanism to the leaders and decision-makers of Olds College to show them how effective their model was as it relates to the strategy outlined in goal four of the 2010-2014 Business Plan.
References


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Appendices

 Appendix “A”

**Interview Questions**

1. How do you define sustainability?

2. Why do you think sustainability is important for the College sector?

3. What is the College’s current understanding of sustainability?

4. What are the current attitudes within the College towards implementing sustainability?

5. What are the elements you think should be in your sustainability plan?

6. What are the benefits of integrating sustainability into your planning process?

7. Could you please describe potential barriers to its implementation?

8. What is the role of:

   a. The Board of Governors?

   b. The VP Academics?

   c. The VP Student and Support Services?

9. Is there anything you would like to add?

10. Can you suggest any other people I should interview?
Appendix “B”

Research Consent Form

My name is Todd Martin, and this research project is part of the requirement for a Master’s of Arts in Environment and Management at Royal Roads University. My credentials with Royal Roads University can be established by telephoning my Academic Lead.

This document constitutes an agreement to participate in my research project. The goal of this research is to explore a recently adopted initiative within the Olds College 2010-2014 Business Plan, the focus of which is to educate the students and staff of Olds College about sustainability, its scope, and its benefits thereby giving students and staff opportunities to present concepts for inclusion in the College’s sustainability plan. The objective of this research is to identify potential implementation barriers faced by those tasked with initiative implementation and target audience and staff within the College, while proposing realistic recommendations to aid in overcoming those barriers. The research will include an evaluation of knowledge related to sustainability, current and proposed initiatives, associated implementation barriers, and request for recommendations of realistic plans in order to identify any informational gaps.

The research will consist of strategic question interviews to reduce biases, increase credibility, and comprehensively capture social reality and is believed to last no more than sixty minutes. Prior to the interview commencement, feel free to ask any questions. The questions will refer to sustainability at Olds College and personal concerns and recommendations related to sustainability, implementation and plans. In advance of my final report submission, I will invite you to write a statement directly to the readers of the research, giving you the final word (in the form of a memo/statement). In addition to submitting my final report to Royal Roads University in partial fulfillment for a Master’s of Environment and Management, I will share my research findings with Olds College.

Information will be recorded in hand-written format, voice recorded and where appropriate, summarized in anonymous format using code numbers to identify individuals, in the body of the final report. At no time will any specific comments be attributed to any individual unless specific agreement has been obtained beforehand. Participants may decline audio recording and complete a questionnaire in lieu of a voice recording. All documentation will be kept strictly confidential and access to raw data will remain with the researcher (in a locked cabinet) and Royal Roads University. The raw data voice recordings will be destroyed following Thesis approval and forms will be destroyed after five years. Should a subject withdraw midstream, any associated data will be removed from the paper and destroyed unless consent for data inclusion is obtained from the withdrawing participant. A copy of the final report will be published. A copy will be housed at Royal Roads University, available online through UMI/Proquest and the Theses Canada portal and will be publicly accessible. Access and distribution will be unrestricted.
You are not compelled to participate in this research project. **If you do choose to participate, you are free to withdraw at any time without prejudice.** Similarly, if you choose not to participate in this research project, this information will also be maintained in confidence. If you would like to participate in my research project, please contact me at:

Email: 

Telephone: 

By signing this letter, you give free and informed consent to participate in this project.

Name: (Please Print): ________________________________________________

Signed: _____________________   Date: ________________________
Appendix “C”

On December 9th, 2010, all interviewees were given a copy of this thesis and asked to provide comments by December 31, 2010. As of January 3rd, 2011, the following statements were returned:

Board of Governors – No reply
Vice-President Student and Support Services – No reply
Vice-President of Academics – No reply
Chair “A” – No reply
Chair “B” – No reply
Instructor “C” – No reply
Instructor “D” – December 12, 2010 (4:31pm): “Wow, I just did a quick review and this is amazing! Great work Todd.”
Subject “E” – No reply
Subject “F” – No reply
Subject “G” – No reply
Subject “H” – No reply
Subject “I” – No reply
Subject “J” – No reply
Subject “K” – No reply
Appendix “D”

Organization Chart of the Snowball Approach