

---

*ENHANCING STUDENTS' LEARNING IN  
SUSTAINABLE PRACTICES BY INCORPORATING A  
TRIPLE BOTTOM LINE APPROACH IN A  
RESTAURANT OPERATIONS COURSE*

**McAdams Bruce**

Assistant Professor

School of Hospitality and Tourism Management

University of Guelph, Guelph ON Canada

**Michael von Massow**

Assistant Professor

School of Hospitality and Tourism Management

University of Guelph, Guelph ON Canada

**Abstract**

Sustainability is an increasingly important concept for all hospitality students to understand before entering the workforce. New curriculum employing more sustainable content was introduced at the University of Guelph's School of Hospitality and Tourism Management. Using the school's restaurant, PJ's, which is used as laboratory for course delivery, students were asked to take a triple bottom line approach in its operation. Curriculum

additions required students to calculate nutritional analysis and complete life cycle assessments of menu items. Other sustainable improvement such as composting, the increased purchasing of local food and beverages and waste reduction were also introduced during the course of the academic year. This paper provides a framework for other hospitality institutions to incorporate a triple bottom line approach to operating student run restaurants. The increase of scores for the 'sustainability' related learning objectives show us that the project was successful in introducing students to sustainability topics. With the embedding of new sustainably focused curriculum in a third year restaurant operations course students became more aware of the effect that restaurants have on their environment and in their communities.

**Keywords:** *Hospitality Education, Sustainability, Restaurant, triple bottom line*

## Introduction

PJ's is a full service, student run restaurant in the School of Hospitality and Tourism Management (HTM) at the University of Guelph. The restaurant is used as a laboratory to teach students about the fundamentals of food production and restaurant operations management. New curriculum aimed at introducing sustainability was incorporated into the restaurant operations course taught at PJ's during the 2011/12 academic year. Funded through the University's Learning Enhancement Fund (LEF), this change was implemented to fill a need for more sustainably focused curriculum at HTM. A project team was formed to work on the development of sustainably focused learning modules to be introduced to HTM3090, the restaurant operations course that all HTM students were required to take. The team included two faculty members, the Chef/Instructor of PJ's, a recent graduate of the program and an Undergraduate Research Assistant (URA).

Goals set out for the project were determined through discussions between members of the project team and input from HTM students who had already completed the restaurant operations course. The goals were defined as:

- (1) To complete a review of PJ's current operation in regards to all aspects of environmental, social and economic sustainability.
- (2) To develop new curriculum for HTM3090 that would embed aspects of sustainability and create associated learning outcomes for future students.
- (3) To implement new 'sustainable' practices to transform PJ's into a 'model of sustainability'.

PJ's is open to the public for weekday lunch service eight months a year as well as offering a fine dining experience once a week for three months during the winter semester. The restaurant has had a number of upgrades since it opened in 1974, including a major renovation in 2001. PJ's has historically operated similarly to most restaurants in Canada and few sustainable restaurant practises had been incorporated

prior to the proposal of this project. Indeed, PJ's operated in a conventional manner that focused on "...management functions and the production of food in quantity with an emphasis on principles of food production and service in a commercial setting". (University of Guelph, Undergraduate Calendar, 2011) Its focus has been on teaching students the daily, and mostly economic operating aspects of restaurants including such areas as ordering, food cost, pricing and quality control.

This article presents the results of a curriculum development exercise aimed at incorporating the principles of sustainable development in a restaurant operations course within a hospitality and tourism program. The project team used a 'Triple Bottom Line' approach introducing new learning modules that related to environmental and social aspects of sustainability. This introduced the broad concepts of environmental and social sustainability along with examples of specific initiatives in each area. It was determined that students were already getting a solid 'economic' understanding of how restaurants were operated so no changes were made in this respect.

The literature review reflects the current demand for and issues surrounding increasing sustainable practices within the restaurant industry and higher education curriculum. Replication of this project can be undertaken by following the detailed steps in the methodology and results sections. The achievements and challenges faced throughout the project, as well as future implications are discussed to allow others to consider broader ideas of incorporating sustainability into the curriculum and the restaurant/foodservice industry.

## **Literature Review**

### **Sustainability**

Sustainability has been at the forefront of many corporations' strategic direction for the past thirty years as environmental effects stemming from population growth; increased consumption and industrialization have been realized. In 1987 the World Commission on Environment and Development completed a report for the United Nations entitled "Our Common Future." More commonly referred to as the Brundtland Report, this 'global agenda for change' paved the way for organizations to become more aware of their impact on the environment. Thus began the greening efforts by many organizations working toward a more energy conscious behavior and their implementation of internal procedures to reduce pollution.

The definition that commonly appears in sustainability literature is the joint statement from the International Union for Conservation of Nature (IUCN), the United Nations Environment Programme (UNEP), and the Worldwide Fund for Nature (WWF) whereby, sustainable practises "...improve[e] the quality of human life while living within the carrying capacity of supporting ecosystems" (IUCN/UNEP/WWF, 1991, p.10); further, the Brundtland Commission instructs that sustainability "...meet the needs of the present without compromising the ability of future generations to meet their own needs (United Nations, 2007, p. 2).

Another term developed as a result of the work done by the United Nations is 'triple bottom line'. The initial use of this term is attributed to author John Elkington and was first seen in his book *Cannibals with Forks: the Triple Bottom Line of 21<sup>st</sup> Century Business*. The term offers an approach that enlists organizations to look beyond the financial bottom line of their business. Companies are asked to consider not only the economic outcomes of their activities but the social and environmental results as well. The term "People, Planet and Profit" is often used interchangeably with the concept of the Triple Bottom Line.

## **Sustainability and Restaurants**

The restaurant industry in Canada has been slow to adopt principals put forth in a triple bottom line approach. Approximately 64% of the Canadian Accommodation and Food Services sector is a small or medium (SME) size business that employs 5 to 75 people (Statistics Canada, 2008). SME's are less likely to implement sustainable practises than their corporate counterparts (Schaper & Carlsen 2004; Revell & Blackburn, 2007; Tilley, 1999). A number of factors contribute to this, including the attitude of owners and employees, the cost of implementing sustainable initiatives, a lack of financial incentives, and a lack of government or regulatory standards (Chou, Chen & Wang, 2012). While SMEs may not have the marketing budget of larger corporations a communication strategy identifying their environmentally friendly practices can increase patronage (Hu et al., 2010). The sustainability of the hospitality and tourism industry is dependent upon managers who are willing to adopt and promote a triple bottom line approach as part of their management strategy. Education and training is needed in order to improve sustainable business practices in this sector.

While the hotel and tourism sectors have made some progress adopting sustainable practises— this cannot be said in the restaurant sector (Tseng, 2010). Myung, McLaren & Li (2012) reviewed the environmental research literature in the hospitality industry published between 2000 and 2010. Of the 58 articles, only 6 articles focused on the restaurant sector. It would seem that restaurant managers have fewer examples to follow should they want to develop practices needed to create a more sustainable future.

Menu content analysis and the labelling of menu items has become an issue of social sustainability for Canadian restaurants to consider. With increasing levels of obesity, type-two diabetes and hypertension in Canada (Health Canada 2012), restaurants are being asked to consider their role and responsibility in regards to this issue. In March 2010, the United States Congress passed a national law requiring chain restaurants with 20 or more outlets to list calories on menus and menu boards. Some studies have shown that consumers underestimate the calories in restaurant items. Menu labelling can help consumers understand what is in the foods they eat and can motivate restaurant owners to change recipes to lower fat and sodium in their offerings. (Roberto et al., 2010) Evidence suggests that menu labelling can decrease the amount of calories purchased per restaurant transaction. (Finkelstien et al., 2011) Students introduced to this concept will be

prepared to deal with a change in consumer demand and increasing regulation in this regard.

## **Sustainable Curriculum**

It is believed education is the greatest hope to creating a sustainable future. Universities and colleges are an integral part of the global economy and prepare professionals who will develop, manage and teach in our public, private and non-governmental institutions. In 2012, over 1.5 million full and part-time students were registered at a Canadian university, and therefore, have a significant impact on the economy (AUCC, 2012) It is essential that undergraduate business programs provide students with opportunities for success in the job market and develop skills to think critically and make decisions that will contribute toward building sustainable commerce. Rethinking and revising curriculum to incorporate sustainable development into educational programs is based on a set of United Nations (1987) objectives and encouraged from industry (Cortese, 2003). As more companies create sustainable products, they are looking to staff their organizations with graduates who understand sustainability principles (Calhoun, 2005). Leaders in a variety of industries are vying for graduates who “understand green” (Calhoun, 2005).

Deale, et al. (2011) found incorporating sustainability into the hospitality curriculum remains an afterthought or an add-on to the curriculum in many courses. When sustainability is included, it is often presented in lecture/discussion (20%), followed by case studies (12%). Continuing to develop pedagogy that takes the educational experience from a theoretical to a practical level will impact the way students are able to implement sustainable hospitality business practices; “Hospitality educators are uniquely positioned to play an important role in forwarding sustainability practices in the hospitality industry” (Deale, et al., 2011, p.40). The context of learning needs to change to make human and environmental interdependencies, values perspectives, and ethics, a central holistic part of teaching in all disciplines, rather than isolating them as a special course (Cortese, 2003; Reid & Petocz, 2006).

## **Methodology**

It was determined that assessing the current state of PJ’s environmental, social and economic practices would help provide context for the project team to set goals. Taking a triple bottom line approach, coupled with a review of a number of on-line sustainability tools, the team developed a comprehensive and unique audit form. This form was used as a guideline to evaluate the current state of sustainability at PJ’s restaurant. Completion of this form proved beneficial in both educating the project team and

highlighting potential areas of focus. The results of the audit helped produce the prioritized ideas for curriculum change including the nutritional and life cycle analysis of menu items.

In addition to designing new curriculum, the project team met informally, but regularly to look at various initiatives to incorporate other sustainable practices to the daily operations of PJ's. Using the audit results as a guideline the project team identified three areas of potential improvement; food and beverage sourcing, energy consumption, and waste management. Small projects in each area were tested and either adopted or abandoned during the course of the school year.

## **Curriculum Redesign**

Two new learning modules were created for the restaurant operations course: a nutritional analysis of menu items; and a life cycle assessment (LCA) of food. Existing course content was scaled back in order to add the aforementioned modules. Each new module was designed to take the student approximately four hours to complete.

### **Nutritional analysis.**

A redesign of PJ's' menu to include a nutritional analysis of all menu items using ESHA Research's The Food Processor Nutrition and Fitness software (ESHA Research, 2006) was introduced. ESHA Research generates the caloric breakdown of each menu item, itemizing calories from fat, saturated and unsaturated fats amounts, carbohydrate content, protein amounts, and sodium values. The decision to provide the breakdown of nutritional information for PJ's patrons was based on recent research where customers wanted information on fat and calories (Mills and Thomas, 2008) as well as the growing concern of too much sodium in food products (Health Canada, 2012).

By including the nutritional analysis of food items on the PJ's menu, students were forced to consider consumer reaction to such information. This required students to look at menu engineering in a socially conscious way.

### **Life cycle assessment of food.**

In this module, students researched the impact on the environment of food they were using in the creation of their menu. Students choose two ingredients from the menu items they had created—one fruit or vegetable and one meat or dairy item. Students researched and commented on the environmental impact produced by each of their chosen menu items, focusing on production, processing, distribution, storage, cooking, and consumption. In addition to these questions students were also asked to assess their learning:

- What did you learn by completing the Life Cycle Assessment of your products?
- Did you find this activity made you more aware of food and where it comes from?
- What surprised you most by completing this exercise?

### **Learning outcomes survey.**

A pre-implementation survey was conducted prior to any changes occurring in the Restaurant Operations course (HTM\*3150). A link to the survey, hosted by surveymonkey.com, was sent to all students who had just finished the course in winter 2011. The pre-test survey consisted of twenty one questions, fifteen of which were based on the learning outcomes already established in the course. Students taking the survey were asked to evaluate their learning in a number of areas, such as 'monitoring of quality control' and 'the effective supervision of staff in a restaurant'. Six additional questions were designed to measure the impact of the new sustainable aspects of the curriculum and one question covered the nutritional analysis component that was introduced during the course of the project. Each question had a five-point Likert style scale, ranging from "Strongly disagree" (1) to "Strongly agree" (5). The post-test survey was administered to a different group of students who completed in the restaurant operation course during the winter 2012 cohort

## **Results**

### **Curriculum Re-Design**

#### **Nutritional analysis.**

The learning outcome "*I learned about the importance of understanding the nutritional value of food when designing a menu*" was shown to be statistically significant ( $p=0.00$ ) between students using the older curriculum and those who took part in the revised curriculum. With an increase in public awareness regarding health issues caused by food as well as pending governmental regulation on menu labelling adding this module to the course was deemed valuable for students to become aware of the impact this has on menu selection.

#### **Life cycle assessment of food.**

Overall, the module on the life cycle assessment of food items showed positive outcomes. Many students went beyond the basic task requirements and included photos, video links, and maps of travel distance. Food products ranged from butternut squash grown in Elmira, Ontario, to lettuce from California, and bananas grown and shipped from

Costa Rica. Some students found food production and distribution companies uncooperative in aiding their research and many refused to provide information regarding their products and practices. It was not uncommon to encounter food companies that were unaware about the concept of life cycle assessment. Further, the students did not find any company that had conducted a LCA on any of their publically available products.

At the end of the LCA learning module, students were asked to comment on the learning value of their experience. The following summary highlights some student responses: What did you learn about the Life Cycle Assessment of your product?

- You can get an abundance of ingredients within a short distance from Guelph, which reduces transportation.
- Many suppliers/producers were not willing to give up information regarding the sourcing of their products. Many were alarmed that someone was questioning the sustainability of their products.
- Many suppliers/producers had never heard of a Life Cycle Assessment.

Did you find this activity made you more aware of food and where it comes from?

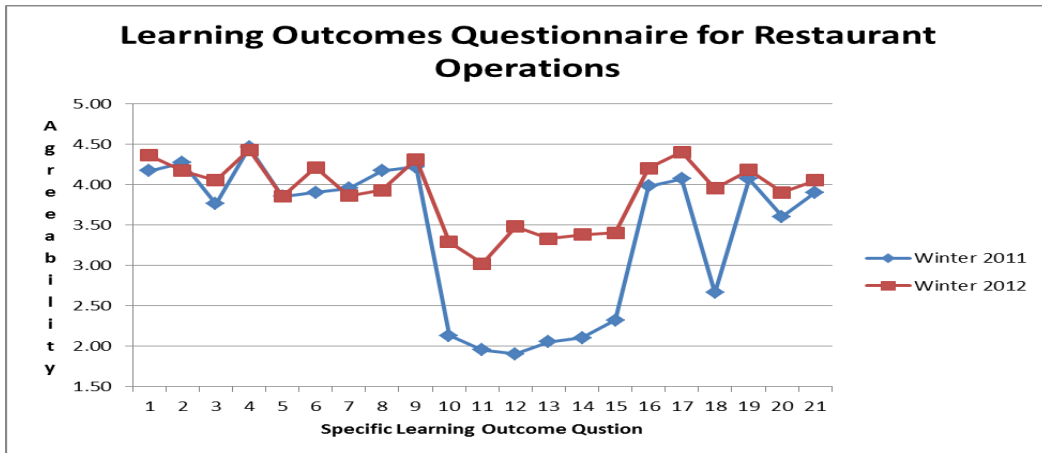
- All students responded yes.
- The students learned about the environmental exchanges food products have to pass through before they reach a plate. This prompted the students to consider how complicated a life cycle must be for certain products.
- The students were surprised by how unsustainable certain products are as compared to what they previously speculated.

What surprised you most by completing this exercise?

- Students were surprised by the relatively small area where specific products' life cycle took place. Unlike onions, which travel all the way from Texas, the mushrooms used in PJ's kitchen were grown and harvested in Woodbridge, Ontario (a few kilometres away).
- After having completed the research, students were surprised by how much conversation the life cycle assessment assignment promoted. Students found themselves willingly discussing topics such as waste, energy consumption, and sustainability at every critical aspect of food processing.



Figure 1.0 Learning Outcomes Questionnaire for Restaurant Operations.



**Learning outcomes survey.**

The survey of learning outcomes was analyzed in SPSS using the Mann-Whitney U test. Class size was 83 students in 2011 and 88 students in 2012. The survey response rates were 51% and 48% respectively. The mean widest distribution between learning outcomes were learning outcomes #10 through 15 and #18. Upon further analysis, learning outcomes with a p value lower than .05 are considered significant (Table 1.0). Six learning outcomes were significant, including sustainability concepts (#10-15 and 18) (p= 0.000) that indicates students learned more about sustainability with the revised curriculum than they had students in the previous year. Learning outcome #8 ('I learned about the operation of kitchen equipment') had a p=0.07, and although not statistically significant, there was a noticeable difference between the two populations.

**Sustainable Improvements to PJ's**

Beyond curriculum advancement, the project team piloted several sustainable improvements at PJ's during the 2011/12 academic year, many of which were adopted. Beverage offerings were changed eliminating all foreign beer and wine. This introduced students to the idea of supporting 'local', a huge movement in Canada which provides economic, social and environmental benefits. Conventional dairy items were also replaced with product offerings from a local organic producer which was shipped in reusable bottles. This change helped familiarize students with the concept of organic, many of which did not have a solid understanding of what it meant. Students were also encouraged by the chef to source more locally raised products when creating menu items. This resulted in students questioning why local food is often more expensive than imported food.

Several energy initiatives were introduced including a water audit conducted by the City of Guelph's Water department. The subsequent report provided valuable data on water usage and area for improvement and was noted and shared with students. An in-house washer and dryer were purchased for PJ's allowing them to eliminate the need for an out-sourced laundry service.

Steps were taken to see PJ's have a more sustainable approach to waste management. A compost program was created to help divert organic material from landfill and steps were taken to have cooking oil picked up where it was to be recycled into a form of bio-diesel. Both of these initiatives involved changing student's behavior to be more conscious of where PJ's waste would end up. The restaurant also eliminated the use of drinking straws in the restaurant in order to reduce its use of petroleum based plastics.

During the course of the academic year, two members of the project introduced a separate research project on plate waste at PJ's. Data collection involved the researchers standing in the dishwashing area collecting and weighing food that was not eaten by the paying customers. One of the most interesting outcomes of this project was how much conversation this action created between students working at PJ's and the researchers. Many students showed excitement and continued interest in the project results as it progressed through the year and also initiated independent study projects to explore sustainability topics in more detail.

## **Discussion**

The higher scores for the 'sustainability' related learning outcomes suggest that the project was successful in introducing students to topics such as nutritional and life cycle assessment, food waste, and resource conservation. With the embedding of a new 'sustainably' focused curriculum in a third year restaurant operations course, it is expected students will become more aware of and have an understanding of the effect that restaurants have on the environment and in their communities. The goal of the Life Cycle Assessment was for students to demonstrate all the steps involved in getting the ingredient to the restaurant and the impact this process has on the environment. Students learned how some ingredients in a dish can have a very different impact on the environmental sustainability of our planet. A common frustration experienced by the students when completing the LCA's was their lack of ability in getting the information they needed to complete the module. With more attention being paid to the nutritional analysis of menus by both interest groups and governments, hospitality students that have been introduced to this process should stand to benefit and be able to manage change in industry more effectively.

Students' qualitative comments taken during the changes to the curriculum and assignments were informative and reinforced our contention that sustainability practices

can be taught to our future leaders in the foodservice and hospitality industry. It is anticipated that students will have better long term retention of the knowledge, skills, and values taught because they were active participants in the learning process. As Cortese (2003) notes, individuals retain 80% of what is learned by doing and only 10-20% of what is hear or read. Through the hands-on component of running a restaurant and the applicability of assignments conducted, the researchers are confident students will take the sustainability lessons and concepts learned in this course and continue to apply them elsewhere.

Not only did this project increase our students' knowledge of sustainability, but the steps taken throughout the year were recognized by a third-party certification program, LEAF (Leaders in Environmentally Accountable Foodservice). In June 2012, PJ's was one of 24 Canadian restaurants to make "Canada's Greenest Restaurants" list (LEAF, 2012).

### **Lessons Learned/Path Forward**

Like most attempts to improve sustainability in an organization, this project met with both success and failure. While curriculum advances were achieved and resulted in the expansion of student learning, a few barriers prevented the project from meeting all of its goals. Physical complications and financial restraints prevented the research team from being able to collect the necessary data to measure potential resource conservation, while time limitations prohibited students from calculating actual green house gasses (GHG) involved in the production of their menu items. The project team had to adapt to these constraints. Instead of calculating GHGs, students were asked to do LCAs

An unforeseen outcome of the project was the creation of the University of Guelph Sustainable Restaurant Project. Since its inception, the UGSRP has evolved. Moving forward, UGSRP will take the environmentally sustainable origins of the project and expand on them, to include social and economic aspects of sustainability in restaurants as part of a field of study. As well, UGSRP is now seen as an academic resource for the Canadian food-service industry regarding issues of restaurant sustainability. The legacy of focused learning and sharing was unanticipated but a significant benefit both within the School and more broadly in the industry.

This project provided a vehicle ensuring ongoing sustainability innovation is occurring in the curriculum. The learning objectives are now embedded in the curriculum and provide an impetus for ongoing development and enhancement. As sustainability becomes an integral part of the hospitality program it allows students to gain the skills and knowledge necessary to expand sustainability practices into their professional, personal and community life. The ideas and template presented in this project can be replicated or adapted to any establishment in the foodservice industry.

## Reference List

- Calhoun, T. (2005). A (recycled, of course) six-pack of sustainability lessons from the past year in Higher Education. Retrieved from <http://www.scup.org/asset/48672/scup-csd-report.pdf>
- Chou, C.J., Chen, K.S. and Wang, Y.Y., (2012). Green practices in the restaurant industry from an innovation adoption perspective: Evidence from Taiwan. *International Journal of Hospitality Management* 31, 703-711.
- Cortese, A.D. (2003). The critical role of higher education in creating a sustainable future. *Planning for Higher Education*. March-May p.15-22 Retrieved from [http://www.aashe.org/resources/pdf/Cortese\\_PHE.pdf](http://www.aashe.org/resources/pdf/Cortese_PHE.pdf)
- Deale, D., Nichols, J., and Jacques, P. (2009). A descriptive study of sustainability education in the hospitality curriculum. *Journal of Hospitality and Tourism Education* 21(4) 34-42.
- ESHA Research (2006). The Food Processor. Retrieved from <http://www.esha.com/foodprosql>
- Finkelstein, E., Strombotne, K., Chan, N., Krieger, J. (2011) Mandatory menu labelling in on fast-food chain in King County, Washington. *American Journal of Preventative Medicine*, 40(2), 122-127
- Health Canada. (2012). Guidance for the food industry on reducing sodium in processed foods. Retrieved from <http://www.hc-sc.gc.ca/fn-an/legislation/guide-ld/2012-sodium-reduction-indust-eng.php>
- Hu, H., Parsa, H.G., & Self, J. (2010). The dynamics of green restaurant patronage. *Cornell Hospitality Quarterly*, 51, 344–362.
- IUCN/UNEP/WWF. (1991). *Caring for the earth - A strategy for sustainable development*, London: Earthscan Publications Ltd. Retrieved from <http://www.iucn.org/>
- LEAF, About Us. (n.d.) retrieved from <http://www.leafme.ca/index.php?/main/about>
- Mills, J.E. & Thomas, L. (2008). Assessing customer expectations of information provided on restaurant menus: A confirmatory factor analysis approach. *Journal of Hospitality & Tourism Research*, 32, (1), 62-88. doi: 10.1177/1096348007309569
- Myung, E., McClaren, A. & Li, L. (2012). Environmentally related research in scholarly hospitality journals: Current status and future opportunities. *International Journal of Hospitality Management*, 31, 1264–1275.
- Reid, A., & Petocz, P. (2006). University lecturers' understanding of sustainability. *Higher Education*, 51(1), 105-123.

- Revell, A., & Blackburn, R. (2007). The business case for sustainability? An examination of small firms in the UK's construction and restaurant sectors. *Business Strategy and the Environment* 16, 404–420.
- Roberto, C., Larsen, P., Agnew, H., Baik, J., Brownell, K., (2010) Evaluating the impact of menu labelling on food choices and intake. *Journal Information*, 100 (2)
- Schaper, M., & Carlsen, J. (2004). Overcoming the green gap: improving the environmental performance of small tourism firms in Western Australia. In Thomas, R. (Ed.), *Small Firms in Tourism: International Perspectives* (pp. 197–214). London: Elsevier ,.
- Statistics Canada. (2008). *Establishments Accommodation and Food Services (NAICS 72)*. Retrieved from <http://www.ic.gc.ca/cis-sic/cis-sic.nsf/IDE/cis-sic72etbe.html>
- Tilley, F. (1999). The gap between the environmental attitudes and the environmental behaviour of small firms. *Business Strategy and the Environment* 8(4) 238-248. doi: 10.1002/(SICI)1099-0836(199907/08)8:4<238::AID-BSE197>3.0.CO;2-M
- Tseng, M.L. (2010). An assessment of cause and effect decision making model for firm environmental knowledge management capacities in uncertainty. *Environmental Monitoring and Assessment* 161, 549-564.
- United Nations. (1987). *Brundtland Report 42/187. Report of the World Commission on Environment and Development*. Retrieved from <http://www.un-documents.net/a42r187.htm>
- United Nations. (2007). *Framing Sustainable Development The Brundtland Report – 20 Years On* Retrieved from [http://www.un.org/esa/sustdev/csd/csd15/media/backgroundunder\\_brundtland.pdf](http://www.un.org/esa/sustdev/csd/csd15/media/backgroundunder_brundtland.pdf)
- University of Guelph, Undergraduate Calendar (2011-2012). Retrieved from <http://www.uoguelph.ca/registrar/calendars/undergraduate/current/c12/c12htm.shtml>

**Appendix 1: Restaurant Operations Learning Outcomes**

Learning Outcome:		Winter 2011	Winter 2012	Mean Difference	z-score	Significance
1	I learned about the effective supervision of staff in a restaurant.	4.17	4.36	0.19	-1.274	0.203
2	I learned about recipe development and quantity food production.	4.27	4.17	-0.10	-0.817	0.414
3	I learned about menu engineering.	3.76	4.05	0.29	-1.376	0.169
4	I learned about the safe handling of food in a restaurant environment.	4.46	4.43	-0.03	-0.635	0.525
5	I learned how to order the appropriate amount of product needed to run my restaurant.	3.85	3.85	0.00	-0.650	0.516
6	I was involved in the monitoring of quality control.	3.90	4.21	0.31	-1.569	0.117
7	I learned how to effectively control costs for my restaurant.	3.95	3.86	-0.09	-0.730	0.465
8	I learned about the operation of kitchen equipment.	4.17	3.93	-0.24	-1.815	0.07
9	I learned about the basic job requirements needed to work each	4.22	4.31	0.09	-0.569	0.57

	position in a restaurant.					
10	I learned about how restaurants can become more energy efficient by practicing sound conservation methods.	2.13	3.29	1.16	-4.370	0.000
11	I learned how restaurants can reduce water usage by implementing conservation methods.	1.95	3.02	1.07	-4.446	0.000
12	I learned about environmentally sustainable practices that can be implemented in a restaurant setting.	1.90	3.48	1.58	-5.896	0.000
13	I learned about how restaurants can set recycling and waste to landfill targets.	2.05	3.33	1.28	-4.796	0.000
14	I learned about methods and practices used in food composting.	2.10	3.38	1.28	-5.016	0.000
15	I learned about how a restaurant's carbon footprint can be reduced through using local food.	2.32	3.40	1.08	-3.945	0.000
16	I learned how to receive and properly store items ordered for my restaurant.	3.98	4.20	0.22	-0.522	0.602

17	After completing HTM 3090 I feel I have improved my ability to be effective in a work team.	4.07	4.40	0.33	-0.753	0.451
18	I learned about the importance of understanding the nutritional value of food when designing a menu.	2.66	3.95	1.29	-4.506	0.000
19	After completing HTM 3090 I feel I have improved my leadership skills.	4.07	4.18	0.11	-0.201	0.841
20	I learned how to market our event to the general population of the University.	3.60	3.90	0.30	-1.031	0.303
21	I learned how to create and keep a consistent theme throughout the event.	3.90	4.05	0.15	-0.421	0.674