Journal of the Scholarship of Teaching and Learning, Vol. 13, No. 3, August 2013, pp. 1 – 22.

The effect of contemporary learning approaches on student perceptions in an introductory business course

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Abstract: *University administrators and educators continue to explore and implement new approaches for delivering coursework. Ultimately, they are attempting to achieve the same goal; increasing the level of student engagement and retention of knowledge while maintaining educational quality. Various contemporary learning approaches can provide a "launching point" to assess, evaluate and implement creative course pedagogies in many introductory courses. To validate the influence of these approaches, this research offers an assessment of the changes applied to an Introduction to Business course using active, experiential, and cooperative learning approaches. The scope of the data was broadened to include both quantitative and qualitative data. Students registered for the course were surveyed using pretest and posttest instruments. The analysis of the data indicates that the application of the three learning approaches has a mixed impact on pedagogical results. Students perceive that their knowledge of business concepts increased after the course was completed despite a challenging environment requiring the application of theoretical concepts to practice. Students indicate that the knowledge gained from experiential-based deliverables through cooperative learning approaches, creates an opportunity for reinforcing and applying introductory concepts. The results of the research also found that while students perceive that their understanding of the concepts has increased, the variety of pedagogical approaches embedded in the course do not necessarily foster additional interest in the subject matter. However, the integration of student qualitative feedback clearly supports the benefits of each pedagogical approach while also providing insight into which approach students found most influential for learning. The contribution of this paper to the literature is to encourage the redesign of introductory courses by integrating all three pedagogical approaches to successfully foster student engagement and higher quality learning.*

Keywords: *Experiential learning, active learning, cooperative learning, student engagement, empirical studies*

I. Introduction.

University administrators and educators continue to explore and implement new approaches for delivering coursework. Ultimately, they are all attempting to achieve the same goal; increasing the level of student engagement and retention of knowledge while maintaining educational quality. The faculty assigned to teach the *Introduction to Business* course continually re-examine course curriculum to determine whether the goals of the course are being met. A few years ago

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during this process, it was discovered that the course, one of the core classes taken by *all* freshmen students, was too segmented and disjointed in its approach when teaching business concepts. It had become stale, unimaginative, and quite frankly, dull.

The course methodology used a "*chalk and talk*" format, which works effectively for many subjects, but was not the best approach for this course as the only means of encouraging students to grasp business concepts (Becker & Watts, 1995, 2001; Govekar & Rishi, 2007; Hake, 1998; Siciliano, 2001). Furthermore, it became evident that the course structure no longer added value to the students' first-year college experience. Specifically, as first-year students with little background in business, simply listening to lectures on the various business disciplines was not sufficient in promoting a clear understanding of what "business" was really all about. Finally, the course material too closely mirrored the content of the discipline-based, silo-oriented core classes students were required to complete during their sophomore year (marketing, finance, computer information systems, and management). It provided minimal opportunities or expectations for students to become more actively involved in understanding the interdependent nature of business disciplines.

Change was imminent if the course was to help students with "little or no organizational experience to develop a better understanding of the connections between themselves and business" (Lamb, Lee, & Vinton, 1997). The purpose of the course needed to be re-examined and learning goals re-defined to generate excitement about the world of business and foster an understanding of the complexities and challenges organizations confront daily. An equally desirable outcome was to reinforce students' decision to pursue a business degree.

Various contemporary learning theories were considered to provide a "launching point" to assess, evaluate and implement creative course pedagogies. It was decided that some of the responsibility for learning needed to be shifted to the students through three related, but diverse pedagogical approaches: experiential learning, active learning, and cooperative learning. These three approaches involve students in the learning process by emphasizing interdependency and accountability rather than simply knowledge recall (Hernandez, 2002; Johnson, Johnson, & Smith, 1991; Johnson, Johnson, Roger, & Smith, 1991; Siciliano, 2001; Umble, Umble, & Artz, 2008). These research studies have shown that each approach yields significant benefits to students by enhancing concept retention and fostering critical thinking.

These approaches to learning also move students, according to Bloom's taxonomy, beyond (1) simply remembering — recalling relevant knowledge from long-term memory, to (2) application and analysis — determining how parts relate to one another, and finally to (3) synthesis — integrating concepts to generate something new (Bloom, 1956; Krathwohl, 2012). Ultimately, students are able to use and apply knowledge gained rather than simply memorize a concept for later recall on an exam. According to Coates (2005), as well as Weldy and Turnipseed (2010), not only does student involvement in the learning process "more effectively embed concepts and principles into long-term memory" (Weldy & Turnipseed, 2010, p. 269), it further results in enhanced student engagement, leading to higher quality learning.

By applying these new pedagogies in the redesign of the *Introduction to Business* course, the desire was to heighten student engagement through the various stages of learning. The anticipated outcomes are to 1) yield a greater interest in a business degree, 2) improve retention of business concepts, and 3) increase understanding of business plan knowledge through the application of theory to practice using social interaction and real world experience. The purpose of this research is to measure the impact of these pedagogical changes on student perceptions.

II. Approach to course redesign.

Several contemporary theories, developed and tested in the literature, identify strategies to increase student engagement as well as retention of concepts and knowledge. To create a holistic experience in the classroom and extend the engagement to activities that augment the course objectives, three pedagogical approaches were integrated into the course redesign: experiential learning, active learning, and cooperative learning.

A. Experiential Learning.

One method to foster engagement and improve knowledge retention is through experiential learning (Harsell & O'Neill, 2010; Prussia & Weis, 2003). Experiential learning "occurs when changes in judgments, feelings, knowledge or skills result for a particular person from living through an event or events" (Chickering, 1976, p. 63). It is a means of "bringing to life organizational contexts that the typical student lacks in personal experience" (Joshi, Davis, Kathuria, & Weidner, 2005, p. 674). With experiential learning, the focus becomes less about the content itself, but more about the direct experience and processing that experience in a way to heighten meaning and understanding (Joshi et al., 2005; Kolb, 1984). Kolb's Experiential Learning Theory Model (1984) has been one approach used to help managers, as well as students, understand the cycle of learning through experience. By moving through the four stages of the cycle (direct experience, reflection of experience, development of conclusions drawn from the experience and action), knowledge can be created "through the transformation of experience" (Kolb, 1984, p. 26). Therefore, it became important to consider each of the four stages when re-designing the *Introduction to Business* course pedagogies, rather than "fitting" course deliverables to the Kolb's model as an afterthought.

To gain the benefits of experiential learning, the coordinators of the *Introduction to Business* course turned to the most logical choice among the current course deliverables; the business plan. According to Thomas (2002), this kind of hands-on project enables students to more effectively retain knowledge and apply theory to real-world problem solving. More importantly, the process of completing the business plan provided essential direct experience, the first stage in Kolb's model. However, the business plan assignment was due at the end of the semester, with little else directly relating to the deliverable, and thus no opportunity for reflection – stage two of Kolb's model (Kolb, 1984). New initiatives were needed to operationalize each stage of Kolb's cycle to create direct experience *and* provide opportunity for reflection. Therefore, after substantial analysis and discussions, three new applied competitions were designed and added to the business plan project requirements; an elevator pitch (E-Pitch), trade show and marketing plan competition conducted during the semester. Furthermore, the presentation of the business plan would now include an extensive oral component that would enable students to more effectively reflect on their experiences gleaned by completing the project, fulfilling stage three of Kolb's model.

Collectively, these new requirements would provide students with the opportunity to be involved in direct, practical, hands-on experiences that would be reflected upon in preparation for various oral competitions as well as the final exam. To complete Kolb's cycle of learning, students would be required to apply what they had learned from the feedback received from judges and faculty, by integrating the appropriate changes to the final business plan document.

B. Active Learning.

Another avenue for generating conceptual understanding and encouraging student engagement is through active learning. Active learning involves students "doing things and thinking about things they are doing" (Bonwell, 1991). Activities such as debates, class discussions, class oriented activities such as guest speakers, role playing, and hands-on exercises reinforce active learning (Auster, Grant, & Wylie, 2005; Braxton, Milem, & Sullivan, 2000; Meyers & Jones, 1993; Prussia & Weis, 2003). Braxton et al. (2000) claim that students engaged in active learning perceive themselves gaining more knowledge from their coursework. For the *Introduction to Business* course, it was determined that extending the concepts of marketing to real life through an in-class marketing plan competition would engage students more in the marketing component of their business plans. Furthermore, students' interests would be heightened by learning how to create marketing storyboards in class, focusing on products that were familiar to students, such as skateboards. Other forms of active learning integrated into the redesigned course included debates on current ethical dilemmas being discussed in the news, using technology to engage students in unique ways and involving students in monthly *Introduction to Business Nights*. The "nights" initiative was a series of events where students interacted with invited company executives and entrepreneurs through panel discussions as well as an interactive question and answer session.

C. Cooperative Learning.

Cooperative learning, a form of active learning, provides a sharper focus for encouraging team development and peer-to-peer interaction. The goal of cooperative learning is to enhance the understanding of conceptual material and promote social problem solving through the use of group work (Prussia & Weis, 2003). This concept involves the use of small groups of students to focus on maximizing their own learning as well as extending their newfound knowledge to other members of their group (Ausubel, 2000; Cooper, 2002; Johnson, Johnson, Roger, & Smith, 1991; Mallinger, 1998; Schomberg, 1986; Webb & Grib, 1967; Williams, Beard, & Rymer, 1991). More importantly, cooperative learning has been shown to positively relate to enhanced student performance (Tinto, 1997). Two popular approaches for integrating cooperative learning techniques into course structures include team-based learning and peer-to-peer learning.

Team-Based Learning. Team-based learning is not simply about working in a group on a semester long project but rather about the "creation of cooperative structures that are effective in promoting active and deep learning" (Hernandez, 2002). The outcomes of team-based learning are interdependence and individual accountability. According to Michaelsen and Black (1994), team learning is a method employed by faculty to facilitate accomplishment of the course learning objectives by harnessing the power of team work. This approach recognizes that traditional forms of course delivery, based on recall and memorization, are passive and not as effective as the multi-sourced foundation of team learning, where knowledge can stem from the individual student, their teammates and the instructor (Hernandez, 2002; Maskulka, Stout, & Massad, 2011).

To capitalize on the benefits of team learning, the coordinators designed the business plan project to include more than simply a paper, which is often shown to limit group cohesiveness when dividing assignments into sections and working independently (McCorkle et al., 1999). First, each student team was required to participate in an elevator pitch competition that "sells" their idea in 90 seconds to potential investors. Additionally, teams developed and presented a

basic marketing plan that included both a digital media commercial and a formal presentation delivered to business executives.

To achieve the foundation of team-based learning, it was important to a) reinforce the focus on interdependent skills and knowledge transfer, b) develop strong group cohesion and c) engage in application-oriented activities (Johnson & Johnson, 1987; Johnson & Johnson, 1987; Michaelsen, Fink, & Knight, 1997; Mullen & Copper, 1994). To accomplish this outcome, each team submitted a final business plan coupled with a team presentation. The oral presentation was restructured to ensure that each member of the team was fully knowledgeable about all sections (such as accounting, marketing, operations, etc.) of the business plan. Immediately before the presentation, team members were randomly assigned to present a specific section. This process became known as the *Wheel of Chance*.

These team-based activities, such as the *Wheel of Chance*, are structured to integrate various business concepts to promote cooperative learning.

Peer–to-Peer Learning. A separate, but distinct, form of cooperative learning is peer-to-peer learning. Peer-to-peer learning focuses on one-to-one interaction where students "help, assist, encourage and support each other's' efforts to learn" (Siciliano, 2001). The coordinators for the *Introduction to Business* course investigated the various approaches for operationalizing peer learning within the course as an extension of the team environment. The first approach was initiated as a means of preparing first-year students for the fast pace and rigor of the E-Pitch competition. Student teams worked with upper-class students from the University's entrepreneurship club to abet preparation and delivery of the E-Pitch. These upperclassmen were seasoned participants in past E-Pitch competitions within and outside of the University. These students voluntarily provided seminars that offered the first-year students various methods to develop and structure an E-Pitch, how to make efficient use of the short time afforded each team to present their E-Pitch, and "tricks of the trade" in delivering a high energy, enthusiastic pitch.

The success of this endeavor in peer-to-peer learning resulted in a second approach: the engagement of upper-class accounting students to "consult" for *Introduction to Business* teams on the accounting section of the required business plan. The instructors developed a "speed dating" approach for matching consulting teams with an *Introduction to Business* team; one or two team members went to each potential consultant and "pitched" their team idea and told them why it was best to work with their *Introduction to Business* team. After teams selected their consultant, they would meet twice a week to provide assistance on the accounting issues associated with their business plan.

D. Summary and Research Objective.

The literature suggests that pedagogical results such as student engagement and knowledge retention are limited when relying only on the use of traditional course design (Bonwell, 1991; Siciliano, 2001). As discussed above, expanding pedagogical approaches to include experiential, active and cooperative learning should positively result in generating greater interest in business, promoting retention of course concepts, developing business plan knowledge and applying theory to practice through hands-on, real world experiences. A complete summary of the course design, categorized by each pedagogical approach, is provided in Figure 1.

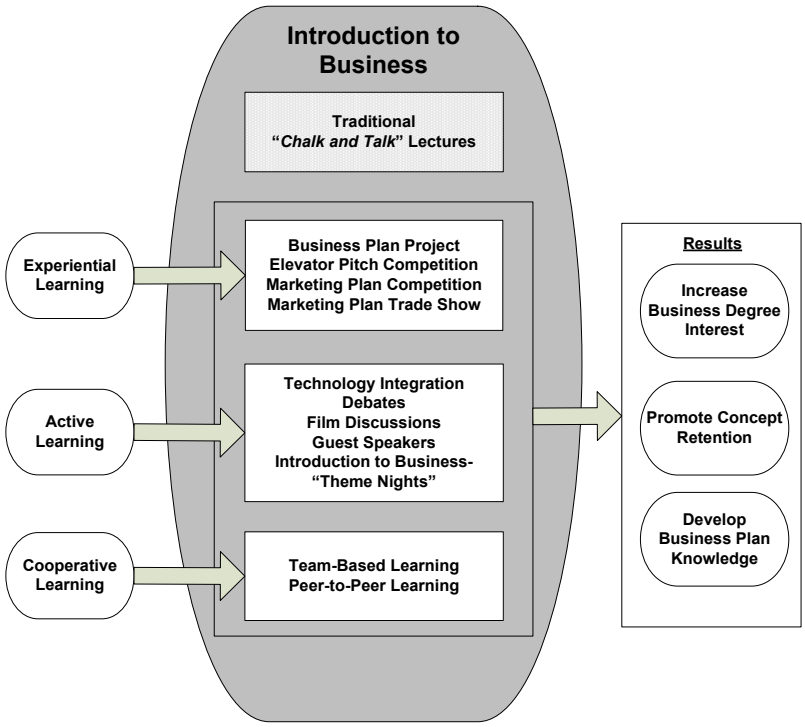

Figure 1. Application of Pedagogical Approaches to Course Redesign.

As illustrated in the figure, prior to the redesign of the course, the basic format was lecture – "*chalk and talk*." With the inclusion of activities reflecting active, experiential, and cooperative learning, the course's educational experiences were broadened. While the literature asserts that these approaches have a direct influence on student learning, as discussed in the previous section, we believe it is necessary to empirically validate our course redesign.

III. Research methodology.

The objective of this research study is to measure the impact of the pedagogical changes on student perceptions. To complete this study, three hypotheses were compiled as shown in Table 1.

Table 1. Research Hypotheses.

Hypothesis	Hypothesis Definition
	After completing the introductory business course, students have a(n)
1	… increased desire in pursuing a business degree
2	… increased level of business knowledge
3	… increase level of business plan knowledge

Each of these hypotheses will be evaluated using an experimental research design.

A. Research Design.

To achieve the objective of this research, a quasi-experimentation design was needed. This design would evaluate the effect of a treatment (introductory business course pedagogy) on student perceptions. Defined as a non-equivalent group design, the subjects are self-selected into the various treatment groups (Creswell, 2003; Reichardt & Mark, 1994). In this research study, the subjects were registered for the *Introduction to Business* course without any intervention from the researchers. The subjects' perceptions were assessed using a common non-equivalent design; a one group, pretest/posttest methodology. This methodology is used to determine the effect of a treatment on a population (Hair, Anderson, Tatham, & Black, 1998). Therefore, this research design was an appropriate choice to measure the influence of the course pedagogy on the students' perceptions. To gather the necessary quantitative data, a survey instrument was administered in a pretest/posttest environment.

B. Survey Population and Course Environment.

In an effort to compile accurate results and gain an appropriate response rate, the population used for this research included all sections of the *Introduction to Business* course over five semesters. Since *Introduction to Business* is a required course for traditional, first-year students across all degrees and majors, this population would provide the foundation to collect responses from a broad and inclusive group of students across a variety of majors in business, liberal arts and sciences. In addition, the survey population also included multiple professors and semesters to provide variability in the delivered material over time.

The course was delivered through the use of a common syllabus prepared by the course coordinators. The syllabus required the use of several required attributes to maintain consistency with the course delivery. These attributes included the textbook, activities, exams and common chapters/topics. Specifically, the activities that integrated the contemporary learning approaches (business plan, E-Pitch, marketing competition), were required to be assigned by each instructor. Over two-thirds of the sections were taught by two instructors.

C. Survey Design & Administration.

Quantitative Analysis. To determine the effect of the redesigned course pedagogy on the student perceptions of business, it would be imperative to design questions which would gain the information necessary to evaluate the hypotheses as outlined above.
Students were asked to bring their laptops to class in order to complete the survey at both the beginning (pretest) and at the conclusion of the course (posttest). Students did not receive any incentive (extra credit) and were not required to complete the survey as a component of the course grading.

In order to properly test the hypotheses, three paired questions were developed to assess students' perception of the new course delivery and design. The question and scale definition were the same for both the pretest and posttest survey instruments to reduce measurement error and increase the integrity of the individual responses. The constructs along with the associated question text and scale definition are shown in Table 2.

The survey instrument was designed to be implemented using an online, web-based environment. This approach would eliminate data entry as well as provide for a simplified "matching" process as discussed below.

Each student was provided with an index card which contained the section name, URL address and a survey identification number (SID). The survey identification number is a unique six-character field comprised of letters and numbers. The index cards were distributed to students prior to the survey administration. Students were required to enter their SID numbers into the survey. They were asked to retain the cards in their textbooks so that they would be used for the end of the semester survey (posttest) administration. This process would provide a) anonymity for the students' survey answers and b) a process to "match" the students' pretest and posttest survey responses for various paired-sample statistical analyses.

Table 2. Survey Instrument Definition.

Construct	Question Text	Scale Definition (Number)
Interest	I am interested in pursuing a degree in business.	Strongly Agree … Strongly Disagree (5)
Knowledge	I believe that my knowledge of business concepts and topics is	Excellent … Poor (5)
Plan Knowledge	My knowledge of developing and compiling a business plan is	Excellent … Poor (5)

The pretest and posttest survey method was a deliberate decision to measure the impact of the course on the perceptions of the students. The thirteen-week period between the survey deployments provided some "distance" between the beginning and end of the semester. This methodology allowed the respondents to formulate their perceptions of their experience with the *Introduction to Business* course by providing an opportunity for reflection at the conclusion of the semester.

Qualitative Analysis. After examining the quantitative analysis from the first four semesters of data, the researchers acknowledged that qualitative data was needed to fully understand the context of student perceptions on the course redesign. Therefore, in addition to the quantitative survey, qualitative data was collected from two independent sources.

The first source was data obtained from the SIRII course perception surveys from one of the two course coordinators. In the qualitative section of the course evaluation survey, students were asked to provide feedback on course design and content, on which aspects of the course delivery methods they found most useful and on how they would improve the course. A content analysis was conducted on each of the responses, coding the responses based on which of the three pedagogical approaches was addressed: experiential (E), active (A), cooperative (C) or lecture-based (L). For example, one qualitative response stated:

> *"I think it would be beneficial if team leaders had to turn in a paper listing each member's contributions. That way each person is accountable and it doesn't become a game to any slackers in the group to see how much they can get away with not doing."*

This quote was coded "C" for cooperative learning by two separate reviewers. Comments that included references to more than one pedagogical approach were coded for each approach. After completing an analysis of the qualitative comments and coding the comments independently, the codes were compared between the two reviewers. For those codes that did not match, each reviewer discussed their reasoning and a decision was made collectively as to which

category the comment fit best. Next, any comments that suggested improvement or changes were examined for common threads and themes.

The second source of qualitative data was collected from a follow-up online survey sent to students who had already completed the course. This survey instrument was developed specifically to gather information needed for the qualitative analysis associated with the three pedagogical approaches: experiential, active, and cooperative. Three groups of questions were provided on the survey instrument: 1) qualitative perceptions of course activities (three questions), 2) a rank order of three pedagogical learning methods (one question) and 3) gender (one question). To eliminate any response bias, the questions associated with the perceptions of the different activities and the rank order question were identified only as generic categories (A=Experiential, B=Active, and C=Cooperative). The survey questions asked students to evaluate specific course activities not directly identified to any specific category. The categories, questions and pedagogical approaches are identified in Table 3.

Table 3. Qualitative Follow-up Survey Instrument.

Category	Question	Pedagogical Approach
A	Business plan project, competitions (elevator pitch and marketing) and the Marketing Plan Trade Show	Experiential
B	Technology Integration (Skype, Respondus, Turnitin, SurveyMonkey), *Introduction to Business* "Theme Nights", Debates, Film discussions and guest speakers	Active
C	Team-based learning, Peer-to-Peer Learning (Global Entrepreneur Program for consultants/E-Pitch and accounting students as consultants)	Cooperative

The rank order preference for each of the three pedagogical styles was tabulated using frequency counts. The qualitative perceptions of course activities gained from the online survey were combined with the results from the SIRII course perception survey. These comments from both instruments were analyzed to identify common themes/threads and to also determine *why* students perceived particular pedagogical approaches as more effective than others. By using both quantitative and qualitative data to test the hypotheses, the results would provide a more robust analysis of the research and enable the results to be understood more holistically.

IV. Results.

A. Quantitative Analysis.

To fulfill the research objectives, the differences between the individuals' perceptions over the course of the semester based on the pretest and posttest survey responses were examined. For a complete analysis, the responses of the pretest and posttest surveys were "matched" by the individual students' SID value. The completion of this "matching" process provided a final dataset consisting of one response record, based on the SID value, for each matched pair from the two survey administrations.

The final dataset records, as shown in Table 4, include only those responses which consisted of a valid pretest and posttest survey response over five semesters. Students who responded to the pretest survey but not the posttest survey were not included in the final dataset for analysis. The matched responses column depicts the total number of responses (1,130) that provide a valid pretest and posttest submission (based on SID). The response rate was calculated based on the ratio of registered students to matched responses. The last column in the table calculated the percent of matched responses of the total responses for all semesters. While the percent of total responses is not evenly distributed across semester, the variation of percentages is reasonable (16 – 24%).

Table 4. Responses by Semester.

Semester	Registered Students	Matched Responses	Response Rate	Total Matched Population
Fall 2005	421	240	57%	21%
Spring 2006	405	178	44%	16%
Fall 2007	429	182	42%	16%
Fall 2008	405	254	63%	23%
Spring 2009	425	276	65%	24%
Total	**2,085**	**1,130**	**54%**	**100%**

Tables 5 and 6 provide the frequency analyses of the population by gender and college respectively.

Table 5. Responses by Gender.

Gender	Responses	Percent
Female	496	43.9%
Male	634	56.1%
Total	**1,130**	**100.0%**

Table 6. Responses by College.

College	Frequency	Percent
Arts & Sciences	167	14.8%
Business	656	58.1%
No Designation	307	27.2%
Total	**1,130**	**100.0%**

A t-test could be considered an appropriate statistical method to analyze the data. However, in cases in which the data level is ordinal or when the populations are not believed to be approximately normal, a t-test is not appropriate (Groebner, Shannon, Fry, & Smith, 2008). A Wilcoxon model is applicable when the data follows a "continuous, but not necessarily normal, distribution (Cannon et al., 2013)." Therefore, the Wilcoxon Signed-Rank Test was used to complete the statistical tests. The Wilcoxon Signed-Rank Test (WSRT) is a non-parametric methodology which calculates the ranks of the absolute values using two related variables to test the hypotheses as to whether the two variables have the same distribution. To evaluate related sample questions (matched pair questions), the WSRT was used to evaluate a sample of related and repeated measurements on a single sample. This statistical test provided information about the magnitude of differences within variable pairs and assigned more weight to the variables calculating large differences than to those having small differences. The test statistic is based on the ranks of the absolute values of the differences between the two variables. The significance value ($p < .05$) of each test was used to evaluate the null hypotheses. Using the WSRT, the

hypotheses are tested based on the population median rather than a population mean, providing an accurate measure of the responses while considering outliers.

The WSRT was completed for the five semester, matched pair dataset for 1,130 responses. The descriptive statistics and Wilcoxon test results of the statistical analysis are shown in Tables 7 and 8 respectively.

Table 7. Descriptive Statistics.

	Pre-Survey			Post-Survey		
Construct	**n**	**Mean**	**SD**	**n**	**Mean**	**SD**
Business degree interest	1,130	1.52	0.91	1,130	1.63	1.01
Business knowledge	1,130	3.05	0.83	1,130	2.32	0.71
Business plan knowledge	1,130	3.59	1.01	1,130	1.90	0.78

Table 8. Wilcoxon Signed-Rank-Test Results (* = p<.001).**

		Pretest – Posttest Value					
Hypothesis	**Question**	**Negative Ranks**	**Positive Ranks**	**Ties**	**n**	**Asymp Sig.**	
1	Business degree interest	117	201	812	1,130	.000	***
2	Business knowledge	695	72	363	1,130	.000	***
3	Business plan knowledge	951	20	159	1,130	.000	***

The asymptotic significance test (two-tailed) was calculated for each of the three related paired questions. Each of the remaining three paired questions calculated significant differences at the p<.001 level. The final evaluation of the hypotheses based on the results of the statistical tests is as follows:

Table 9. Research Hypotheses Evaluation.

Hypothesis #	Hypothesis Definition	Evaluation
	After completing the introductory business course, students have a(n)	
1	… increased desire in pursuing a business degree	Accept
2	… increased level of business knowledge	Accept
3	… increase level of business plan knowledge	Accept

The knowledge questions associated with business concepts and the business plan calculated extremely high negative ranks (695 and 951 respectively). These negative rankings consisted of a significant percentage of the total responses (62% and 84%). Based on the Likert scale for these questions, the negative rankings illustrated a positive trend for the associated question.

The interest in pursuing a business degree question calculated different results. The positive ranking was higher than the negative ranking for this question (201 vs. 117). However, the number of responses that were neither positive nor negative (ties) was the largest percentage (72%) of the total responses of 1,130.

B. Qualitative Analysis.

For data collected from the SIRII course perceptions, a total of 74 responses were received, resulting in a response rate of 73%. The results of the content analysis are compiled in Table 10.

Table 10. Frequency Distribution of Qualitative Responses (n=74).

Pedagogy	Coded Responses	Percent of Total
Experiential	18	24%
Active	20	27%
Cooperative	3	4%
Lecture	40	54%
Total	81	

Seven responses were coded twice, with two pedagogical approaches documented within one response, resulting in 81 total coded responses. As shown in the table, 24% of the respondents preferred the experiential pedagogical approach. Twenty-seven percent of the respondents highlighted active learning methods of teaching as most useful. However, only 4% of the respondents referenced cooperative learning techniques. The majority of the student responses (54%) provided comments which referenced "lecture-based" learning as most useful.
The response rate for the online surveys was not as robust. Of the 285 surveys online surveys sent to former *Introduction to Business* students, only 33 surveys were fully completed, resulting in a response rate of 12%. The survey was sent after the course was completed. We believe the response rate was low due to the inability to conduct the survey administration within a classroom environment. The frequency analysis is shown in Table 11.

Table 11. Table of Ranking Frequencies Online Survey.

	- - - - - - - - - - - - Pedagogies - - - - - - - - - - -				
Rankings	**Experiential**	**Active**	**Cooperative**	**Total**	**% of Total**
1	24	5	4	33	73%
2	5	9	19	33	58%
3	4	19	10	33	58%
Total	33	33	33		

Based on the tabulations of the rank ordered preference for pedagogical approaches, the number of first, second and third choices were counted. For example, there were 24 respondents that selected experiential activities as the most positive influential on the course outcomes; followed by only five that ranked it as the respondents' second choice. The results of this analysis suggest that experiential learning is the most influential of the three pedagogies totaling 73% of the responses. Activities associated with cooperative pedagogies were ranked second, totaling 58% of the total responses, while active pedagogy activities ranked third.

The comments from question one on the online survey asked students to respond specifically to their perceptions of the activities listed in Categories A (Experiential), B (Active) and C (Cooperative). These comments were then combined with the qualitative comments

gleaned from the SIRII qualitative responses. A sample of the comments may be found in Table 12.

Table 12. Representative Comments from Qualitative Responses.

EXPERIENTIAL
I found … the Business Plan the most useful aspects of this course.
The business plan project was very useful. It was extremely hard and stressful but I definitely learned a lot about business and myself because of it.
The business plan was very useful to me. It differed from many projects in that it was very practical and will likely have many applications to my future.
More time spent in class working on the business plan.
Help students more with the business plan project.
I liked working in class on the business plan.
Really good. Perfect introduction course as it covers all the important enough so as you understand them but not too in depth either. Business plan, despite the work, was definitely a cool and worthwhile experience.
It was a good course. I would have liked to have seen more step by step instructions on the business plan. It seemed like we were expected to complete certain sections before we actually learned about them in class.
So much work, some of it may be unnecessary but I learned a lot through the business plan project. I liked having the opportunity to have a quiz each week, helped me stay on top of the reading.
The design of the course was very well established in terms of the business plan and what progress we should be making in terms of where we are in the lectures in class.
I enjoyed the setup of this course. The weekly quizzes were helpful, although I think it would make more sense to have the quizzes to take place after the chapter lecture.
It all revolves around the business plan and most of what we do in class.
I love it, although the business plan is a pain it really does show all the different aspects of business and Professor *** makes it a lot of fun!
ACTIVE
Practice quizzes online
Online IPod content - studies with it for every quiz, didn't get below an 80.8 lectures
The videos that were shown were important but yet had comical qualities to it, which sustained my attention.
The lectures and the classes dedicated on working on the business plan really helped. All the video clips really related stuff to real life.
I really liked the way Professor *** taught the class. He would show us important videos during class to help us understand the material better and kept us updated with news going on currently.
COOPERATIVE
The team I worked with was so different from past team experiences and I learned a lot about the needed information.
Even when teams were assigned I think I would be good to have some check in points to know how the team is doing. My team never knew if we were ahead or behind compared to other teams and compared to what the professor wanted.
With the business plan project, I think it would be beneficial if team leaders had to turn in a paper listing which sections team members are doing. That way each person is accountable and it doesn't become a game to any slackers in the group to see how much they can get away with not doing. If they knew the professor knew they were responsible for a certain section, I think they would work harder at it and be more inclined to submit it to the team leader after extensive work was done with it.

The 21 responses listed in Table 12 were categorized into the three pedagogical approaches; resulting in 13 experiential learning activity references, five active learning activity references and three cooperative learning activity references.

V. Findings & Conclusions.

A. General.

The mixed results of the Wilcoxon Signed-Rank text illustrate some interesting findings. All tests show significant differences between the pretest and posttest survey responses. Specifically, the analysis suggests that the respondents' knowledge of business concepts and development of a business plan have increased significantly. These results demonstrate that the students' perceive an increase in business knowledge after completing the course which positively contributes to their business education. The results of the quantitative and qualitative analyses clearly assert that the combination of course components and learning pedagogies provide a solid foundation to initiate the students' business education.

These results confirm previous research asserting that students retain more knowledge in experiential projects such as the business plan rather than traditional "*chalk and talk*" delivery approaches (Ausubel, 2000; Bonwell, 1991; Siciliano, 2001). Specifically, the larger variances in the pretest and posttest survey results for business plan knowledge, as compared to business concepts in general, reflect the challenge, creativity and unbounded nature of experiential-based projects that students referenced in the qualitative feedback. Students, in general, found the course both demanding and challenging. Overall, most students believe they gained a better understanding of the world of business and how business people think. They also felt strongly that they had attained the knowledge they "signed up to acquire" after completing the course.

These comments resonate with the findings of both Hake (1998) and Braxton et al., (2000). Hake found that students of teachers who taught with interactive approaches made twice the average gains in learning – greater than two standard deviations. Braxton et al. found that students that engaged in experiential learning perceived that they gained more knowledge from their coursework. As shown in Table 12, many students commented that they liked the course being designed around the business plan. Some sample comments are as follows:

- The business plan was "extremely hard, stressful, and a lot of work," … "very cool" … "fun".
- "I definitely learned a lot about business and myself because of it."
- "The business plan project was a great overall introduction to the world of business. As someone who had no idea what I wanted to do, this was great. I finished the business plan project and was confident that I found a major that was right for me."

Comments such as these underscore the benefits of experiential learning. Referring to Kolb's Learning Cycle (1984), the business plan and its various components, such as the E-pitch, marketing plan and trade show competitions, enabled students to link business theory to practice and use direct experiences to heighten the understanding of key concepts relevant to the world of business (Vince, 1998). Many students, as evidenced above, gleaned emotional insights as well, adding to the overall experience. These results support the findings of Welding and Turnipseed (2010) who concluded that "real-world projects as a pedagogical tool should be integrated into business curricula to improve learning and better prepare students for a career in business (p. 271)." The amount of interaction needed to complete this project directly influenced students' perceptions that they had gained more knowledge from the course.

One of the major reasons for the course pedagogy redesign was to increase the level of interest in business. The results from the SPSS Wilcoxon test (Table 8) relating to the students' interest in a business degree question indicates a mixed outcome with more positive rankings

than negative rankings (201 vs. 117). These results point out that 18% of the respondents (201/1,130) lost interest in a business degree after completing the course. However, for most of the respondents (812, 72%), the perception of the students' interest in a business degree has not changed from the beginning of the semester.

While we were expecting that the transition from a "chalk and talk" approach to an experiential, team-based environment would increase interest, we believe that the glorification and sensationalism of business successes is a reasonable explanation of the loss in business interest. Students are a product of the media hype and glorification of the "mega start-up" businesses over the past several years. The social image of business stemming from such popular television shows such as *ABC's Shark Tank* and NBC's *Apprentice* capture the allure of business more than the hard work succeeding in business entails. Therefore, students may view highly successful businesses only from the visible results and the financial factors (e.g. stock price, sales, salaries, market share, etc.). They have limited experience or context to fully appreciate the level of integrated business planning (including financial projections, sales forecasting, product development, research and marketing activities) necessary to start a business. The work involved in creating a business plan may have resulted in a "*rubber meets the asphalt*" epiphany. Ultimately, as with successful sports personalities, people often see only the celebration of an athlete winning a championship *but do not understand the number of practices, training and minor league assignments that were the foundation of the observable achievement*. This epiphany may have impacted students' interest in business and attitude toward studying business, especially for those students who were undeclared business majors, or enrolled at the University to study liberal arts.

A second explanation for the decreased interest in business for some respondents may stem from their perceived lack of business aptitude after completing the course. According to several researchers (Downey, McGaughey, & Roach, 2011; Kumar & Kumar, 2013), attitude toward the business major is the main factor influencing students' intentions to choose this major. Students' attitude toward the business major is in turn influenced by factors such as job availability, social image and aptitude. Specifically, research shows that business students tend to pursue a major that fits with their perceived abilities (aptitude). According to Kumar and Kumar (2013), experiences in an introductory business course may lead students to believe they do not possess the aptitude for a specific major, diminishing their attitude toward business and thus, their interest in pursuing a business major.

We believe that these findings parallel the results of our research. Specifically, at the conclusion of the course, students' pre-course assumptions were transformed. Students who initially had been interested in business due to the social image and prestige of business may have found that, after taking the *Introduction of Business* course, their initial lack of awareness of the effort and conceptual knowledge required to operate a successful business, resulted in doubting their aptitude for business. In turn, this may have influenced their attitude toward business, diminishing their interest in business. This possibility would be an interesting question for a future research study.

B. Additional Insights.

Experiential. While the overall business plan was positively evaluated and the E-Pitch competition was noted for providing confidence in handling very intense situations, the marketing plan trade show was not perceived positively. Students felt that those who spent a lot of money on their poster boards received an A+; others simply stated that it was "not a winner."

Furthermore, the course covers a lot of information and some students desired more detailed guidance in completing the business plan, requesting more in-class time devoted to answering questions concerning the business plan and more focused in-class discussions on how to write a business plan. Students also suggested more guidance should be provided when preparing for the various presentations. Other suggestions concerned the "timing" of assignments. Most students felt that the E-pitch and marketing plan competitions were due too close to one another and definitely too close to when the business plan itself was due.

Active Learning. With respect to the use of technology, students made very positive comments about SurveyMonkey and Skype. "*The technology was great. Being able to Skype professors was really helpful; it was like extended class time*." As a way of learning course material, there was an overwhelming preference for taking the quizzes at the beginning of each chapter, followed by the lectures that reinforced what was read in the text. One student commented, "*I liked that we have to read the chapter first because then I know what the professor is talking about*." These perceptions by students correspond with research on developing better learning activities (Bonwell, 1991; Sutherland & Bonwell, 1996; Whetten, 2007; Wilkerson & Gijselaers, 1996). Whetten (2007) found that when he began to give unannounced quizzes at the beginning of class to reinforce expectations the material was read, students who had not prepared not only did poorly on the quizzes, but felt left out of 'highly interactive, engaging learning processes (p. 351)." However, despite the positive reactions to the quizzes in this study, students felt that the technology (Respondus) used to take the quizzes had too many technical glitches that were frustrating.

Other active learning approaches appreciated by the students included theme nights, debates, the interactive class discussions, guest speakers and films; all which received positive reviews and were perceived as a way to reduce the stress felt by the continued focus on completion of the business plan. "*The programs that went on outside of the classroom helped a lot with the actual development of the business plan. Pointers were given, editing was done and examples were used to make concepts clearer*." Such comments underscore why active learning approaches were positively acknowledged among the SIR II course perception responses.

Cooperative Learning. Team-based learning received a majority of positive responses, as this approach was perceived as an opportunity to gain multiple perspectives, enhance a student's ability to work in groups and facilitate completion of a large project. According to one student's perception, "*Working with a team really helped improve my teamwork skills. It was great working on such a big assignment with kids I have never met before.*" The positive reactions, such as this statement, to the use of teams in the course reflect the work of Siciliano (2001), who found that face-to-face interaction, positive interdependence and individual accountability were the cornerstones of cooperative learning.

The students' reaction to peer-to-peer learning was mixed. Students found that the peer consultants to be helpful to prepare the teams for the E-Pitch competition. However, there were overwhelmingly negative responses to the peer consulting providing accounting assistance. The students' feedback indicated that the accounting peer consultants did not know enough to properly assist with the accounting section of the business plan and appeared to volunteer only to receive extra credit. Research has shown that peer learning has many positive outcomes including enhanced comfort level when asking questions of peers rather than professors (Webb & Grib, 1967), greater support and stimulation resulting in increased motivation (Mallinger, 1998; Schomberg, 1986) and greater understanding of the material beyond memorization (Ausubel, 2000). However, it is important to note that certain conditions must exist to ensure

success. According to Slavin (1988), there needs to be individual accountability and a set of group goals or interdependency. In the process currently applied in the *Introduction to Business* course, these conditions were not evident in the peer-to-peer consulting relationships. These omissions may explain the many negative comments received and should be addressed in future courses.

In addition, cooperative learning approaches were marginally acknowledged in the SIR II perception survey. In this survey, students were asked, "*Which aspects of the course (including tests, lectures, assignments, etc.) did you find most useful*?" The question may have inadvertently limited students' to consider only those particular aspects versus more cooperative activities such as team-based learning and peer-to-peer learning. Therefore, this poorly constructed question, not developed by the researchers, could have led students to consider lectures, quizzes and assignments more useful than teamwork.

There were several suggestions made regarding the team-based work. Students strongly believed that each team's progress should be monitored more closely by the faculty and that final team member peer evaluations should be submitted the last day of class rather than with the business plan itself. Since the oral final and presentation are conducted after the business plan is submitted students felt "*so much happens between the time you pass in the business plan until the very end of the semester*." Therefore, peer evaluations would be more useful if submitted later than the current due date.

VI. Limitations and Future Research.

Introductory courses are always in a state of continual evolution. As evidenced from the findings and conclusions, the redesigned course pedagogies used in the *Introduction to Business* course successfully integrated learning approaches that promoted student engagement and provided opportunities for students to directly apply course concepts. Future research, however, is needed to more fully explore the inter-relationship between the three constructs: course pedagogies, retention of course concepts and development of student interest in business. It would be prudent to design an experiment in which certain sections of the introductory course are taught using solely the "chalk and talk" lecture approach and other sections apply experiential, active and cooperative learning structures in addition to lectures. A common standardized final at the end of the semester could assess the knowledge gained from each team.

Furthermore, although the number of respondents to the online survey was too low to draw solid conclusions, it was interesting to note than when the data was segmented by gender, more men ranked *cooperative learning* approaches as the second most effective, while women ranked *active learning* second and cooperative third. This finding reflects the need to assess more fully the use of teams as a form of cooperative learning at the college level. Specifically, business education has traditionally been gender imbalanced toward males. It is important to determine how gender composition of teams and team dynamics influence learning outcomes, especially when working on large projects such as the business plan project in the *Introduction to Business* course.

In addition, when asking students to rank order pedagogical approaches, the categories focused exclusively on experiential, active and cooperative activities. However, 54% of the qualitative feedback received from the SIRII course perception responses identified lectures as an important aspect of the course students found most useful. Students claimed that the lectures broadened their understanding of the material and complimented the other approaches used (especially quizzes and assignments). In this study, lectures as a pedagogical approach was not

listed as one of the categories to be ranked by the online respondents. Rankings in the future should include "lecture" as one of the categories for comparison.

Originally, this research intended to determine if the *Introduction to Business* course changed students' opinion of their original degree choice (as selected from their admission application). The pretest and posttest survey asks several questions to determine the change in their certainty of their current degree choice along with their degree selection upon entering their first semester. The use of these responses may provide the foundation for future research to determine the effect on a degree choice of first-year students.

The use of indirect measures of student learning, such as the use of surveys that rely on student perception alone, have come under question as an effective tool for gauging actual learning. While researchers have found evidence that the actual learning of students may be significantly related to what they felt they learned (Le Rouzie, Ouchi, & Zhou, 1999) or have even exceeded perceptions of learning (Weldy & Turnipseed, 2010), it would be beneficial to incorporate direct measures of learning into the assessment process. As stated above, this could include pretest/posttest assessment of introductory concepts or standardized exams.

Finally, it would be interesting to examine the underpinnings of business knowledge and retention through qualitative analysis to uncover the links and trends. For example, does the depth of students' pre-college backgrounds have any effect on their perceptions (pretest/posttest) of increased knowledge or interest in business? Do students whose families own family business having a greater propensity to be interested in business?

Experiential, active and cooperative pedagogical approaches in the classroom have been shown to positively impact course outcomes, including enhanced understanding of business concepts and improved knowledge retention, as demonstrated throughout this paper. It is also important to consider that more interactive course delivery integrating these approaches also heightens the professor's engagement in the course. Implementing methods for engaging students in the learning process will continue to be a challenge, but the efforts can be rewarding and gain positive results for both students and faculty.

Acknowledgements

The authors would like to acknowledge Professors David Greenan and Adam Rubin, the two primary *Introduction to Business* professors, for their commitment to this project. Each professor played an active role in data collection over a five semester period, facilitating the process by ensuring that student participation in both the pre-test and post-test surveys was acquired. Furthermore, their highly innovative and creative approaches to the pedagogical changes that are presented in this paper are the real reason this course has been, and continues to be, highly successful as a model of contemporary learning theory.

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