The Efficacy of Web-Based Teaching in Experiential Learning
Meena Chavan, Macquarie University, NSW, Australia

Abstract: Experiential learning is learning by doing and participating in activities that result in hands on approach to the transfer of knowledge. Experiential learning can be defined as a process by which the learner creates meaning from direct experience. Experiential learning has been around for ages. It was one of the first methods of educational instruction. Modern day experiential learning theory has been mostly attributed to the works of John Dewey and David A. Kolb, but there have been contributions to the field made as far back as the French philosopher Rousseau in the early 19th century. (Kraft, 1995). There are students who do not have the opportunity to participate in an off-campus internship or cooperative program due to various reasons, but there is an alternative option for students to enroll in an experiential learning opportunity by registering for a course with an experiential learning centered approach. The purpose of this paper is to determine the educational impact of experiential learning on the attitude and the performance of students in an “International Business unit”. The paper presents a teaching model based on experiential learning in the “International Business” unit at undergraduate level. Preliminary analysis of 92 student evaluations determined the efficacy of experiential learning. To evaluate the cognitive (whether they learned from the experiential activity) and affective (did they like participating in this activity) impact on student learning. To evaluate the impact of experiential learning on one’s own life.

Keywords: Experiential Learning, Web-based Learning, Global Business, Interactive Learning, Sharing Resources, Student Attitudes and Performance

Purpose

The purpose of this paper is to determine the educational impact of experiential learning on the attitude and the performance of students in an “International Business unit”. The paper presents a teaching model based on experiential learning in the “International Business” unit at undergraduate level. Preliminary analysis of 92 student evaluations determined the efficacy of experiential learning.

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Design/Methodology/Approach

This is an empirical paper where a 15 question likert scale survey was administered twice to students in a semester. First after the completion of the initial 6 weeks of non experiential teaching and again after the preceding 6 weeks where teaching was conducted through several experiential activities. This was done in order to evaluate and distinguish the difference in the affective and cognitive impacts between teaching in a non experiential teaching style and an experiential teaching style. An additional open ended questionnaire was administered to students after completion of the 2 assignment experiential activities which were conducted in class and on the e-learning platform- Blackboard.

The paper looks at the benefits and the appraisal of experiential learning in a higher education setting. The research analyses the student evaluations via descriptive statistics and t-tests to investigate the efficacy of the experiential method in teaching international Business units to university students. It is hoped that the student evaluations will also be used to improve the educational experience of the students.

Findings

The paper indicates that experiential learning can be integrated into International Business via experiential activities conducted with resources from www using the e-learning platform without any further tools and resources. The findings demonstrate that although the data analysis does not show improvement in exam performance, trend analysis shows a positive student attitude towards the course and also validates that experiential activities enables them to learn and apply the knowledge to their own personal and professional lives.

Originality/Value

The research exercise showcases how real life real time knowledge in the discipline area of International Business can be imparted through experiential exer-
Experiential learning is learning by doing and participating in activities that result in hands on approach to the transfer of knowledge. Experiential learning can be defined as a process by which the learner creates meaning from direct experience. Experiential learning has been around for ages. Experiential learning, learning by “doing” or learning through an experience, was one the first methods of educational instruction. Modern day experiential-learning theory has been mostly attributed to the works of John Dewey and David A. Kolb, but there have been contributions to the field made as far back as the French philosopher Rousseau in the early 19th century. (Kraft, 1995) There are students who do not have the opportunity to participate in an of-campus internship or cooperative program due to various reasons, but there is an alternative option for students to enroll in an experiential-learning opportunity by registering for a course with an experiential-learning centered approach. Experiential learning can be defined in terms of an instructional model, which begins with the learner engaging in direct “experience” followed by reflection, discussion, analysis and evaluation of the experience.

There are many definitions of experiential learning from different perspectives such as experiential education, constructivist education, the learning cycle, and project-based learning and many more that claim to be “the” effectual model.

In this instructional model we learn from our experience after we evaluate them and relate them to ourselves. When we assess our experience, we get their insights through which we can learn and that is referred to as experiential learning. (Wright, 1990) “As this process takes place, the pieces fall into place, and the experience takes on added meaning in relation to other experiences. All this is then conceptualized, synthesized and integrated into the individual’s schema of cognitive constructs which he/she imposes on the world, through which he views, perceives, categorizes, evaluates and seeks additional experiences. (Wright, 1990)”

This learning cycle includes 3 basic phases: 1) A direct experience 2) Reflection and evaluation of the experience 3) Application of the insights to our own situation.

This method has proven to be successful with youth, in volunteering initiatives, with students in higher education, with adult education and education of international students. This methodology has also proven effective for developing both scientific and language literacy. (Cantour, 1995).

John Dewey (1938) has made, arguably, the most significant contribution to the development of educational thinking in the twentieth century. Dewey’s philosophical pragmatism, concern with interaction, reflection and experience, and interest in community and democracy, were brought together to form a highly suggestive educative form.

David A. Kolb (with Roger Fry) created his famous model out of four elements: concrete experience, observation and reflection, the formation of abstract concepts and testing in new situations. He represented these in the famous experiential learning cycle by Lewin, 1951.

The graphic below is a representation of the Experiential Learning Cycle, which includes the components of experience, critical reflection, abstract conceptualization, active experimentation, and more critical reflection.

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Concrete experience [1]

Testing in new situations [4]

Observation and reflection [2]

Forming abstract concepts [3]
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Real experiences help the individual learn advanced abstract concepts. The experiences might result in paths, which allow the individual to actively collect information to learn and become a member of the community of practice. Perhaps critical thinking and reflection may refine ideas or lead the individual to consider alternate possibilities. Each phase potentially leads to another and builds upon the former.

Although the current and past literature suggests that experiential learning can be adopted in a higher education setting successfully, there are several critiques about its efficacy. There are doubts whether this method can be adopted to non traditional lessons with different learning styles.

This paper presents the application of experiential learning in an International Business unit using web-based resources and “Black Board” the e-education platform. The first year International Business unit was divided into 2 segments, where the first 6 weeks were taught in the traditional face to face lecture method coined “Lecture only method” and the next 6 weeks were taught using experiential exercises coined “Lecture plus method” for the purpose of evaluating the efficacy of experiential learning techniques.

**Literature Review**

This review of the literature focuses on experiential learning in higher education. This review is, in fact timely, as there is renewed academic interest in experiential learning as workplaces requires employees to effectively interface with each other and understand their roles as team players and there is an economic necessity for higher education to interface closely with business and community.

This review of the literature helps understand the current state-of-the-art practices in experiential learning, with suggestions for program design. The literature suggests that experiential learning is a necessary constituent of formal instruction in colleges and universities for quite a few reasons. One of them being the concerns of staff with enhancing the chances for their students to more easily enter their chosen line of work or meet their desired aspirations upon graduation from the college program due to decreasing job markets and increasing competition among college graduates across most all fields of study (Cantour, 1989). Rosenbaum another researcher also mentions a mutual concern among teachers and employers about the effectiveness of preparing our students with the competencies necessary to pursue successful careers upon graduation. In many cases, the accredited organizations supporting the disciplines have specific requirements for such experiential learning activities (Stanton 1988).

Some other research supporting experiential learning state that incorporating experiential learning activities in the class has shown to improve grades (Retemper, 2000); Experiential Learning has assisted improve attitudes towards challenging material (Pugsley and Clayton, 2003; Experiential Learning has helped students’ motivation by showing them how the knowledge can be applied to their lives (Briers, 2005); Other researchers have found that experiential learning can be adopted in a higher education setting successfully, there are several critiques about its efficacy. There are doubts whether this method can be adopted to non traditional lessons with different learning styles. The experiences outside of the classroom provide the increasingly growing numbers of non-traditional learners with valuable opportunities to apply theory to practice. Disciplines in the professional and technical disciplines including education and the health careers and social work are using experiential learning instructional techniques to provide students with the competencies necessary to pursue successful careers upon graduation. (Baxter & Marcia 2001).

These experiences in turn, let learners build up skills and accumulate job experience which gives them an edge on the competition for initial employment upon graduation. In many cases, the accredited organizations supporting the disciplines have specific requirements for such experiential learning activities (Stanton 1988).

Other researchers have found that experiential learning is an effective way to improve student engagement and motivation. Through a discussion of a variety of experiential learning methods, this paper aims to provide students with the competencies necessary to pursue successful careers upon graduation. (Baker, 1991) cited in Cantour, 1995 documents the benefits of experiential learning for student career decision making and for development. Students tend to continue their education into graduate schools at a significantly increased rate, after participating in experiential learning as part of an undergraduate program according to (O’Neill, 1992) and (Gregory, 1990) cited in Cantour, 1995.

“Experiential learning today is said to be used in the university curriculum in varied disciplines as academics are finding it necessary to teach through a student centered approach. Everyday new literature can be seen in the area of social sciences, engineering, law and even medicine faculties teaching via an experiential methodology across the world”.

‘Experiential learning activities include cooperative education placements, practicum experiences, and classroom-based hands-on laboratory activities. College educators find experiential learning a valuable adjunct to traditional instruction in these disciplines. The experiences outside of the classroom provide the increasingly growing numbers of non-traditional learners with valuable opportunities to apply theory to practice. Disciplines in the professional and technical disciplines including education and the health careers and social work are using experiential learning instructional techniques to provide students with the competencies necessary to pursue successful careers upon graduation.’ (Baxter & Marcia 2001).

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The literature also reveals some other benefits of experiential learning which are not that well known. Through development of cooperative education programs, colleges and their faculty and students are brought closer to their communities. Through these newly formed linkages proactive economic development outcomes emerge. These include better educated and trained students as potential employees, technology transfer from faculty to entrepreneurs via business development consultation, and the like (Cantor 1995).

While the above literature suggests that experiential learning is a necessary and vital component of formal instruction in colleges and universities, controversy never-the-less exists among scholars and educators about its place and use. There are doubts whether experiential learning will be suitable for non traditional learners with multitudes of learning styles and needs and will in general provide an appropriate understanding of learning theories and cognitive development in allied areas (Webb, 2001).

Some past research on the imparting of international business education via experiential learning are as follows:

1. Rollins College and the Crummer Graduate School of Business encourage international experiential programs in their MBA. They have an international study trip and a global consulting project as a part of their experiential activities.

2. Ilan Alon, Nancy Cannons paper discusses a unique internet-based learning forum, Globalview.org (www.globalview.org), which involves the construction of international business plans for real companies seeking internationalisation.

3. The paper “Experiential Learning in International Business Education” by Pallab Paul and Kausiki Mukhopadhyay examines the impact of experiential learning within international business education. They report how they introduced some innovative experiential techniques and their effectiveness, individually and on aggregate results indicate that incorporating such techniques in the pedagogy and course curriculum facilitates active learning for the students and augments overall learning.

4. The paper “Reflections on foreign field-based experiential learning: Taking the classroom to the culture by Charles A. Rarick, Barry University & G. Rod Erfani, Transylvania University, discusses the authors’ experience with a field-based course, which required students to travel to a foreign country as part of their coursework. The paper explores the difficulties and benefits of such an instructional methodology and provides a model, which highlights important elements of a successful field experience.

This paper is unique in the sense that the EL method used here does not need any additional tools and resources other than the world wide web and the in house e-learning platform and the experiential activities adopt are suitable to be implemented in large classes.

Research Objective

The general objective of this paper was to provide students with work-place relevant discipline skills to enhance their employability skills.

- To implement experiential activity that enabled students to complete all 4 stages of Kolb’s experiential learning process
- To evaluate the cognitive (did it help me learn) and affective (did I like participating in this activity) impact on student learning.
- To evaluate the impact of experiential learning on ones own life .
- To evaluate comparatively the impact of lecture only Vs lecture plus EL mode on the attitudes of the students
- To evaluate comparatively the impact of lecture only Vs lecture plus EL mode on the performance of students
- To evaluate and contrast the impacts of learning through EL between Asian and other students

Hypotheses Guiding Research

- H1 There will be no significant difference in attitudes between students exposed to a lecture only mode of teaching and those exposed to a lecture plus mode
- H2 There will be no significant difference in performance between students exposed to a lecture only mode of teaching and those exposed to a lecture plus methodology
- H3 There will be no significant difference in attitudes and performance between Asian students and other students in a lecture plus class.

Research Design

Step 1- Conceptual Development -Lecture Only Mode: During the first 6 weeks of the unit lectures were conducted in the traditional face to face lecturing method .

Step 2- A midterm exam based on the first 6 weeks was conducted with a weightage of (50%)

Step 3 – A likert Scale Instrument adopted from (Hoover, J.Duane, Experiential Learning : Conceptualization and Definition in Simulations, Games,
and Experiential learning techniques: On the road to a new frontier, University of Oklahoma press) was administered to evaluate the efficacy of the ‘Lecture only mode’.

Step 4: The next 6 weeks after the midterm exam were conducted in the Lecture Plus Experiential mode where the first 1.5 hrs were engaged in traditional lectures and the next 1.5 hrs in EL activity.

Step 5 – Assessment 1. Foreign exchange game. In week 6 the students were given their first experiential assessment after teaching the foreign exchange chapter, the FX game. After this activity an open ended questionnaire was administered.

Step 6 - Assessment 2. Genetically modified food simulation (10%). In week 8 after teaching the chapter on the political economy of International trade, this experiential activity was conducted in class.

An open ended questionnaire was administered to the students after the simulation.

Step 7 - At the end of the 12th week the same likert scale instrument that was administered at the end of week 6 was administered again.

Step 8 - In week 13 the final exam was held.

Step 9 - Preliminary Data Analysis using descriptive statistics including t tests was conducted using the student evaluations. The performance measure used was exam grades and the attitudes measure was the 15 item likert scale instrument.

Process Adopted

- Step 1: Explored the workplace relevant skills required for graduate positions in International Business via interviewing organisations appointing international business graduates.
- Step 2: Develop and implement relevant experiential activities into the unit.
- Step 3: Match the workplace relevant skills and competencies with the learning outcomes of the experiential activity.

### Step 1: Matching Graduate Attributes and Skills to the Learning Outcomes

<table>
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<tr>
<th>ORGANISATIONS EMPLOYING IB GRADUATES</th>
<th>JOB REQUIREMENTS (SKILLS AND COMPETENCIES)</th>
<th>EXPERIENTIAL ACTIVITY FOR DEVELOPING THE SKILLS</th>
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<tbody>
<tr>
<td>KPMG (Internal audit-Operational Risk Management)</td>
<td>Knowledge of financial markets and foreign exchange markets Communication skills</td>
<td>FX Game A month in the life of an ASX listed stock. Class case presentation</td>
</tr>
<tr>
<td>DFAT (Department of foreign affairs and trade)</td>
<td>Knowledge and awareness of the current global and Australian political, social &amp; economic environment. Sensitivity to &amp; appreciation of differences in diversity Effective consultation, interpersonal, liaison and negotiation skills Ability to write clearly and persuasively. Team Working skills.</td>
<td>Current Affairs. Cross cultural quiz Simulation on genetically modified food</td>
</tr>
<tr>
<td>Westpac Bank (Graduate Program)</td>
<td>Team players Flexible Strategic thinkers and practical problem solvers</td>
<td>Comparative Advantage exercise (group work)</td>
</tr>
<tr>
<td>UBS</td>
<td>Excellent communication and research skills Knowledge of financial markets Team work</td>
<td>Weekly group case presentations Follow the stock of an Australian company and report on its movements and give reasons.</td>
</tr>
</tbody>
</table>
### Step 2: Develop and Implement Relevant Experiential Activities into the Unit

During the weeks 6-12 several other experiential activities were conducted in class as mentioned below but only the 2 activities mentioned above earlier a) FX game & b) Genetically modified food simulation were assessed. Some of the Experiential Activities conducted in class were:

- Foreign Exchange FX Game- Assessment 1
- Simulation on GM Foods- Assessment 2
- Comparative advantage exercises
- Cultural Quiz
- Role Play
- Exporting an item to their country of origin
- International supply chain simulation
- Reporting on Google and Yahoo merger case

#### Change From

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After the FX game students complete this questionnaire below:

**Foreign Exchange Experiential Activity Questionnaire**

**Questionnaire 1 FX Game:**

Name: ..............................  
ID Number: ..........................

Q1 What did you learn from this experiential activity that you did not know earlier and how has it changed your understanding?

Q2 How did this in class activity help you learn course material in International Business?

Q3 Did you like participating in this activity? Why? or Why Not

- International Business (export) marketing plan

The first assessment: The aim of the FX game is to play the part of a currency trader and to trade different currencies to increase the value of your currency holding.

Students were given a hypothetical sum of US$5 million and their task is to use the currency market to trade their balance to make this as large a sum as possible by transferring it between different currencies. Period of time was 5 weeks during which students were allowed to trade and at the end of that period all currency portfolios were transferred back to US dollars and the student whose portfolio was worth the most won the game. Student groups submit their portfolios online via the blackboard to the lecturer in charge via a FX transfer sheet as below every week for 5 weeks: Participation in the activity and following the rules gets them marks out of 10.

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Q4 What perceived internal changes, for example confidence level, increased knowledge, etc., do you think occurred?

Q5 Did the assignment allow you to apply material to your life/real world situation?

Q6 Did the assignment provide you with hands on activity that engaged you in learning the course material?

Q7 Did this activity help you understand the working of the FX market?

Q8) Do you perceive the participation of this experiential activity as having impacted your professional future?

The survey results for the FX game were as follows:

FX Game

Student responses were grouped into one of the 9 categories using the actual student responses. 4% of the students found the exp activity too difficult and 2% stated that it was too much work. 93% stated that they had acquired pertinent and relevant knowledge from the activity.

The second experiential activity the GM food simulation is designed to develop negotiation skills with an emphasis on multistakeholder dialogue and exchange. It entails a dispute resolution scene between US and EU on the restriction on the sale and import of GM foods in EU.

The simulation was put up on the Blackboard and students were assigned to one of the 6 groups. 1. US, 2. EU, 3. GM manufacturing comp, 4. Developing countries, 5. NGO 6. WTO.

They were given time to read the simulation, prepare their justification and formulate arguments and every student was asked to come ready with a report containing their individual arguments which they hand in after the simulation.

Each group is given 15 minutes to present their case after all the groups have presented the WTO group deliberates for 15 minutes and presents their findings. Participation gets them 5 marks and the individual report get marks out of 5. They complete the questionnaire below after the simulation.

Questionnaire 2

Simulation- A Genetically Modified Food the EU / US Conflict

Name: ………………………
ID Number: ………………………

Q1 What did you learn from this experiential activity that you did not know earlier and how has it changed your understanding?

Q2 How did this in class activity help you learn course material in International Business?

Q3 Did you like participating in this activity? Why? or Why Not

Q4 Based on this activity are you considering being vigilant in your own food consumption habits with regards to genetically modified food?
Q5 Did the assignment allow you to apply material to your life/real world situation?

Q6 Did the assignment provide you with hands on activity that engaged you in learning the course material?

Q7 Did the activity assist you understand the workings of the WTO?

Q8) Do you perceive the participation of this experiential activity as having impacted your professional future?

Survey results for the Simulation:

Simulation GM Foods

The results stated that 96% of the students acknowledged that the assignment helped them learn at least 1 aspect of the course material.

3% stated that the activity did not help them learn and that they could not participate actively due to lack of enough English speaking skills.

At the end of the course in the 12th week this likert scale instrument was administered to all the students:

Likert scale evaluating the student attitudes

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<th>7 6 5 4 3 2 1</th>
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<tbody>
<tr>
<td>1</td>
<td>Interesting</td>
<td>Boring</td>
</tr>
<tr>
<td>2</td>
<td>Satisfying</td>
<td>Dissatisfying</td>
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<tr>
<td>3</td>
<td>Informative, obtained pertinent knowledge in International Business</td>
<td>Uninformative, without useful knowledge for International business students</td>
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<td>4</td>
<td>Applicable to the real world and my own life</td>
<td>Unrealistic and non applicable</td>
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<td>5</td>
<td>Learning processes were simple</td>
<td>Too complex</td>
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<tr>
<td>6</td>
<td>Helped to develop my professional skills</td>
<td>Did not develop my skills</td>
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<td>7</td>
<td>The learning process was pertinent to my self-development</td>
<td>The learning process was irrelevant to my self development</td>
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<td>8</td>
<td>I felt active and involved</td>
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<td>13</td>
<td>I felt the course did not require me to exercise independent judgment in evaluating textbook theories</td>
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<td>14</td>
<td>I learned things that I did not know from this activity</td>
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<tr>
<td>15</td>
<td>I am glad I took the course</td>
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<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>I felt the course did not require me to exercise independent judgment in evaluating textbook theories</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>I learned things that I did not know from this activity</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>I am glad I took the course</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Preliminary Analysis: A comparison of lecture only mode and lecture plus mode attitudinal mean scores at a level of significance p<.05 depicted how the student felt about the first 6 weeks (lecture only mode of delivery) of the IB courses and how they feel after the last 6 weeks (lecture plus mode of delivery).

**Table 1: Significant Mean Difference by Item**

**Positive** = significant higher rating of Lecture+ item means than lecture only mode **Negative** = significantly lower rating

<table>
<thead>
<tr>
<th>Semester</th>
<th>Lecture only mode</th>
<th>Lecture plus experiential</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st semester n=45</td>
<td>6 items negative</td>
<td>1 item negative</td>
</tr>
<tr>
<td></td>
<td>2 item positive</td>
<td>7 items positive</td>
</tr>
<tr>
<td>NET</td>
<td>4 negative</td>
<td>6 positive</td>
</tr>
<tr>
<td>2nd semester n=47</td>
<td>1 item negative</td>
<td>2 items negative</td>
</tr>
<tr>
<td></td>
<td>5 item positive</td>
<td>12 items positive</td>
</tr>
<tr>
<td>NET</td>
<td>4 positives</td>
<td>10 positives</td>
</tr>
</tbody>
</table>

**H1** There will be no significant difference in attitudes between students exposed to a lecture only mode of teaching and those exposed to a lecture plus mode. **H1** was rejected.

Table 1 presents a comparison of lecture only mode attitudinal mean scores and lecture plus experiential mode mean scores these results tell us that students exposed to the lecture only methodology during the first 6 weeks felt significantly more negative-6 negatives and 2 positives while those exposed to the lecture plus EL mode test significantly more positive. 7 positives and 1 negative.

For the 2nd semester lecture only mode producing 1 negative and 5 positives while the significant mean difference for the lecture plus group produced 2 negative and 12 positive. Despite a net positive learning experience for the lecture only group in the 2nd semester the results indicate that the lecture plus students felt more positive towards the unit than the lecture only students. 2 possible reasons for explaining the positive skew in semester 2:

1. Feedback to current semester II students from semester one students about the way in which the course was conducted and the students in semester II therefore had some idea as to the interesting activities that follow in the next 6 weeks which could have skewed their attitudes towards the positive.

2. My own experience with implementing such a course was enhanced which made the course more aligned.
Thus H1 There will be no significant difference in attitudes between students exposed to a lecture only mode of teaching and those exposed to a lecture plus mode was rejected as we saw significant higher rating of Lecture+ item means than lecture only mode.

Table 2: Comparison on Performance

<table>
<thead>
<tr>
<th></th>
<th>Difference in Mean Scores</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture only Vs Lecture plus (exam performance)</td>
<td>1.112</td>
<td>P=.265 (NS)</td>
</tr>
<tr>
<td>Asian Vs Other</td>
<td>1.132</td>
<td>P=.322 (NS)</td>
</tr>
</tbody>
</table>

Table 2 compares the performance of the lecture only component and lecture plus component and presents the difference in mean scores.

The mean difference in course exam scores, 1.112 percentage points (p=.265) was not significant. It was trend significant but not statistically significant.

Therefore the findings indicate that with students exposed to the 2 different methodologies there was no significant difference in performance on class exams. Based on these results H2 there will be no significant difference in performance between students exposed to a lecture only mode of teaching and those exposed to a lecture plus methodology is accepted.

Table 2 also indicates that a comparison of Asian students performance vs. Other students performance. The comparison revealed a mean difference of 1.132 percentage points (p=.322) which was not significant rejecting any claims of difference in performance in Asian students due to the experiential activities.

The attitudinal scores of Asian students and others were also compared and significant difference was found in only one of the 15 attitudinal items of the likert scale administered to the students, which was the 5th one as follows:

5) Learning processes were simple 7 6 5 4 3 2 1 Too complex

Here the Asian students found the lecture plus material too complex as apposed to the other students. Therefore these results accept H3 There will be no significant difference in attitudes and performance between Asian students and other students as a result of taking the lecture plus class.

Conclusion

Students in the lecture plus group do seem to benefit when compared to the lecture only group (based on trend significance). The lecture plus students felt substantially more positive toward the EL component as compared to the lecture only component they had taken. H1 was rejected. There were no statistical differences in performance results of students between groups. H2 is accepted. Asian students did find the activities complex but that did not impact their grades adversely and overall there was not a significant difference in their attitudes towards experiential activities. H3 is accepted as we did not find any significant difference in the performance between Asian and other students. Least but not the least students were able to apply the knowledge to their own life, it helped them learn and they liked participating in the activity.

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