IMPLEMENTATION OF TRANSFORMATIVE LEARNING DESIGN IN ENVIRONMENTAL SCIENCE COURSE IN DE LA SALLE LIPA: A SWOT ANALYSIS

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ABSTRACT:
This study was aimed at determining the internal strengths and weaknesses and external opportunities and threats in the implementation of transformative learning design in the Environmental Science course of De La Salle Lipa, Lipa City. Using the descriptive method of research, this study specifically used the SWOT Analysis in its approach to assessment of the major variables concerned.

Results of the study revealed that the following are the strengths of transformative learning: achievement of the three Lasallian attributes (ELGAs) such as critical thinker, excellent communicator and social responsible citizen through holistic approach; final product/performance task which is the first “Environmental Concert for A Cause” became the basis of learning; and, teachers became creative, imaginative and experimental in design and implementation. In terms of weaknesses, the following were identified; time constraints for planning and practicing for the concert; size of the class; and, the rubrics or basis for grading the students were not uniform for all teachers. The following were the opportunities identified: linkaging and networking with public and private sectors; more interesting teaching – learning strategies considering multiple intelligences and individual differences; and, profound information and research targets. The identified threats were: security and safety of students and teachers during field/outdoor activities.
activities and concert due to lack of adult or teacher companions; collection of regulation was inadequate; and resistance of parents and guardians in allowing students to participate in various activities.

**Key words: transformative learning, environmental science, SWOT analysis**

**INTRODUCTION:**

Transformative Learning Theory as defined by Jack Mezirow (1990) is the method of learning through critical self-reflection, which yields to a more inclusive, discriminating, and integrative understanding of one's experience. It develops the constructivist framework that considers learning as a personal process that happens within, and to, the learner. For this, it does not only place the learner at the center of the process, but it also makes the learning process an authentic venue for personal growth and development.

The De La Salle Philippines, cognizant of the potential of the transformative learning in molding the learners, stressed its significance during the second DLSP Lasallian Learning Leaders Congress held last April 6-8, 2010. In response to this, the Science Area of the College of Education, Arts and Sciences of De La Salle Lipa has pilot tested the design in some of its general education courses.

During the first semester of the Academic Year 2010-2011, the transformative learning design was employed in all of the Environmental Science Courses of De La Salle Lipa. This course identifies and discusses the basic ecological concepts and principles that govern the environment. It focuses on the preservation and conservation of the biological and physical aspects of the natural world by giving focus to environmental problems and to corresponding solutions to these quandaries. This integrates hands-on activities like group dynamics, fieldworks, exposure trips and reforestation efforts, clean-ups
and fund-raising schemes to implement an environmental project or support the school’s existing programs like One Million Trees and Beyond Project and Project Carbon Neutral.

The teachers handling the course identified the desired learning results and expected Lasallian Graduate Attributes (ELGAs). They all agreed that they want their students to be: 1. critical thinkers as they effectively organize scientific knowledge, acquire relevant skills, and integrate Lasallian values in order to analyze environmental problems and issues and apply appropriate actions/solutions; 2. excellent communicators as they articulate coherently their insights and stand regarding environmental issues, listen critically and respectfully to the viewpoints of others, and formulate clear, relevant and humane solutions to identified ecological problems; and 3. socially responsible citizens as they translate the gained scientific knowledge, skills and Lasallian values into practice as they participate in the various environmental programs/projects of different communities in response to the call for stewardship. The final performance task prescribed of the students was for them to conceptualize and hold an Environmental Concert for a Cause with the One Million Trees and Beyond Project and Project Carbon Neutral as beneficiaries.

With all these things in mind, the proponents who were also the teachers who handled the course recognize the need to assess the experience of implementing transformative learning as to its strength, weakness, opportunities and threats, hence this analysis. An action plan had been proposed to improve its implementation to achieve quality and excellence.

STATEMENTS OF THE PROBLEM:

The study analyzed the experience in implementing transformative learning design in Environmental Science Course of De La Salle Lipa

Specifically, it aimed to:

1. determine the internal strengths and weaknesses and external opportunities and threats in the implementation of
transformative learning design in the Environmental Science course of De La Salle Lipa, Lipa City

2. develop an action plan to serve as a tool and guide to management and supervision of the implementation of transformative learning to continuously improve teaching and learning

SIGNIFICANCE OF THE STUDY
The study is deemed important to the following:

The teachers will be given information on the strengths, weaknesses, opportunities and threats of implementing transformative learning design. The teachers may propose for changes in the conduct of the process. This analysis will likewise serve as basis for other teachers who might be interested in writing and developing materials in their respective courses.

The administrators/ school heads will be provided with feedback and reflections regarding the experience that will be useful to both the students and the teachers. In such cases, support can be extended to the implementation of the suggestions and modifications in its conduct.

The students will be given a chance to improve the acquisition of knowledge as they engage in the various learning activities and performance tasks.

SCOPE AND DELIMITATIONS:
This study explored the strengths, weaknesses, opportunities and threats encountered during the implementation of transformative learning on Environmental Science classes during the First Semester of AY 2009-2010.

The five teachers of Environmental Science classes were the respondents of this study which was done at the end of the Second Semester of AY 2009-2010 at De La Salle Lipa, Lipa City. Evaluation and perception of the said teachers became the bases of this study.

An action plan was the output of the study.

THEORETICAL FRAMEWORK:
The study is anchored on Transformative learning in educational theory that is described as a process which leads the learner to re-evaluate past beliefs and experiences which had previously been understood within assumptions derived from others. It is central to Mezirow's Transformative Learning Theory which describes a learning process of "becoming critically aware of one's own tacit assumptions and expectations and those of others and assessing their relevance for making an interpretation (http://en.wikipedia.org/..). Merriam and Caffarella (1999) organize the transformative learning into three phases: critical reflection, reflective discourse, and action. Transformative learning often involves deep, powerful emotions or beliefs, and is evidenced in action (http://www.infed.org/).

Moreover, SWOT Analysis was employed in the study. It is undertaken to understand the internal and external environments of a certain process or firm. Upon careful analysis of the environmental situation or conduct of a process or project, assessors come to know the strengths and weaknesses and identify the opportunities provided and threats posed by the environment. It is a systematic approach to formulate strategic policies and corrective steps for improvement (www.scribd.com/doc). Likewise, Hansen, R. And Hansen, K. (2011) emphasized that through this tool, the identified area which is considered weak will be improved.

After conducting SWOT Analysis, action planning should follow. This is emphasized by McNamara (2011) that action plan specifies the actions needed to address each of the organizational issues and to reach each of the associated goals. According to Mindtools (2011), action plan is useful because this gives framework for thinking about how to compete a project efficiently.

OPERATIONAL FRAMEWORK:

As can be gleaned from Figure 1, transformative learning was implemented in teaching Environmental Science. Various lessons were taught to the students through this strategy. After the semester, the
teachers of the said subject conducted SWOT analysis. Then as an output, an action plan was drafted and proposed to the Science Area Chair.

<table>
<thead>
<tr>
<th>INPUT</th>
<th>PROCESS</th>
<th>OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformative Learning</td>
<td>SWOT Analysis</td>
<td>Action Plan</td>
</tr>
<tr>
<td>Designed Lessons</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 1. Operational Framework

**REVIEW OF RELATED LITERATURE AND STUDIES**

As cited by Steinber (2011), a professor from University of New York and University of Virginia followed more than 2,300 undergraduates at two dozen universities and concluded that 45 percent demonstrated no significant gain in critical thinking, analytical reasoning and written communications during the two years of college.

In relation to the situation about college learning above, Wallace (2011) emphasized that transformative learning looks into deep learning, not just content or process learning as critical as both are many kinds what it takes for adults to move from a limited knowledge of knowing what they know without questioning.

Fullerton (2010) in his study entitled “Transformative learning in college students: A Mixed Methods Study” University of Nebraska found out that transformative learning is not a guaranteed outcome, but only a potential opportunity for “learning to think like an adult”.

Likewise, Cunningham (2011) emphasized in his study that the process of moving along in the continuum of transformative learning have significant implications for how we should structure the experiences themselves and the reflection associated with it, and it is much realistic to focus on how we move students along this continuum over their entire four year college experience.

Brock’s (2011) work entitled “Measuring the importance of precursor steps to transformative learning” found out that the highest incidence of transformative learning among 256 undergraduate business students was associated with critical reflection followed by disorienting dilemmas and trying on new roles.
METHODOLOGY

Research Locale

The study was conducted at the De La Salle Lipa, an institution that provides education from pre-school level to tertiary school level. Founded in 1962 by the Brothers of the Christian School, De La Salle Lipa was built on a 5.9-hectare lot along the National Highway, an institution located at Lipa City, Batangas. The tertiary school provides education in the college level offering degree programs like Accountancy, Business Management, Computer Science, Education, Engineering, Psychology and Nursing. It also provides Certificate programs in Culinary Arts and Medical Transcription.

Research Design

The descriptive method of research was used in the study specifically employing SWOT Analysis in its approach to assessment of the major variables concerned.

Respondents of the Study

Employing the purposive sampling technique, this study involved five faculty members who taught the course Environmental Science during the first semester of School Year 2010 – 2011.

Research tools and instruments

Data and other information needed in this study were gathered mainly through open-ended questionnaire, informal interviews, observations, documentary analysis and the use of triangulation of data.

RESULTS AND DISCUSSION

Results of the study revealed the following:

Strengths

First and foremost, the advent of transformative learning design in the conduct of Environmental Science classes is the achievement of the three Lasallian graduate attributes (ELGAs) which are identified in the syllabus, this is to be able to produce students who are critical thinkers, excellent communicators and social responsible citizens through a holistic approach. Both the students and teachers became creative, imaginative, innovative and experimental in design and implementation of learning activities.
The implementation of this design increased students’ participation in the teaching-learning process as there were group dynamics employed to reinforce learning. It encouraged the students to tell stories, express their views and opinions, write poems, compose songs, create artworks about their experiences with and rootedness to nature. Learning was not confined to the four walls of the classroom with their field investigations, exposure trip and hands-on activities like tree planting. They were able to realize the broadness and intricacies of environmental issues as they did their own investigations and case studies and as they were made to watch video clips and documentary films. Furthermore, the leadership skills and sense of responsibility of students were honed as they were given specific tasks and duties.

Most of the modes of assessment and evaluation of learning given required higher order thinking skills and cooperative learning such as group dynamics, debates and round-table discussions which prevented the students from copying answers from their classmates which usually happens as quizzes and written exams are given in a large lecture class.

A distinct feature of this design is the replacement of final examination with final product/performance task as the basis of learning. The students were able to conceptualize and actualize first “Environmental Concert for A Cause” with the theme: Lasalyang Awitan at Sayawan, Alay sa Sanlaksang-buhay as their final performance task. The knowledge and skills learned by the students were showcased in their production numbers. Students were able to apply their learning from their respective fields as BS HRM students were made to cook and sell their food during the concert; the BS Marketing Management students were involved in the promotions of the concert and in getting sponsors; while the BS Financial Management students took care of the financial aspects of the concert. Moreover, the concert was able to raise a considerably bog amount for its chosen school project beneficiaries - the One Million Trees and Beyond and the Project Carbon Neutral
Weakness
The very crucial constraint in the implementation of transformative learning design was the size of the class. It was employed to a large class composed of around 100-120 students. It was not ideal to maximize the gain in collaborative learning. Some classes and activities were not conducted or were displaced due to the lack of large classrooms, venues and multimedia equipment. The size of the classes posed difficulties for teachers to supervise and monitor the students during the conduct of classes or activities.

Another challenge met was the identification of the final performance task. It was not carefully planned or designed due to time constraints. The rubrics or basis for grading their final performance was not made uniform among concerned teachers. Problems were also encountered during the preparation for and the actual concert. Technical problems could have been minimized if a general rehearsal with 100% attendance was held before the concert due to varying schedules of students and unavailability of practice venue and equipment. The schedule of the concert was too close to the deadline for submission of grades. As a result, teachers were not able to submit grades on time.

Opportunities and Threats
The different activities that this design is putting forward are good avenues for linkaging and networking with different public and private sectors. More interesting teaching – learning strategies considering multiple intelligences and individual differences; and, profound information and research targets can also be interjected in the delivery of knowledge. However, such activities pose a risk in security and safety of students and even teachers especially during field/outdoor activities. Resistance of parents and guardians in allowing students to participate in various activities was also noted.

Recommendations
This study recommends among all others the need to enhance the implementation of transformative learning in the course Environmental Science and the utilization of the action plan developed
for such a purpose. Furthermore, a yearly assessment of the said program, a replication of this study perhaps, in another Science subjects, a conduct of comparative study of transformative learning between and among different subjects and further validation of the proposed plan, may also be taken into consideration in future teaching and learning endeavours.

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