



An evaluation of the teaching-learning process: A transformative learning set-up

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Abstract A new teaching-learning paradigm, known as Transformative Learning (TL) framework was formulated as a result of the development of the new General Education Curriculum (GEC). Using Huitt's Transactional Model (2003), various evaluation studies were lined up to determine whether the TL framework has been implemented as planned and has achieved its objectives. Five research initiatives have been carried out: (1) evaluation forms for faculty handling TL classes were developed and validated; (2) an implementation evaluation was conducted to identify problems in the early stage of program implementation; (3) a descriptive study of the TL faculty was conducted; (4) rubrics to assess the teaching-learning process were formulated; and (5) a Thinking Skills Test was developed to determine significant changes in the students' level of critical thinking and problem solving skills due to their exposure to the TL set-up.

Keywords: *Evaluation, transformative learning teaching-learning process*

Introduction

In SY 2006-2007, the De La Salle University officially implemented a new General Education Curriculum (GEC), known as the Lasallian Pedagogical Framework of Transformative Learning (TL). The key part of the new GEC is the development of, knowledge and skills of students to engage in more specialized study in various disciplines, capacity to use knowledge and skills for varied developmental pursuits, and foundation for lifelong learning. It envisions that all DLSU students become good at a wide variety of modes of learning, and at engaging in a variety of modes of thinking, such as historical inquiry, scientific and quantitative inquiry, humanistic, interpretative, and aesthetic inquiry, and ethical, value-based, or faith-based inquiry (DLSU Committee on Lasallian Pedagogical Framework, 2004).

In this new framework of instruction, the student is the primary agent of learning. The framework includes the following areas: the students' learning process, the teacher's work, the students' learning environment, and assessment of student learning.

The transition from the old and traditional system of transmission to transformative learning was expected to bring about changes in curriculum design, syllabus construction, lesson planning, use of class time, grading system, faculty evaluation. Thus, various programs were initiated by the University to meet the demands of the TL set-up. Among these initiatives were faculty and trainers' training, curriculum review and development, development of modules, conduct of seminar-workshops on contemporary pedagogy, and design of technology-supported learning environments, technology-based materials, and on-line courses.

One important initiative of the University is the evaluation of the teaching learning process in the transformative learning set-up. To this date, five research initiatives have been carried out: (1) development of faculty evaluation forms for TL classes, (2) evaluation of the implementation of a TL program, (3) a descriptive study of TL faculty, (4) development of rubrics for TL classes, and (5) development and validation of the DLSU Thinking Skills Test.

Theoretical Perspectives on Transformative Learning

Transformative learning (or transformational learning) is a process of getting beyond gaining factual knowledge alone to instead become changed by what one learns in some meaningful way. It involves questioning assumptions, beliefs and values, and considering multiple points of view (Mezirow, 2000). There are different theories or perspectives on transformative learning.

The Transformational Learning Theory of Mezirow (1978) is "constructivist, an orientation which holds that the way learners interpret and reinterpret their sense experience is central to making meaning and hence learning". It came from his earlier theory of *perspective transformation*. According to him, perspective transformation is "the process of becoming critically aware of how and why our assumptions have come to constrain the way we perceive, understand, and feel about our world; changing these structures of habitual expectation to make possible a more inclusive, discriminating, and integrating perspective; and finally, making choices or otherwise acting upon these new understandings."

The theory posits that for learners to change their *meaning structures* that is, beliefs, attitudes, and emotional reactions - they must engage in critical reflection on their experiences, which in turn leads to a transformation of perspective. These meaning structures are divided into two categories namely, (1) meaning perspectives, and (2) meaning schemes. The meaning perspectives are defined as "broad sets of predispositions resulting from psycho-cultural assumptions which determine the horizons of our expectations" (Mezirow, 1997). A transformation in meaning perspective can happen only through perspective taking, assimilating the perspectives of others; it is not role taking. Perspective taking implies a conscious recognition of the difference between one's old perception and the new one and a desire to appropriate the newer perspective because it is of more value (Mezirow, 1978).

Meaning schemes are the more specific dimensions of one's personal frame of reference or meaning perspective. They contain the specific beliefs, knowledge, feelings, and value judgments that become articulated in an interpretation. They

may change as a person adds to or integrates ideas within an existing scheme and, in fact, this transformation of meaning schemes occurs routinely through learning.

Taylor (1998) and Imel (1998), in their review of literature, cited Boyd's model of transformation. Transformation for Boyd is defined as a "fundamental change in one's personality involving [together] the resolution of a personal dilemma and the expansion of consciousness resulting in greater personality integration" (Taylor, 1998, p.20). The process of discernment is central to transformative education. Discernment calls upon such extra-rational sources as symbols, images, and archetypes to assist in creating a personal vision or meaning of what it means to be human. It includes manifestation of receptivity, recognition, and grieving. First, an individual must be receptive or open to receiving alternative expressions of meaning. Grieving, considered to be the most critical phase of the discernment process, takes place when an individual realizes that old patterns or ways of perceiving are no longer relevant, moves to adopt or establish new ways, and finally, integrates old and new patterns (Imel, 1998).

Perhaps one of the best definitions of transformative learning was put forward by O'Sullivan (2003). He said that transformative learning involves experiencing a deep, structural shift in the basic premises of thought, feelings, and actions. It is a shift of consciousness that dramatically and irreversibly alters one's way of being in the world. Such a shift involves understanding of one's self and self-locations; one's relationships with other humans and with the natural world; one's understanding of relations of power in interlocking structures of class, race and gender; one's body awareness and visions of alternative approaches to living; and one's sense of possibilities for social justice and peace and personal joy (O'Sullivan, 2003, p. 327).

Framework for the Evaluation of the Teaching Learning Process in the TL Set-up

The evaluation of the teaching learning in the Lasallian Pedagogical Framework of Transformative Learning is guided by Huit's Transactional Model of Teaching-Learning Process (2003). This model was formulated based on the perspective of the systems theory. The model was developed to categorize the variables essential in answering the question: "Why do some students learn more than other students do in classroom and school settings?"

According to the model, the reasons can be classified into four categories: (1) context, (2) input, (3) classroom processes, and (4) output. Context includes all factors outside of the classroom that might influence teaching and learning; inputs are qualities or characteristics which teachers and students bring with them to the classroom experience; classroom processes are teacher and student behaviors in the classroom as well as other variables such as classroom climate and teacher-student relationships; and output includes measures of student learning apart from the normal processes.

The output is the most important of these categories because the variables in the rest of the categories are used to predict or relate to the variables measured in this output. The second most important category is the classroom processes category, which includes all the variables that would occur in the classroom. There are three subcategories on the classroom processes category: Teacher behavior,

student behavior, others/miscellaneous. Teacher behavior consists of all the actions a teacher makes in the classroom. The third major category of variables, input, refers to descriptions of teachers and students prior to their coming into the classroom. Two important subcategories of variables are: teacher characteristics and student characteristics. Among the most important teacher characteristics are teacher's values and beliefs, efficacy, and teacher's knowledge. Among the student characteristics which have been related to classroom behavior and student achievement are student's prior knowledge, intelligence or academic ability, and study habits. The context includes all variables outside of the classroom that have an impact on teacher and student characteristics, classroom processes, and output. Subcategories of context variables include school characteristics and school processes.

The evaluation of the different dimensions of the teaching learning process in the TL set-up is important in order to ascertain whether or not the core curriculum has been implemented as planned and has achieved its goals and objectives. Various evaluation studies have been outlined by the University to be conducted, as indicated below.

Areas	Indicators
Context:	Support needed by faculty and students and extended by school Needs assessment on curriculum development and implementation Quality and use of modules Reliability and validity of departmental tests in GE/major courses School policies affecting TL implementation
Inputs:	Teacher characteristics, such as gender, status, department, terms taught TL subjects, framework acceptance, training/seminar workshops attended Student characteristics {i.e., critical thinking and problem solving skills (pretest)}
Classroom Processes:	<i>Teacher Behavior</i> Faculty Evaluation Ratings Every Term Comparison of the evaluation ratings obtained by the TL teachers based on class type, gender, and employment Effects of the teachers' training, teaching experience, and attitude on their teaching effectiveness in TL classes <i>Student Learning Process</i>
Outputs:	Student Achievement (Critical thinking and problem solving skills after 1,2 3 years and upon graduation) Program Effectiveness (program benefits to school, students and faculty)

Three dimensions of the teaching learning process in the TL set-up have so far been subjected to evaluation: (1) the input, specifically the teacher and student characteristics; (2) the classroom processes, particularly the faculty effectiveness and student learning processes, and (3) the context, particularly the implementation of the program. For input evaluation, the following studies have been conducted:

- (1) On teacher characteristics:
 - 1.1 Profile of faculty handling TL classes
- (2) On students characteristics:
 - 2.1 Development and validation of DLSU Thinking Skills Test
 - 2.2 Profiling of all freshmen of their critical thinking and problem solving skills
 - 2.3 Profiling of COS freshmen scientific inquiry skills.

For process evaluation, the following studies have been undertaken:

- (1) On teacher and student behavior:
 - 1.1 Development and validation of faculty evaluation forms for TL classes
 - 1.2 Evaluation of rubrics to assess the teaching-learning process in the TL classes
 - 1.3 Evaluation of all TL teachers' effectiveness in handling TL classes
 - 1.4 Evaluation of student learning process in the TL set-up.

Lastly, for the context evaluation, the implementation evaluation of the TL program was undertaken.

This paper will present five of the initiatives of the University in the measurement of the teaching-learning process in TL set-up. It will present the research findings of the five separate research studies conducted on the:

- (1) development and validation of evaluation forms for faculty handling TL classes
- (2) implementation evaluation of the TL program
- (3) profile of TL faculty members
- (4) development of rubrics to assess the teaching-learning process in TL classes
- (5) development and validation of a students' thinking skills test

Development of the Faculty Evaluation Forms for TL Classes

Since the beginning of the conceptualization of the new framework, it was known that the scope of this new paradigm is very much different from the traditional framework of transmission, from which the current faculty evaluation was based. Thus, it was important that a new faculty evaluation form be developed and validated.

Thus, during the Third Term of AY 2005-2006, the preparation for the development of a faculty evaluation form that will be used for classes using the said framework was started. There were six phases in the development of the evaluation form: (1) Conceptualization, (2) development of items, (3) try-out of the prototype instrument, (4) item analysis of the proposed evaluation form, (5) establishing the reliability and validity of the evaluation forms, and (6) finalization of the evaluation forms.

The four areas of learning in the Transformative Learning framework, namely student learning process, teacher's work, students' learning environment, and assessment of student learning were adopted to be the factors or areas of assessment. A total of 46 items were formulated for the four areas. These items were then submitted for content validation and administered to a total of 235

students enrolled in eleven (11) classes. The data were then subjected to two item analysis procedures: item-total correlation and coefficient alpha deleted. The item-total correlation and the alpha coefficients for each item were then ranked from highest to lowest. The first seven items for each area were included in the proposed evaluation form. The proposed form was then submitted for review to the Committee Chair, VP-AR as well as to the chairpersons of Biology, Chemistry and Physics (for laboratory classes), and Physical Education (for PE classes). Four types of evaluation forms were formulated: (1) for lecture classes, with two more items added to the pre-final form; (2) for PE classes, with four more items added; (3) for laboratory classes, with five more items added, and (4) for Filipino classes, with items translated to Filipino.

The four sets of evaluation forms were then administered to the students. Data from these samples were used for item analysis, and for examining the reliability and validity of the proposed evaluation forms. Results indicate that the items within the area related well with each other and with the composite score. The average inter-item correlation coefficients range from .42 (for Filipino Form) to .57 (for Lecture Form). High item-total correlation coefficients (.49 to .80) were also computed for each of the four forms. Similarly, high Cronbach Alpha coefficients were computed (.95 to .97). Thus, it was decided that no items will be dropped from the final form since it will not result to a dramatic increase in the Cronbach Alpha coefficients. The reliability of the different forms will not at all be affected.

The reliability of the evaluation forms was tested using the split-half technique. Two types of split-half reliability methods were employed: (1) Dividing the evaluation forms in some random manner into two halves, through STATISTICA, and (2) odd-even reliability. The STATISTICA produced two types of split-half reliability coefficients: the split-half and the Guttman split-half reliability. Results indicate very high correlation coefficients between the two halves of the evaluation form. The correlation coefficients computed exceeded the .90 mark for the four types. Per area, the odd-even reliability coefficients ranged from .78 to .98 for the four types. This indicates that the evaluation forms are highly reliable.

Three types of validation procedures were employed to ensure that the evaluation forms measure what they are supposed to measure: (1) content validity, (2) construct validity, and (3) concurrent validity. The content validity of the four forms was indicated by the method by which the items were selected. In the development of the four forms, the items were based on the four learning areas identified by the Lasallian Core Curriculum Committee. The items also underwent content validation to ascertain suitability to the learning areas. Results of the factor analysis yielded the same hypothesized number of factors for the different forms: four factors for the lecture, Filipino and PE forms, and five factors for laboratory form. The items also loaded highly (if not the highest) in their original factors. Thus, the names of the factors and the item memberships were retained.

For the concurrent validity, the new evaluation form (for lecture) was correlated with the existing indigenous faculty evaluation to determine its equivalence with this standardized form. The evaluation ratings received by the faculty in their two classes (regular and TL classes) were subjected to correlation

analysis. The correlation coefficient obtained was .38, which was only moderate. This indicates that while the two forms should be measuring the same general area of behavior (i.e., teaching effectiveness), they however, contain different dimensions of teaching effectiveness. This is a positive result since it proves that the new evaluation form is not equivalent to the existing evaluation – the old one measuring teaching effectiveness in a transmission system of education and the new form, measuring teaching effectiveness in a transformative learning set-up.

To further determine the non-equivalence of the two forms, the mean ratings of the 58 faculty members in the two forms were compared using the t-test for dependent samples. A t-value of 3.87 was obtained. This implies that there is a significant difference between the evaluation ratings obtained by the two faculty members in the two evaluation forms. The forms are, therefore, not equivalent and are measuring different dimensions of teaching effectiveness.

Comments and suggestions about the evaluation forms were solicited from the students. These comments and suggestions were taken into consideration for the improvement of the evaluation forms. Based on the students' feedback and the results of the item-analysis, reliability and validity of the evaluation instruments, it was concluded that the items proved to be good items and are suitable to be included in the final forms. All items in the proposed evaluation forms were retained and were made part of the final forms to be used for classes using the Transformative Learning Framework.

Implementation Evaluation of the Transformative Learning

Since the TL Framework is a new program, there is a need to conduct an implementation evaluation of the program to monitor program activities in order to identify problems in program implementation. According to Love (2004), implementation is an integral part of the program cycle. It refers to all of the activities that focus on the actual operation of a program once it moves from the drawing board and into action. The evaluation of implementation is important since it provides feedback about what worked and what did not produce the intended outcomes.

An implementation evaluation study of the TL program was conducted during the Second Term of SY 2007-2008. The study adopted a management-oriented evaluation using the framework of program theory evaluation, as described by Chen (2005). It included as respondents students, faculty members, and chairpersons. The following are the salient findings of the implementation evaluation of the TL program.

The student respondents generally rated the faculty members' teaching performance as "good" while the faculty and chair respondents gave them "very good" evaluation rating. Specifically, the TL teachers received "good" to "very good" evaluation ratings in the following areas: (1) Use of teaching skills and strategies appropriate for TL classes, (2) creation of conducive learning environment, (3) employment appropriate assessment techniques, and (4) processing of students' learning.

The faculty and chair respondents likewise generally rated the modules used for TL classes as “very satisfactory”. They also indicated that these modules were used to a great extent.

Too much or heavy workload is the problem most students encountered in the TL classes. For the faculty and chairs, on the other hand, lack of time is the major obstacle in handling TL classes.

The student respondents were given opportunities to learn on their own and to become independent and self-reliant. These learner traits are among the strengths of the TL classes. According to the faculty respondents, the TL classes enabled the students to discover and appreciate their own learning (i.e., active, participative, independent learning) and to develop their critical and analytical skills. The chairpersons cited promotion of students’ independent learning as the strength of the TL classes. However, both groups mentioned time constraint as the biggest drawback of the set-up.

The student respondents rated the TL Program “good” while both the faculty and chair respondents rated it “very good”.

The Profile of Faculty Members Handling Classes Using the Transformative Learning (TL) Framework

This is a descriptive study of the faculty members who have handled TL classes. Specifically, it sought to: (1) describe the TL faculty members’ demographic profile (i.e., gender, and employment status), exposure to and training in TL classes (i.e., number of terms of teaching TL classes and attendance in seminar-workshops on TL), teaching performance in TL classes, and attitude towards program; (2) compare the evaluation ratings obtained by the TL teachers based on class type, gender, and employment status; (3) assess the effects of the teachers’ training, teaching experience, and attitude in their teaching effectiveness; and (4) determine the students’ feedback regarding the TL program and the faculty members.

The study included all the 349 faculty members who had handled one or more TL classes from the Second Term of SY 2006-1007 to the Second Term of SY 2007-2008. The data came from the evaluation database of the Institutional Testing and Evaluation Office. Descriptive statistics, t-tests, and correlation were employed for data analysis. Content analysis was done for open-ended data.

Results indicated that majority of the faculty members handling TL classes are generally from the College of Liberal Arts, teach part-time, have taught TL subjects only for a term, have attended at least one seminar-workshop, have received “satisfactory” to “very satisfactory” evaluation ratings, and are very satisfied with the TL program as a whole. There was an equal number of male and female teachers who had handled TL classes. Comparisons of the evaluation ratings of the TL faculty members also indicated that teachers obtained significantly higher evaluation ratings in their regular classes than in their TL classes; male tutors obtained higher ratings than their female counterpart, although, the difference was not significant. There was no significant difference in the overall evaluation ratings between part-timers and full-timers; both were generally rated “very satisfactory” by the students. Attendance in seminar-workshops and attitude towards the TL

program, on the whole, did not make a difference in the evaluation ratings of the faculty members. Faculty members who have participated in training programs and those who have not, both obtained satisfactory to very satisfactory ratings. Similarly, faculty members obtained “satisfactory” to “very satisfactory” evaluation ratings, irrespective of how they viewed the TL program (i.e., whether excellent, very good, good, or needs improvement).

However, teaching experience in TL classes seems to have some bearing on the teachers’ teaching effectiveness, since the evaluation ratings were observed to have increased with the increase in the number of terms teaching TL classes. The students enrolled in TL classes were satisfied with the TL program and their faculty members, as shown by more students citing more program strengths than weaknesses.

Development of Rubrics to Assess the Teaching-Learning Process in Transformative Learning (TL) Classes

One of the unique features of the TL model is the use of authentic assessment tools, specifically performance assessment approaches such as rubrics (DLSU Committee on Lasallian Pedagogical Framework, 2004). Rubrics are scoring guides that evaluate the quality of work or output against a set of criteria. They are a set of ordered categories to which a given piece of work can be compared. They specify the qualities or processes that must be exhibited in order for a performance to be assigned a particular evaluative rating (Mamouth University, 2005).

One of the criticisms of using absolute standards in assessing student performance is that they encourage rote instead of meaningful learning. According to the DLSU GEC Committee (DLSU Committee on Lasallian Pedagogical Framework, 2004), in a system of transmission, tests are expected since instruction consists mainly of providing factual information and prescribing procedures. But within the perspective of transformative learning, results from such tests yield little information about the kind of cognitive growth that has taken place in students, the changes that have occurred in their conceptual representations, or their ability to solve problems in the field. One solution that has been proposed to solve the inadequacy of traditional testing formats is to apply the concept of authentic assessment to classroom testing.

While rubrics are basically employed to assess student performance and output, they can also be applied to various components of the teaching and learning processes. Particularly, in the transformative learning set-up, rubrics can be used to assess the effectiveness of the faculty; the student outcomes or learning process; the students’ performance in classroom activities, such as class participation or oral presentations, the students’ outputs (such as projects, portfolio and term papers) the quality of instructional materials used, particularly the modules; the learning environment set-up; the relevance of the assessment tools; and a lot more.

Because of the applicability and relevance of rubrics in the transformative learning classes, rubrics are deemed needing to be developed that can be used for assessing the teaching and learning processes in the classroom.

The action plan primarily aimed to present a comprehensive blueprint for the development and application of performance assessments in classes using the transformative learning paradigm. Furthermore, it presented samples of rubrics for assessing the teaching and learning processes in the classroom, particularly:

- (1) the teaching performance of faculty members in the different learning areas of the TL paradigm and in using inquiry-based teaching in the classroom,
- (2) the students' performance, particularly in terms of applying inquiry-based learning in class and in terms of collaboration with other students,
- (3) students' products that represent major instructional aspects of the course, such as portfolio, and
- (4) students' learning outcomes, particularly in terms of their learning process.

Development and Validation of the DLSU Thinking Skills Test

During the Second Term of School Year 2007-2008, the Institutional Testing and Evaluation Office (ITEO) started the work on the development and validation of an instrument that will measure students' thinking and inquiry skills. Based on the models/frameworks and tests developed in other universities abroad, two measures/areas of students' thinking skills were identified: (1) Critical thinking and (2) problem solving skills. There are seven kinds of questions adopted for assessing of critical thinking skills: (1) Summarizing the main conclusion, (2) drawing a conclusion, (3) identifying an assumption, (4) assessing the impact of additional evidence, (5) detecting reasoning errors, (6) matching arguments, and (7) applying principles.

On the other hand, problem solving skill involves reasoning using numerical and spatial skills. There are three kinds of questions for the assessing problem solving skills: (1) selecting relevant data/information, (2) finding procedures, and (3) identifying similarities.

On November 2007, recommended faculty members from the Departments of Mathematics, English and Applied Linguistics, Physics, and Philosophy were tapped as items writers for the two areas. The items submitted were pre-tested on students and the data gathered were subjected to item analyses to determine the discrimination and difficulty indices of each item. Items that met the criteria and were considered as good items were included in the final form of the test. A total of 50 items comprised the final form of the DLSU Thinking Skills Test.

During the first few weeks of the First Term of SY 2008-2009, ITEO administered the DLSU Thinking Skills to all freshmen to come up with baseline data on the incoming students' critical thinking skills and inquiry. Two other standardized tests developed by universities abroad were likewise administered to the students to measure their thinking and scientific inquiry skills.

The same process will be done to the same cohort during the Third Term, starting March 2009 until the end of the students' third or fourth year (i.e., upon

graduation). The data that will be gathered will be used to determine significant changes, if any, in the students' level of thinking skills as a result of their exposure to the transformative learning set-up.

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