

# Assessment Task-Major Examination Alignment: Input to the Seamless Blended Digital Learning Program

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**Abstract** – The Seamless Blended Digital Learning Program (SBDLP) was implemented by the Laguna University in the Summer Term of 2020 until at present. The digital modules, assessment tasks, and major examinations are available in the university's LMS or Learning Management System, iLearnU. Amidst the challenges of this pandemic, teachers are expected to provide authentic assessments that will evaluate students' performance in giving assessment tasks (ATs) and major examinations.

This action research analyzed the effect of assessment task-major examination alignment on the academic performance of the LU-COED students in their ATs and major exams before and after the intervention. Twenty-eight respondents from the College of Education were included in the study. Their scores in the ATs and major examinations (prelim, midterm, and finals) were compared and analyzed through mean grade computation and correlation analysis. Results showed that the mean grade in the assessments task and major examination was higher in the post-intervention period in both courses. Furthermore, there was a significant relationship between the students' academic performances in BIO 4 before and after the intervention; however, there was no significant relationship between the students' academic performances before and after the intervention in EL 117. Based on these findings, it is strongly recommended to integrate the different domains of Bloom's taxonomy in the Assessment tasks and major examination. The intervention reflected various levels of difficulties that addressed the different capabilities of students and improved their academic performance.

**Keywords** – assessment tasks, examination, intervention

## INTRODUCTION

Evaluations are tools used to gather information to make judgments, improvements, or increase knowledge [1]. To accurately perform any of these tasks, questions must be constructed and designed to elicit information. Worley [2] stated that the evaluation of programs provides much needed data that can be acted upon, but only when evaluating the right elements. Organization, engagement, modes of monitoring, and course evaluation must be redesigned to work in the distance education environment; therefore, alternative course management practices for virtual classrooms are required [3]. To determine whether a different evaluation instrument was needed for web-based courses or whether the student evaluation instrument used for traditional courses was adequate, student perceptions were sought on course differences [4].

To continue the teaching-learning process amidst the restrictions to conduct face-to-face classes due to

the Covid-19 pandemic, the Laguna University (LU) has been implementing the Seamless Blended Digital Learning Program (SBDLP) since the Summer Term, 2020 until at present. In this program, all courses are delivered using digital modules that are made available to the students through the university's learning management system. Major examinations are administered through it as well.

According to the Commission of Higher Education (CHED), flexibility in terms of time, place, students, and use of technology characterizes the flexible learning approach in teaching. It considers that delivery of education has to be suitable to the needs of students; and so, it uses digital and non-digital technology and both face-to-face and distance learning modalities. In this modality, knowledge delivery and control are designed not only by the teacher but also by the students. The CHED further stated that, starting AY 2020-2021, flexible learning will be used in tertiary schools, and it may be "extended upon consultation

with the stakeholders concerned” and upon its review on the said learning delivery modality (CHED)[5].

The LU President, Dr. Charlemagne G. Laviña, reported that, to establish preparedness for this flexible learning scheme, the university formed a technical working group to formulate policies and guidelines in the implementation and monitoring of the SBDLP. The university, however, acknowledges the predicaments that this shift to the “new normal” in education may bring [6].

As this blended learning scheme is being implemented, one of the challenges that the students and the teachers encounter is on assessment. As the SBDLP is new to LU, the teachers are concerned about quality of education or level of learning whilst the students use it. Their doubts on the authenticity of AT and examination results that may possibly reflect cheating and plagiarism would usually beset them. They have uncertainties on their efficiency and preciseness in assigning grades to the students’ outputs during this time of blended distance learning when, supposedly, student learning assessment is intended to “provide useful information for educational decision making” [7]. Moreover, professional soundness in grading students that is grounded on proper test construction and evaluation is very important [8].

In addition, at the end of the semester, the teachers would receive complaints about grades as the students expect that as they already have submitted their assessment tasks, they expect to receive a passing grade or higher grade than what was given to them. This situation finds affinity in what Magnus and Peresetsky [9] stated that, as supported by the general literature, the students have overconfidence and irrationality in their grade expectations.

Beyond the teachers’ concerns are the students’ plights on their difficulty in answering the assessment tasks (ATs) that most often do not reflect the level of difficulty in their major examinations. Conversely, the students are not familiar with how the teacher asks questions in the major examination and the questions’ level of difficulty. Others would complain on their difficulty to answer the ATs that involve only the higher order thinking skills (HOTS) domains. Thus, in some cases, the students aiming to pass the course are caught copying a classmate’s answer in an essay, an act of committing academic fraud and against the university’s mission of producing “individuals who are socially and morally upright.”

Considering all of these, it can be observed that there is a disparity between the ATs and major

examination in involving the different learning domains in Bloom’s taxonomy with a desired percentage as reflected in the Table of Specifications (TOS). This was acknowledged during one group processing for reflective teaching. The College of Education (COED) faculty realized that their modules’ ATs and major examinations are not aligned in terms of inclusion of learning domains based on Bloom’s Taxonomy of Education. It was observed that the ATs are mostly asynchronous essay writing submitted via Edmodo or Google Classrooms. In those essays, the questions mostly involved the three HOTS which are analysis, creation, and evaluation. For instance, in the College of Education (COED), in BIO4 (Microbiology and Parasitology) and EL 117 (Teaching and Assessment of Literature) courses offered during the Second Semester of the Academic Year (A. Y.) 2020-2021, the knowledge, comprehension, and application domains are overlooked in the ATs but were included in the Prelim Examination as shown in the reviewed Table of Specifications. This reveals a misalignment of the ATs and major examination.

Masinde [10] stated that for an examination to be “good and reasonable”, the different domains in Bloom’s taxonomy must be contained therein so that it reflects a variety of level of difficulties. This way, the different capabilities of students are addressed. In addition, one of the four principles to guide assessment in online distance education developed by the Pennsylvania State University [11] is “Assessment instruments and activities should be congruent with the learning goals and skills required of the learner throughout a distance education program or course.” The congruence with the learning goals and skills is particularly related to adherence to the Bloom’s taxonomy when designing not only the major examinations but also the ATs that are an integral component of the teaching-learning process in blended learning.

It is in this context that this classroom-based action research is proposed. This action research examined if the assessment task-major examination alignment had a significant impact on the students’ academic performance in their ATs and major exams before and after the intervention.

This study fostered professional collaboration and intellectual engagement even during this time of the Covid-19 pandemic. Ultimately in improving the structure of the ATs in the modules and major examinations to best fit the needs and levels of the learners. The teachers will be guided in designing their

ATs that is in consonance with their major examinations in terms of educational domains. Alignment of the assessment tasks and major exams based on Bloom's taxonomy will allow the teacher to assess the consistency of each student's performance in both assessments. This action research will bear positive influence on the students' academic performance in the midst of no end limit horrible corona virus pandemic attack on both local and global scales.

Among the basic items indicated in the Outcomes-Based Teaching and Learning Plan (OBTLP) of the COED during the previous 2<sup>nd</sup> Semester of A. Y. 2020-2021, this study only included the assessment tasks and major examinations in the prelim (pre-intervention stage) and midterm (intervention stage) periods of the two COED courses: BIO4 (Microbiology and Parasitology) and EL 117 (Teaching and Assessment of Literature). The ATs and major examinations are predominantly testing the cognitive skills; therefore, this study was limited to testing the cognitive skills of the students. Cohen [12] developed a model for assessing distance learning instruction based six constructs, namely: "The Process of Teaching and Learning, Developing a Community of Learners, The Instructor, The Student, Implementation of the Course, and Technology Use." This paper focused on test construction only.

The probable limitation of this study is the blended distant learning's scheme of conducting the ATs and major examinations remotely and the students' lack of access to the Internet that can lead to difficulty in answering the ATs and major examinations while participating in this research. In addition, the physical absence of the teacher may tend to increase cheating and plagiarism among the student-participants. To minimize this, the ATs and major exams was designed authentically and more faithfully to the scope of the modules. In addition, reminders on academic honesty were given to the students of BIO4 and EL 117 courses.

Another limitation of this study was the non-usage of the university's cumulative grading system in comparing the students' grades in the prelim, midterm, and final periods. The actual grade of the students per grading period were used for the statistical analysis.

## OBJECTIVES OF THE STUDY

This study aimed to analyze the effect of assessment task-major examination alignment on the academic performance of the LU-COED students and its

potential input to the implementation of the SBDLP in the university. Specifically, it sought to: 1) Describe the students' levels of performance in their assessment tasks and major examinations before, during, and after the intervention; 2) Determine if there is a significant relationship between the students' academic performances in ATs and major exams during and after the intervention; and 3) Propose some guidelines in the writing of the modules that are used for the SBDLP, particularly in the development of the ATs and major examinations.

## MATERIALS AND METHODS

### Design

This classroom-based action research employed the quantitative research design. The participants' scores in their prelim, midterm, and final period ATs and major examinations were subsequently compared and analyzed. Central to this study has given vent on the testing of the hypothesis: There is no significant relationship between the prelim and midterm grades and between the midterm and final grades of the 28 students.

### Participants

A total of 28 LU-COED students participated in this research. Fourteen of them are 3<sup>rd</sup> year BSED major in Science students who are taking BIO4 (Microbiology and Parasitology) and 14 of them are 3<sup>rd</sup> year BSED major in English students pursuing EL 117 (Teaching and Assessment of Literature) in the current semester. Complete enumeration was used for BIO4 class that has a total of 14 students, while simple random sampling through lottery/draw lots of method utilized for EL 117 class with 22 students.

The participants were using SBDLP since July, the summer term of 2020. In this study, in answering their ATs, most of the participants (57.1%) often used mobile phone (Figure 1) with mobile phone prepaid internet data connection (60.7%) (Figure 3). For the forthcoming major examinations, a majority of them (71.4%) employed mobile phone (Figure 2) with mobile phone prepaid internet data connection (64.3%) (Figure 4). As a whole, the student-participants were mobile phone users and dependent on prepaid data for internet connection. As a whole, the student-participants are mobile phone users and are dependent on prepaid data for internet connection. This affirms the university's report that a majority of its students are smart phone users [6].

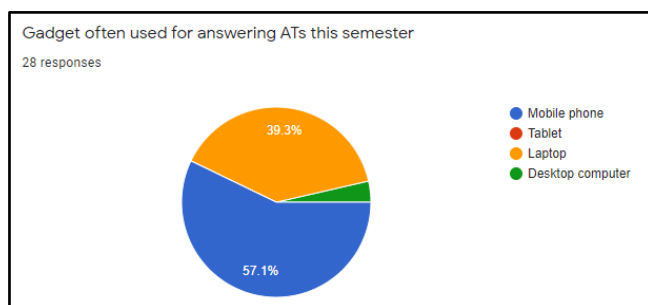


Figure 1. *Participants' gadget often used for answering ATs, 2<sup>nd</sup> Semester, AY 2020-2021*

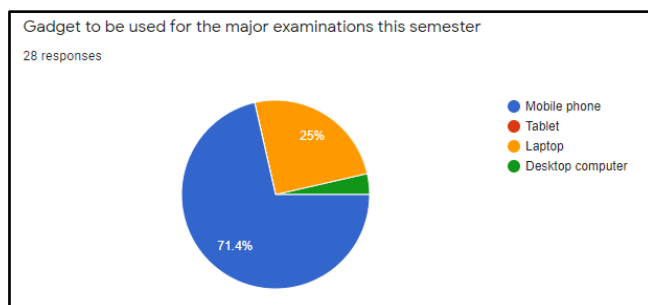


Figure 2. *Participants' gadget to be used for the major examinations, 2<sup>nd</sup> Semester, AY 2020-2021*

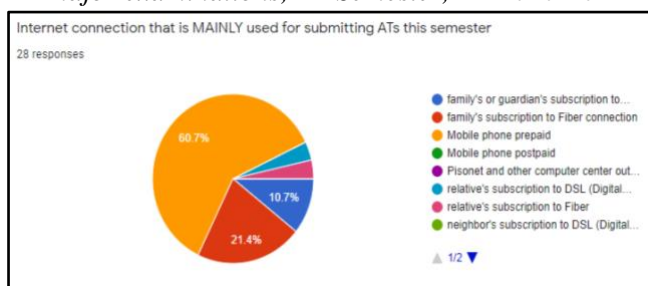


Figure 3. *Participants' internet connection mainly used for answering ATs, 2<sup>nd</sup> Semester, AY 2020-2021*

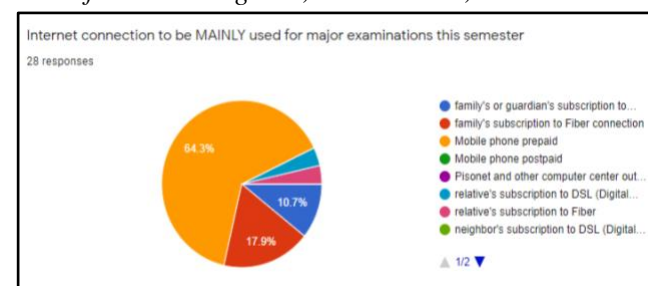


Figure 4. *Participants' internet connection to be used for the major examinations, 2<sup>nd</sup> Semester, AY 2020-2021*

### Data Collection and Analysis

At this juncture, it is therefore presumptuous that in developing the ATs and major examinations for the midterm and final periods, 50% of the test questions should belong to the lower level of Bloom's Taxonomy (remembering, understanding, and application) and the

remaining 50% should belong to the higher level of the learning cone (analyzing, evaluating, and creating). The AT Design was validated by two external reviewers: (1) doctorate degree holder and (2) teacher for at least 10 years in any level of education and in any field of specialization.

The data were collected from the AT and major examination results during the prelim, midterm, and final periods to constitute the pre-intervention, intervention, and post-intervention stages of the research, respectively. The pre-intervention stage was the study's independent variable. Being the dependent variables, the midterm and final period ATs and major examinations were aligned such that 50% of the assessment tasks in the form of a quiz, and 50% as the usual essay writing with the purpose of: (1) familiarizing the students on how the teacher asks questions; (2) providing with ideas on the level of difficulty of the test questions; and (3) aligning the assessments task to the actual major exam given.

Before data processing, dummy tables were prepared. Data encoding commence before data analysis and a coding guide so purposely designed to organize the collected data and to ascertain the appropriate statistical analysis for the study.

The mean grade of the students in their ATs and major examinations were computed. Descriptive statistics such as frequency distribution, percentages and means were computed. The parametric Pearson Product Moment Coefficient of Correlation using an alpha of 0.05 was used to test the statistical relationship or association between the pre-intervention and post-intervention data.

### RESULTS AND DISCUSSION

Table 1. *Students' Level of Performance in EL 117 and BIO 4*

EL 117 Intervention	Mean Grade		
	AT	Exam	Total Grade
Pre-Intervention	90	85	88
Post Intervention	94	91	93

BIO 4 Intervention	Mean Grade		
	AT	Exam	Total Grade
Pre-Intervention	92	89	91
Post Intervention	93	92	93

For EL 117 and Bio 4 pre-intervention period, the students were given assessment tasks in the form of essay. In this period, the Bloom's taxonomy was not fully utilized to craft the questions and the assessment tasks were not aligned to the major exam given since it consisted of mostly essay questions. However, during

the post-intervention period, half of the assessment tasks in both subjects were in the form of essay while the other half consisted of quizzes that utilized Bloom's taxonomy in creating questions. The mean grade in the Assessments task and major exam was higher in the post-intervention period in both courses as shown in Table 1. Quizzes as assessment tasks made the students familiar with the objective type of questions that are present in major exams. To test the learning behaviors on the lower level, multiple-choice questions and short-answer can be efficiently utilized; however, they are not enough to assess higher level thinking skills [13]. Analysis, Synthesis, and Evaluation categories can use objective probes, such as multiple-choice questions. Designing questions based on Bloom's hierarchy is a productive way that can reverse the trend of accumulating misunderstandings in the courses taken by the students [13].

**Table 2.1 Relationship Between the Students' Performance in EL 117 ATs, Major Exams, and Total Grade Before and After the Intervention**

Variables	r-value	Interpretation	p-value	Analysis
AT	0.39	Low positive correlation	0.0504	Not significant
Major Exam	0.65	Moderate positive correlation	0.0004	Significant
Total Grade	0.60	Moderate positive correlation	0.0053	Significant
Variables	t-computed	t-value	Analysis	
AT	1.89	2.08	Not significant	
Major Exam	3.83	2.08	Significant	
Total Grade	3.54	2.08	Significant	

p-value < 0.05 = significant; t-computed > t-value = significant

Table 2.1 shows that there is low positive correlation in the assessment task while there is moderate positive correlation in the major exam and total grade. The table reveals that there is no significant relationship between the students' academic performances in EL 117 before and after the intervention. This means that although interventions tend to go up in response to one another, the relationship is not very strong [14]. The table also reveals that there is a significant relationship between the students' academic performances in the major exam and total grade of EL 117 before and after the intervention. This means that students perform well after the intervention.

**Table 2.2 Relationship Between the Students' Performance in BIO 4 ATs, Major Exams, and Total Grade Before and After the Intervention**

Variables	r-value	Interpretation	p-value	Analysis
AT	0.65	Moderate positive correlation	0.0077	Significant
Major Exam	0.64	Moderate positive correlation	0.0274	Significant
Total Grade	0.72	High positive correlation	0.0029	Significant
Variables	t-computed	t-value	Analysis	
AT	2.96	2.16	Significant	
Major Exam	2.89	2.16	Significant	
Total Grade	3.59	2.19	Significant	

p-value < 0.05 = significant; t-computed > t-value = significant

The table 2.2 shows moderate positive correlation in the assessment task and major exams, while high positive correlation in the total grade. The table reveals that there is a significant relationship between the students' academic performances in BIO 4 before and after the intervention. This means that students performed well after the intervention.

Aligning the Assessment Tasks to the major exams in terms of inclusion of learning domains based on Bloom's Taxonomy of Education reduces the disparity between the ATs and major examination and resulted to a better academic performance. By considering the assessment of learning outcomes, Wei et al, [15] stated that at the beginning of course design, appropriate measurements could support the formulation of explicit assessment goals and instruct learners to work towards learning outcomes. A combination of knowledge tests and skill tasks can be used to examine cognitive outcomes. Quizzes and exams can be approaches to examine content knowledge, while complex assessment tasks and practical assignments can aim to assess cognitive skills. Outcome-oriented feedback rubrics are beneficial to support learner essay performance and interpretations of the utilization of rubrics could better guide providers to give peer feedback. Assessment tasks throughout the course may differ in difficulty and complexity, which could align with different levels of motivation of the learners.

## CONCLUSION AND RECOMMENDATION

The Laguna University (LU) implemented the Seamless Blended Digital Learning Program (SBDLP) in the Summer Term of 2020 until at present. The digital modules and major exams are currently

available in the university's learning management system, iLearnU. Amidst the challenges of this pandemic, teachers are expected to provide assessments that will evaluate students' performance in terms of giving assessment tasks and major exams. This action analyzed the effect of assessment task-major examination alignment on the academic performance of the LU-COED students. This classroom-based action research employed quantitative research design. The participants' scores in their prelim, midterm, and final period ATs and major examinations were compared and analyzed.

A total of 28 LU-COED students participated in this research. Fourteen or fifty percent were 3<sup>rd</sup> year BSED major in Science students who have taken BIO4 (Microbiology and Parasitology) and the remaining 50% were 3<sup>rd</sup> year BSED major in English students who have taken EL 117 (Teaching and Assessment of Literature).

The relationship between the students' Performance in the two courses, major exams, and total grade before and after the Intervention was determined using correlation analysis. Results showed that the mean grade in the Assessments task and major exam was higher in the post-intervention period in both courses. There was no significant relationship between the students' academic performances in EL 117 before and after the intervention. For Bio 4, there was moderate positive correlation in the assessment task and major exams, while high positive correlation in the total grade. The significant relationship between the students' academic performances in BIO 4 before and after the intervention means that students performed well after the intervention. Integrating the different domains in Bloom's taxonomy in the Assessment tasks and exam reflected a variety of level of difficulties which addressed the different capabilities of students.

Guidelines in the writing of the modules that are used for the SBDLP, particularly in the development of the ATs and major examinations are hereby proposed:

It is, therefore, imperative to design authentic assessments to reduce cheating among students.

In designing the major examinations and ATs that are an integral component of the teaching-learning process in blended learning, the learning goals and skills should be aligned to the domains of the Bloom's taxonomy.

In designing the ATs and major examinations for the midterm and final periods, 50% of the test questions should belong to the lower level of Bloom's Taxonomy

(remembering, understanding, and application) and the remaining 50% should belong to the higher level of the learning cone (analyzing, evaluating, and creating).

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