

## Assessment for learning and cognitive process dimensions literacy of instructors in English

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### ABSTRACT

The general problem of this study was to determine the literacy level of instructors in English on assessment for learning and cognitive process dimensions in terms of the following parameters such as classroom assessment objective, classroom assessment theoretical basis, types of tests, content, and performance standards and competencies, and cognitive process dimensions. To achieve this aim, the researchers involved five university administrators, 15 instructors in English, and 225 college students during the school year 2020-2021. The questionnaire on the literacy level of instructors in English on the assessment of learning and cognitive process dimensions was utilized. The results were processed using statistical packages for social sciences (SPSS) and presented using appropriate tables and texts. The findings revealed that: first, although instructors in English are utilizing specific, measurable, attainable, relevant, and time-bound (SMART) learning objectives, they still have to distinguish between three learning domains; secondly, while instructors in English are excellent in identifying the diversity of students, they have to look for various assessment tools; third, though they have flexibility in crafting learning goals, and assess students holistically, they need to be familiar with levels of cognitive process in achieving profound assessment for learning.

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## 1. INTRODUCTION

Assessment literacy is an essential way to determine the level of performance of an individual in different fields or disciplines. During the COVID-19 pandemic, many educators are doubtful about how they will determine the level of proficiency, assessment, and cognitive domain of the students as it takes a lot of studies and examinations to find out the result. The continuing threat of COVID-19 in the Philippines and the world brings about unprecedented challenges to the higher education or undergraduate level, so to speak. As universities have been preparing for the incoming academic year, instructors must adapt to alternative learning modalities to ensure that students achieve essential curricular goals. This requires creative and innovative ways of designing optimal learning experiences and assessing learning progress effectively under adverse circumstances.

Learning assessment has become an important topic in recent literature and studies [1]. However, a study recognized that there is still limited research on the capacity of instructors in assessing the writing ability of students with regard to the second language (L2) which is English. Consequently, some authors focused their research on investigating the effectiveness of their intervention [2], such as “Writing Wheel”,

“Free-repeating”, “Sentence-completing”, and “Multiple-choice questions” [3] which showed considerable impact on students’ writing proficiency. Other forms of assessment such as “task-based language design” [4] were understood to transform the teaching and learning process, and “wide-scale writing assessment” [5] resulted in English achievements of bilingual students. Some also looked at the different factors such as “critical thinking,” which have contributed to English proficiency [6]. The results found that critical thinking, indeed, allows people to criticize, analyze, conclude, and make inferences, especially in producing excellent learning outcomes.

Furthermore, the researchers also tried to see recent findings about cognitive process dimensions. Accordingly, the cognitive process dimension is a related theory developed by an English scholar known as Bloom’s Taxonomy. It is divided into two parts: the lower order thinking skills and the higher order thinking skills. According to several researches, lower thinking skills refer to remembering and the likes, while higher order thinking skills refer to applying and creating [7], [8]. Some factors that influence the cognitive process of the students are field of study, academic achievement, and intellectual level. There is a need for the students and instructors to be competent in the whole complexity of Bloom’s taxonomy to improve the teaching and learning process [9], [10].

This review of related literature and studies demonstrated the significance and relevance related to the variables of this study by presenting the arguments and counter-arguments, and thereby, taking them as materials for a needed synthesis concerning the subject and theme at hand. Assessment for learning and cognitive process dimensions have brought some issues in the body of knowledge since there were gaps found in the study conducted by some authors [11]–[13]. With these, the researchers purport to determine the instructors’ literacy on assessment for learning and cognitive process dimensions in an educational environment in Okinawa, Japan.

This study aimed primarily in determining the literacy level of instructors in English on assessment for learning and cognitive process dimensions. Specifically, the researchers explored the ability of instructors the assessment for learning and cognitive process dimensions in terms of the following parameters such as classroom assessment objective, classroom assessment theoretical basis, types of tests, content and performance standards and competencies, and cognitive process dimensions. It is relevant since this would help policymakers in terms of developing relevant guidelines and development programs that are drawn from the research-based gaps with regard to the strength and weaknesses of instructors in assessing their students’ knowledge and skills in English.

## **2. RESEARCH METHOD**

### **2.1. Type of research**

The researchers utilized an assessment type of research since this study aims to assess existing educational practices related to the teaching and learning process. The systematic process of collecting and analyzing empirical data on knowledge, skill, attitudes, and beliefs in order to enhance programs and student learning is known as assessment or evaluation [14]. Specifically, this study aimed to determine the proficiency level of instructors in English on the assessment for learning and cognitive process dimensions of college students.

### **2.2. Respondents**

The respondents of the study involved five university administrators, 15 instructors in English, and 225 college students during the school year 2020-2021. The researchers involved these three groups of respondents to avoid bias and to perform triangulation of the data which are necessary elements for validating the data gathered. The study used a universal sampling technique wherein it involves the total population of university administrators, instructions in English, and students as the respondents. Contextually, this group of people was chosen to be the respondents of this study because the assessment literacy among college educators in the university entails an issue that needs to be addressed. College educators are good at delivering the lesson using their wisdom but much less at assessing the progress of the students. This study could be a basis for school policymakers in formulating relevant programs and training for the development of students’ academic performance.

### **2.3. Instrument**

A self-made questionnaire was utilized to determine the literacy level of instructors in English on the assessment of learning and cognitive process dimensions in terms of objective, theoretical basis, types of assessment, content and performance standards and competencies, and cognitive process dimensions. The questionnaire underwent expert validations by three university professors with a doctorate degree in English and reliability testing through pilot testing with 0.987 Cronbach’s alpha. The researchers did not conduct

follow up interviews because the study is a purely quantitative and descriptive assessment with the aim of describing the assessment literacy of university instructors.

#### 2.4. Data gathering

The mode of the gathering was a questionnaire method. In gathering the data, the researchers followed the following procedures: i) A letter was sent to the Dean of the University to ask permission to conduct the study; ii) With the approval of the Dean of the University, the researchers asked for the contact teacher in the school and then distribute the questionnaire link to the respondents through Google Forms.

#### 2.5. Data analysis

The data were treated using Statistical Packages for Social Sciences or SPSS Software. It is a versatile and responsive program designed to undertake a range of statistical procedures. Specifically, the researchers used the mean procedures and frequency schemes to analyze and interpret the data gathered.

#### 2.6. Ethical considerations

The following ethical considerations were put into place for this research undertaking: i) The dignity and well-being of students were protected. They were not harmed in any form or placed in an uncomfortable position; ii) The researchers obtained from the parents and students informed consent that includes essential information. They were also informed that participating in the study is completely voluntary, ensuring no coercion or deception in participation; iii) The research data remained confidential throughout the study; iv) The researchers obtained the student's permission to write their real names on the survey to navigate their records at the said university more conveniently. They were informed that their names would not appear in the final output.

### 3. RESULTS AND DISCUSSION

#### 3.1. Assessment for learning and cognitive process dimensions literacy of instructors in English

The assessment for learning and cognitive process dimensions of literacy of instructors in English were determined in terms of classroom assessment objective, classroom assessment theoretical basis, types of tests, content and performance standards and competencies, and cognitive process dimensions. The data are presented and summarized in Tables 1-5. The results were aggregated since the data from the three groups of respondents, namely, university administrators, instructors, and students were having the same responses based on pre-analysis of the data gathered and based on the result of triangulation.

Table 1 reveals that the literacy level of instructors in English on the assessment for learning and cognitive process dimensions literacy in terms of classroom assessment objective is high as evidenced by a 4.13 mean percentage score. The indicator which got the highest is that the instructors in English set the assessment objective to become specific, measurable, attainable, result-orientated, and time-bound (4.49), whereas the lowest score was noted on the indicator which states that instructors in English differentiate objectives based on cognitive, psychomotor, and affective domains (3.47). The findings imply that the instructors in English are strictly implementing a SMART assessment objective, although further improvement in distinguishing the three learning domains in crafting their assessments is needed.

Table 1. Classroom assessment objective

Indicators	Mean	Verbal interpretation
Sets classroom assessment based on the premeditated objective	4.39	Highly literate
Recognizes appropriate questions that will lead in setting assessment learning objectives	4.39	Highly literate
Recognizes objectives which are suited to students' abilities and skills	4.39	Highly literate
Sets the assessment objective to become specific, measurable, attainable, result-orientated, and time-bound	4.49	Highly literate
Formulates assessment objective to see how their learning is progressing and where it is going	4.15	Highly literate
Sets learning objectives that are specific but not restrictive	4.39	Highly literate
Connects the learning objectives to previous and future learning	4.23	Highly literate
Sequences the objective in spirally	3.90	Highly literate
Uses the previous objectives to introduce new competencies and lessons	4.11	Highly literate
Makes objectives meaningful and relevant to the present time	4.13	Highly literate
Sets objectives recognizing bloom's taxonomy of objectives in	3.73	Highly literate
Differentiates objectives based on cognitive, psychomotor and affective domains	3.57	Highly literate
Total	4.13	Highly literate

SMART goals set instructors up for success by making goals specific, measurable, attainable, relevant, and time-bound [15], [16]. The SMART method helps push them further, gives them a sense of direction, and helps them organize and reach their goals. More so, Earning encourages the development of new talents and aids in attitude development. The cognitive domain attempts to improve a person's cognitive abilities and knowledge acquisition. Knowledge, comprehension, application, analysis, synthesis, and assessment are the six categories that make up the cognitive domain. Knowledge comprises the learner's capacity for information retention. The learner's capacity to comprehend the significance of what is already known is then evaluated by a comprehension test that follows. An example of this is when a learner can adequately describe an existing theory [17]–[19].

It may be gleaned in Table 2 that the literacy level of instructors in English on the assessment for learning and cognitive process dimensions literacy in terms of classroom assessment theoretical basis is high like the former, as evidenced by a 4.11 mean percentage score. Specifically, instructors in English are able to write an assessment that recognizes the diversity of students. Meanwhile, there is a need for further improvement in recognizing varied assessment approaches to learning. This indicates that the findings are consistent in terms of recognizing the diversity of students by identifying their needs and formulating objectives that are suited to their level of understanding. There is a need for instructors in English to learn various styles in assessments, and one of them is through crafting objectives that are aligned with the cognitive, affective, and behavioral dimensions of students. A study that emphasizes the idea that instructors can facilitate the learning process even with diverse students, by acknowledging and respecting individual differences and by using knowledge of those differences to design diverse sets of learning activities to ensure that all students can achieve the desired learning goals [20], [21].

Table 2. Classroom assessment theoretical basis

Indicators	Mean	Verbal interpretation
Sets assessment based on constructivist approaches	3.92	Highly literate
Formulates assessment based on the zone of proximal development	3.97	Highly literate
Uses assessment principles to execute learning activities	3.97	Highly literate
Recognizes varied assessment approaches to learning	3.65	Highly literate
Prepares assessment that is aligned with objectives, learning standards, and competencies	3.85	Highly literate
Sets assessments that should be more like instruction	3.90	Highly literate
Writes assessment that recognizes the diversity of students	4.40	Highly literate
Sets the Formative Assessment that scaffolds the students in Summative Assessment	4.30	Highly literate
Uses assessment results to help students learn better	4.20	Highly literate
Sets assessments based on the learning targets	4.21	Highly literate
Formulates assessment that involves both instructors and students	4.12	Highly literate
Sets classroom assessment that is an integral part of teaching and learning.	4.30	Highly literate
Uses concepts of learning by doing in-classroom assessment	4.25	Highly literate
Sets of different classroom assessments to address the increasingly diverse learning needs of students in today's classrooms	4.27	Highly literate
Formulates classroom assessment using differentiated instruction to provide an increased set of different instructional activities to address the increasingly diverse learning needs of students in today's classrooms	4.27	Highly literate
Total	4.11	Highly literate

As can be seen in Table 3, one could deduce that the literacy level of instructors in English on the assessment for learning and cognitive process dimensions literacy in terms of the type of test are high just like the two sub-parameters mentioned as evidenced by the mean percentage score of 4.09. This is displayed by the ability of instructors in English to conduct some sort of assessment. Although, there is a need for further enhancement on the use of formative assessment as a kind of assessment that may be given at any time during the teaching and learning process. The findings show that the instructors in English are highly literate in determining the learning difficulties of the students but still unclear what kind of assessment they use. Consequently, they must recall the utilization of formative assessments which data are recorded but not graded with the aim of identifying the students' difficulties for a specific learning goal.

Corollary to a proposition that assessment for learning (AFL) is an approach to teaching and learning that generates feedback that is then used to improve student learning outcomes [22], [23]. Students are more involved in the learning process and thus gain confidence in what they have to learn and at what level. AFL can be seen as attempting to "bridge the gap" between a learner's current status and where they aspire to go in terms of their success and learning. Tasks are designed by qualified educators to aid pupils in thinking, feeling, and acting [24].

Table 3. Types of tests

Indicators	Mean	Verbal interpretation
Recognizes the different types of tests in the assessment of, as, and for learning	4.01	Highly literate
Uses formative assessment as a kind of assessment that may be given at any time during the teaching and learning process.	3.75	Highly literate
Conducts some sort of assessments in order to identify the specific difficulties of the students	4.23	Highly literate
Uses summative assessment that measures whether students have met the content and performance standards as scaffolds of formative assessment	4.16	Highly literate
Records formative assessment to check students' continuous progress	4.15	Highly literate
Uses assessment with spiral progression	4.18	Highly literate
Uses varied assessments to find out the whether the students have mastered the premeditated competencies of a particular discipline	4.14	Highly literate
Gives diagnostic assessment to determine the students' prior knowledge and experiences as preparation for the next learning episodes	4.06	Highly literate
Uses assessment to activate students' schema	4.11	Highly literate
Differentiates formative and summative assessment activities and exercises	4.02	Highly literate
Prepares enrichment assessments to upgrade pupils' mastered skills	4.13	Highly literate
Prepares remedial assessments/sessions to increase students' low performance	4.13	Highly literate
Sets assessment intended for culminating performances and products of the pupils	4.07	Highly literate
Designs assessment logically to have concrete focus on students' achievement	4.10	Highly literate
Reviews pupils' assessment results for future references	4.16	Highly literate
Uses varied assessments to touch students' multiple intelligence and learning styles	4.15	Highly literate
Uses varied assessments which are aligned with the students' 21st century skills and abilities	4.15	Highly literate
Total	4.09	Highly literate

Analysis of data in Table 4 presents that the literacy level of instructors in English on the assessment for learning and cognitive process dimensions literacy in terms of content and performance standard and competency are high as evidenced by a 4.06 mean percentage score. The ability of English teachers to use learning competencies to provide remedial and enrichment assessments for students, which received the highest score, illustrates this. On the other hand, the use of content standards, which received the lowest score among the indicators and represent the knowledge, understanding, skills, and attitudes that students must demonstrate in every lesson and/or learning activity, needs to be improved. Like the previous findings that one of the strengths of instructors in English is to set learning competencies or objectives that are suited to the needs of the students. They are excellent at adjusting the learning objectives without compromising their substance. Nevertheless, they really need to be specific between the cognitive, affective, and attitudes of the students.

Table 4. Content and performance standard and competency

No.	Indicators	Mean	Verbal interpretation
1.	Is familiar with the content and performance standard of the subject he/she is teaching	4.08	Highly literate
2.	Uses content standard to introduce the relevant lessons of the subject	4.10	Highly literate
3.	Recognizes the learning competencies as the importance targets of the lessons	4.08	Highly literate
4.	Is familiar with the relevance of the content and performance standards	3.99	Highly literate
5.	Uses performance standard as culminating assessment task of the pupils	4.08	Highly literate
6.	Uses content standards as the knowledge, understanding, skills, and attitudes that students need to demonstrate in every lesson and/or learning activity	3.58	Highly literate
7.	Uses performance standard to describe the abilities and skills that students are expected to demonstrate in relation to the content standards and integration of 21st century skills	3.94	Highly literate
8.	Recognizes the curriculum as the arrangement of content and performance standards	4.05	Highly literate
9.	Uses curriculum to find out the intended lessons for the students' mastery of the subject matter	4.13	Highly literate
10.	Uses the steps to the classroom assessment of curriculum standards	4.08	Highly literate
11.	Recognizes the importance of curriculum standards for students' collaborative performance	4.13	Highly literate
12.	Executes content and performance standards with spiral progression	4.05	Highly literate
13.	Uses learning competencies to provide remedial and enrichment assessments for students	4.33	Highly literate
14.	Uses different assessments to combine content and performance standards	4.08	Highly literate
15.	Uses varied performance tasks to master premeditated content standards	4.13	Highly literate
	Total	4.06	Highly literate

As a study mentioned, the learning goal is the backbone of a lesson and provides the "reason" for teaching and observing it [25]. instructors usually start by choosing a topic, concept, subject, or topic from the course they want to study. Many people are drawn to subjects that are particularly difficult for students or instructors to learn. The learning objectives for a class should be expressed in terms of what the students will

comprehend and what they will be able to do as a result [26]. The intended levels of student learning, thinking, engagement, and behavior are outlined in the goals. The goals will be taken into account in anything the instructors decide to do in the class [27].

Table 5 reveals that the literacy level of instructors in English on the assessment for learning and cognitive process dimensions literacy in terms of cognitive process dimensions is high as evidenced by a 4.13 mean percentage score. This is shown by the ability of the instructors in English to use varied English rubrics in the different cognitive process dimensions to evaluate students holistically, in fact, it got the highest mean score. However, they are not so familiar with the logical order of cognitive process dimensions.

A study that validated these conclusions found that one did not need to be proficient in all of Bloom's Taxonomy complexity [28]. The main benefit of using Bloom's Taxonomy is that it helps instructors comprehend the many degrees of cognitive, psychomotor, and affective demands they have for their students [29]. Additionally, it aids in the process of aligning assessment items to learning objectives in terms of assessments [30].

Table 5. Cognitive process dimensions

No.	Indicators	Mean	Verbal interpretation
1.	Uses remembering cognitive process dimension that enables the learner recall information and retrieve relevant knowledge from long term memory	4.14	Highly literate
2.	Uses understanding cognitive process dimensions to give chance to the students to construct meaning from oral, written, and graphic messages	4.06	Highly literate
3.	Is familiar with the logical orders of cognitive process dimensions	3.69	Highly literate
4.	Determines appropriate learning verbs for the different cognitive process dimensions	4.02	Highly literate
5.	Formulates evaluating cognitive process dimension activities to enable students make judgment and justify decisions	4.13	Highly literate
6.	Uses varied English rubrics in the different cognitive process dimensions to evaluate students holistically	4.47	Highly literate
7.	Uses creating cognitive process dimension to enable students to formulate solutions based on the lesson learned from a particular subject	4.07	Highly literate
8.	Uses analyzing cognitive process dimension to give chance to students to distinguish between parts and determine how ideas relate to one another and to the overall structure and purpose	4.10	Highly literate
9.	Formulates applying cognitive process dimension activities to enable students to undertake a procedure in familiar situations or in a new way	4.16	Highly literate
10.	Uses different learning verbs to enhance students' skills and competencies	4.15	Highly literate
11.	Uses cognitive process dimensions to elevate students' mastery of subject matter	4.15	Highly literate
12.	Uses cognitive process dimensions to increase students' 21 <sup>st</sup> century skills	4.16	Highly literate
13.	Formulates varied assessments using cognitive process dimensions to reach targeted objectives of the lessons	4.15	Highly literate
14.	Sees to it that the premeditated cognitive process dimension tasks are attainable and measurable	4.15	Highly literate
15.	Uses varied cognitive processes to tap pupils' multiple intelligence and learning styles	4.07	Highly literate
16.	Uses differentiated activities for each cognitive process dimension activity/task	4.07	Highly literate
Total		4.13	Highly literate

#### 4. CONCLUSION




The researchers hereby conclude that: first, although instructors in English are utilizing SMART learning objectives, they still have to distinguish between three learning domains; secondly, while instructors in English are excellent at identifying the diversity of students, they have to look for various assessment tools; third, though they have flexibility in crafting learning goals, and assess students holistically, they need to be familiar with levels of cognitive process in achieving profound assessment for learning. The study is limited due to its scope which might affect its generality. Hence, it would be a worthwhile avenue for future researchers to explore on a larger scale and cross-section their target respondents.

The following recommendations are hereby offered: first, school administrators need to re-calibrate their instructors, especially in English subject in order to equip them with the necessary skills and knowledge in writing their learning objectives based on the curriculum which is aligned with the three domains of learning; secondly, instructors in English may re-call their knowledge and skills in utilizing various assessment tools and distinguish between formative and summative assessment through training development programs; third and last, they may also deal with the review of cognitive process dimensions, especially on Bloom's taxonomy and its importance to students' learning process.




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