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DESIGING ICT COMPETENCES-INTEGRATED GRAMMAR ASSESSMENT INSTRUMENTS FOR ENGLISH LANGUAGE EDUCATION STUDY PROGRAM

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ABSTRACT

Technological advancements affect many areas, including education. Proven to bring positive impacts in education, ICT is greatly expected in teaching, learning and assessment. Hence, there is a greater necessity for teachers and lectures to integrate ICT into their teaching, learning, and assessment. This study focuses on the assessment instrument for Grammar course of higher education for English Language Education Study Program. The analysis showed that the ICT Competences integration in the assessment instrument did not reach the levels that are meant for higher education based on standard frameworks UNESCO ICT Competency, EPG and the CEFR. This study aims to design ICT competences-integrated grammar assessment instruments for undergraduate English Language Education Study Program by using standard frameworks UNESCO ICT CFT, EPG and the CEFR. This study adapted Design and Development Research by Peffers. Based on the international standard frameworks, the results of the analyses suggest that the ICT competences of the existing assessment instruments are in the basic phase of EPG and knowledge acquisition level of UNESCO ICT Competency Framework. And the grammatical features are spread from level A2 to C1. Thus, the study proposed a design of ICT Competences-integrated grammar assessment instruments for English Language Education Study Program.

Keywords: *ICT competence; assessment instruments; UNESCO ICT; EPG.*

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INTRODUCTION

Assessment is a multipurpose tool in education. It is a process of gathering information about what a student knows, is able to do, and is learning to do. From assessment, teachers can obtain information about students' comprehension of the material thus affecting the kind of teaching learning as well as assessing that the teachers have in the classroom. Black and William, as cited in (Cheng, Liying & Fox, 2017) state that "assessment refers to all those activities undertaken by the teachers, and by their students in assessing themselves, which provide information to be used as feedback to modify the teaching and learning activities in which they are engaged". (Cheng, Liying & Fox, 2017) classify some purposes of assessment into three: first, instructional. The instructional purpose of assessment is to gather information about students' understanding and skills. Second, student-centered. The student-centered purpose of assessment refers to the process of identifying individual student's strengths and weaknesses. Third, administrative. The administrative purpose of assessment is used for grading student achievement by using numerical or ordinal scale, while (Russell, M.K & Airasian, 2012) mention some other purposes of assessment. First, the assessment purpose is to establish and maintain a classroom environment that supports student learning. A positive classroom environment must have self-monitoring, respect, and cooperation. By having those, students will feel comfortable which will support learning.

Learning and teaching have direct impact on assessment. In teaching learning, the students construct and apply the information they learn in the classroom, while assessment becomes the tool for students to construct responses and apply their learning. Assessment allows

students to display the knowledge learned through teaching learning activity. It explains interconnectedness between teaching learning and assessing and how assessment should be aligned with curriculum, teaching learning and the objectives of curriculum and teaching. In addition, assessment should be a tool that can provide chances for students to display their understanding from learning process.

Behind every assessment, there should be the table of specifications. Table of specifications is a table that helps teachers align objectives, instruction and assessment. (Alade, O.M & Omoruyi, 2014) assert that table of specification may be referred to as "content of a course or curriculum that can be broadly defined to include both subject matter content and instructional objectives". It is the blue print of a test, the areas to be covered and the relative emphasis to be placed on each area.

(Fives & Barnes, 2013) state that table of specification puts validity as central rationale and requires teachers to consider the underlying purpose and quality of their assessment tasks. The primary goal of table of specification should be to improve the validity of a teacher's evaluation based on a given assessment. It is clear that the table of specifications is needed before any assessment is made since it determines the purpose of the assessment and the components that are included in order to make the assessment instrument a reliable tool to obtain information about the learner's knowledge and skill of the materials learned.

In Higher education context in Indonesia, Grammar is one of the courses taught in undergraduate English Language Education Study Program. The purpose of having Grammar course is for students to have the knowledge of Grammar and apply the knowledge of proper Grammar

forms in communication both spoken and written, as stated in the syllabi. Grammar teaching has been one of the most disputable issues in the field of language pedagogy and second language acquisition. The dispute occurs due to point of view of grammar which is mostly seen as essential in language learning. (Borjars, Kersi & Burridge, 2010) say that knowledge of English grammatical structures is useful when someone learns the grammatical structure of another language or whenever someone has to teach them to others. This suggests the importance of teaching grammar as knowledge needed in language learning. Some exiting syllabi do mention the use of ICT in teaching learning grammar course, yet it did not specify exact activities through which ICT competences are incorporated. The syllabi did not state whether or not the assessment integrated ICT Competences, and if so in which components the ICT Competences were integrated.

The assessment instruments used to assess grammar can be categorized into two major assessments, test and non-test, or formative and summative assessments. Some examples of test to assess the learners' grammar competence include quizzes and tests containing selected-response, limited-production and all sorts of extended-productions tasks which can occur before, during or after instruction, during the teaching learning process, depending on the assessment goals.

Limited-production tasks intend to assess one or more areas of grammatical knowledge depending on the construct definition. The input required in limited-production tasks is in the form of an item with language and/or non-language that can vary in length or topic. Some tasks included as limited-production are gap-filling activities, cloze activities, short-answer activities, dictation activities,

information-transfer activities, some information-gap activities, dialog completion activities.

Extended-production test tasks aim to elicit large amounts of data of which the quality and quantity can vary greatly for test-taker. The extended-production test tasks are particularly well suited for measuring the examinee's ability to use grammatical forms to convey meanings in language use. Some extended-production test tasks are summaries, essays, dialogs, interviews, role-plays, simulations, stories, reports, some information-gap activities, problem-solving activities, decision-making activities.

The CEFR classifies grammar into three main levels, basic, intermediate and advance grammar. The basic grammar covers level A2, the intermediate grammar covers levels B1-B2, and advance grammar covers level C1. Each level has its own 'can do' descriptors, which is called Global Scale. In determining the grammar competence levels into basic, intermediate, and advance, the researcher uses the CEFR descriptors of grammar for determining the levels which can be vary between schools, universities, and language academies. Thus, the CEFR descriptors of grammar will be a reliable reference since many ministries of education, local educational authorities, educational institutions, teachers' associations and publishers have used the CEFR as the framework in teaching, learning, and assessing. In order to be able to analyze the level of competence of the grammatical features found in the existing assessment instruments, the researcher used English Profile. English Profile is a Reference Level Descriptions (RLD) that include grammatical and lexical details of English to extend the CEFR's functional characterization of the different levels, primarily using the Cambridge Learner Corpus (CLC). This is done via criterial features. The criterial features of the

English Profile establish descriptions of grammatical features which distinguish learners at each level of the CEFR.

21st century learning has affected teaching and assessing learners. In addition to the advancement in technology, both learners and teachers must have ICT and use it in context of teaching, learning and assessing. In teaching learning as well as assessing English language, teachers and learners have incorporated ICT. ICTs such as television, radio, video, and multimedia computer software are indispensable tools teachers and learners use in English language learning and teaching. In relation to assessment, ICT is used to support assessment practice in various ways. Computers can be used as the medium for testing, to score students' tests using automatic scoring software and as a tool for doing assessment tasks.

The 21st century assessment should provide high-quality standardized testing along with effective classroom formative and summative assessments. (Gibson and Webb, 2013) as cited in (Asri, 2019) suggest that new technologies can facilitate both formative and summative assessment and are increasing the range of possibilities for assessment. The 21st century assessment also requires a balance of technology-enhanced, formative and summative assessments that measure student mastery of 21st century skills (Education for the 21st Century: the basics document). The existing Grammar syllabi of undergraduate English Language Education Study Program do not mention if ICT is incorporated, and how ICT is incorporated in the assessment instruments. Having said that, the researcher concludes that existing Grammar syllabi for undergraduate English Language Education Study Program do not state in clear detail the incorporation of ICT, if any, in the assessment instruments used. Where, in fact, it is very important to state details of

teaching learning and assessing in the syllabus since it is used as a guidance.

Since ICT integration is in growing needs in English language teaching and learning, as well as assessing, there needs to be a framework agreed upon among English language educators. In view of the importance of ICT, UNESCO provides ICT-competency framework for teachers which was first published in 2008. There are three approaches to the framework: Technology Literacy, Knowledge Deepening and Knowledge Creation. And there are six areas of a teacher's work namely Understanding ICT in Education, Pedagogy, Curriculum and Assessment, ICT, Organization and Administration and Teacher Professional Learning (UNESCO, 2011). And since, there has been the most recent development in the latest version of the framework with some changes occurred. The most recent version was published in 2018 with a change in the three approaches into: knowledge acquisition, knowledge deepening and knowledge creation. There is also a change in the six aspects that a teacher professional should address, namely understanding ICT in Education Policy, Curriculum and Assessment, Pedagogy, Application of Digital Skills, Organization and Administration, and Teacher Professional Learning.

There are some studies in the area of assessment, grammar, and ICT. Yet, very little, if none, studies about the three that use standards frameworks such as UNESCO ICT Competency Framework, English Profiling Grid and the CEFR in the assessment instrument. Take for example a research conducted by (Dwiono & Rochsantiningsih, 2018). The research aimed to investigate the teacher competence levels to use ICT and the extent to which the ICT integrated by the teacher in English Language Teaching. Teacher's competence levels were classified using professional framework

rank ICT competence level by UNESCO. The design of the research was case study. The researchers used SAMR model which is a tool for assessing and evaluating technology practices and impacts in a classroom setting by looking into students, teachers and the changes. The findings showed that the teacher ICT competence level was beginner level. The teacher was able to use basic operation of various types of hardware, such as desktop, computers, printers, and hand-held devices. The teacher could also use the basic features of presentation, word processors software such as power point and Microsoft word and other digital resources. The result for ICT integration by teachers in English Language Teaching was substitution level and augmentation level, which meant that the teacher was dominant on integrating ICT to substitute the use of electronic databases instead of hard copy textbooks and make little change or improvement from the original one. This study shows how UNESCO ICT competence level framework is useful in determining the teacher ICT competence level which affects the use of ICT in pedagogical application in language teaching learning.

Another research was conducted by (Nuon, Phyna & Champakaew, 2017). The study, entitled "Effects of ICT-Aided Flipped classroom on Grammar achievement", examined the effects of ICT-aided flipped classroom on students' grammar achievement at one Cambodian University. There were 81 participants who were divided into two: 41 participants in the control group receiving non-flipped classroom and 40 participants in the experimental group participating in ICT-aided flipped classroom. The research instruments used were pre-test, post-test, formative assessment and student logs. The findings of the research showed a positive effect with a moderate effect size on students' grammar achievement. The students' achievement in both groups were

significantly higher from pre-test to post-test. However, the formative assessment showed the experimental group did poorly more than their counterparts in the first two units, but kept on improving gradually more than their counterparts in the last three units. This suggested that at the initial start, some or none of the students were familiar with ICT tools and flipped model. After the students continually participated in the flipped model, they became accustomed to the ICT tools and managed to obtain higher post-test scores than their peers in non-flipped classroom. The results showed the positive impacts on the students' grammar achievement in the ICT-aided flipped classroom. This study investigates ICT is used in flipped classroom and gathers the data through some assessments. And the results suggest positive effects for the students' grammar achievement.

The existing studies show limited research that explore grammar assessment instrument in higher education context, in particular, ones that use ICT Competency Frameworks such as UNESCO and EPG. Thus, this study attempted to design grammar assessment instruments with ICT competences integration based on UNESCO ICT Competency Framework and EPG, and the CEFR for the grammar competence, for Higher Education English Language Education Study Program.

Research Question.

There is one main research question in the study followed by some sub-questions:

The main research question:

1. How are the ICT competences-integrated assessment instruments of Grammar for undergraduate English Language Education Study Program?

The main question has five sub questions as follow:

1. To what extent do the existing assessment instruments make use of ICT?

2. How are the ICT competences integrated in Table of Specification of Grammar assessment instruments for English Language Education Study Program:

3. How are the ICT competences-integrated Table of Specifications of Grammar assessment instruments for English Language Education Study Programs:

3.1. How are the ICT competences-integrated table of specifications of Basic Grammar assessment instruments for ELESP?

3.2. How are the ICT competences-integrated table of specifications of Intermediate Grammar assessment instruments for ELESP?

3.3. How are the ICT competences-integrated table of specifications of Advance Grammar assessment instruments for ELESP?

4. How are the ICT competences-integrated test of Grammar assessment instruments for English Language Education Study Program:

4.1. How are the ICT competences-integrated test of Basic Grammar assessment instruments for English Language Education Study Program?

4.2. How are the ICT competences-integrated test of Intermediate Grammar assessment instruments for English Language Education Study Program?

4.3. How are the ICT competences-integrated test

of Advance Grammar assessment instruments for English Language Education Study Program?

5. How are the ICT competences-integrated non-test of Grammar assessment instruments for English Language Education Study Program:

5.1. How are the ICT competences-integrated non-test of Basic Grammar assessment instruments for English language Education Study Program?

5.2. How are the ICT competences-integrated non-test of Intermediate Grammar assessment instruments for English Language Education Study Program?

5.3. How are the ICT competences-integrated non-test of Advance Grammar assessment instrument for English Language Education Study Program?

Purpose of the study

The main purpose of the study is to design the ICT Competences-integrated grammar assessment instruments for English Language Education Study Program. The ICT Competences integrated in the assessment instruments are taken from UNESCO ICT Competency Framework and EPG Key Teaching Competences.

METHOD

This study applied Design and Development Research (DDR) because the objective of this research is to design assessment instruments for grammar

course with ICT competences integration for Undergraduate English Language Education Study programs in Indonesia.

The researcher adapted (Peffers, 2007) six steps in DDR into four steps, namely, identify the problem, describe the objective, design and develop the artifact and validating. The validation was conducted through expert judgement. The experts reviewed the ICT Competences integrated in the test and non-test components in the table of specifications which is the blue print of the assessment instruments. Due to the time constraint, testing the artifact cannot be done.

Data

The data were assessment instruments from five different universities. The first data came from university A. The data were from Basic Grammar, Intermediate Grammar, and Advance grammar course. The data were in a form of test. Aspects analyzed from the assessment instruments were the ICT competences integration, the assessment instrument type, the components of the assessment instrument, the grammatical features and grammar competence.

Instrument

The instrument used in this study was a unit analysis. The unit analysis helped analyze the existing assessment instruments. The unit analysis consists of ICT indicators from EPG and UNESCO ICT Competency Framework, the components of test and non-test and the course. The test and non-test components were adapted from (Bachman, 1990).

Data Procedures

There were some procedures that the researcher conducted in collecting the data. The first procedure of collecting data for the research is document analysis. This was conducted to answer the first sub-research question. The researcher collected the existing grammar assessment instruments of undergraduate English

Language Education Study Programs from different universities in Indonesia. Then, there was document analysis of the assessment instrument documents collected. The analysis focused on the ICT competences integration, the assessment instrument components, the ICT competences integration in the assessment instrument components, the grammatical features and grammar competence based on the grounded theory and standard frameworks such as UNESCO, EPG and the CEFR.

Then, the following procedure was designing ICT competences-integrated table of specifications of grammar for English Language Education Study Program. The designs of the table of specifications were based on the grounded theory. This was conducted to answer sub-research questions two and three.

The last procedure was designing the ICT competences-integrated grammar test and non-test for English Language Education Study Program. The designs were based on the table of specifications created. This was conducted to answer sub-research questions number four and five.

Data Analysis.

The procedures of the data analysis were started from data reduction in which the researcher selected, and simplified the data from the existing assessment instruments. The results of the data reduction were the ICT competences, the assessment instrument components, the ICT competences integration in the assessment instruments, the grammatical features, and the grammar competence. The next procedure to be conducted is data display in which all information gotten was organized and compressed that it allows the researcher to generate conclusion. The data display was conducted through unit analysis of the existing instruments, specifically, the ICT competences, the assessment instrument

components, the integration of ICT competences in the assessment instruments, the grammatical features, and the grammar competence in comparison to the standard frameworks used such as UNESCO ICT CF, EPG and the CEFR. The last procedure is conclusion drawing and verification (adopted from (Miles, Matthew B & Huberman, 1994). Once the analysis completed, the researcher would be able to obtain information related to the ICT competences, the assessment instrument components, the integration of ICT competences in the existing assessment instrument components, the grammatical features and grammar competence according to the acknowledged standard frameworks. Thus, it answered sub-research question number one. In order to answer the sub-research question two, the researcher designed the table of specifications for basic, intermediate and advance grammar. The table of specifications have seven components and some components are integrated with ICT Competences. Based on the table of specifications, the test and non-test assessment instruments for basic, intermediate and advance grammar were designed, by using UNESCO ICT Competency Framework and EPG as the frameworks for the ICT Competences, and the CEFR as the grammatical competence levels framework.

RESULTS AND DISCUSSION

The results of the analysis of the assessment instruments from five different universities were divided into some aspects. First, the ICT Competences found in the assessment instruments were in level of knowledge acquisition of UNESCO ICT Competency framework in which the assessment instruments demonstrate the ICT competency of able to use common hardware such as desktop computer, laptop, printer, scanner, and mobile device while the ICT Competences ranged from

basic to independent phase based on EPG Key Teaching Competences since the assessment instruments suggested the use of word-processing software to write a worksheet, as shown in the table below.

Table of Universities ICT competences.

	ICT COMPETENCES DESCRIPTION		ASSESSMENT DESCRIPTION
university	UNESCO ICT CFT	EPG	EPG
Univ A			
basic	knowledge acquisition	basic 1.1, independent 2.1	basic 1.1, 1.2, 2.2
intermediate	knowledge acquisition	basic 1.1, independent 2.1	basic 1.1, 1.2, independent 2.2
advance	knowledge acquisition	basic 1.1, independent 2.1	basic 1.1, 1.2, independent 2.2
Univ B	knowledge acquisition	basic 1.1, independent 2.1	basic 1.1, 1.2, independent 2.2
Univ C			
fundamental grammar	knowledge acquisition	independent 2.1	independent 2.2.
grammar for academic communication	knowledge acquisition	basic 1.1, independent 2.1	basic 1.1, 1.2, independent 2.2
Grammar for Business communication	knowledge acquisition	independent 2.1, 2.2	independent 2.1, 2.2
Univ D	knowledge acquisition	basic 1.1, independent 2.1	basic 1.1, 1.2, independent 2.2
Univ E	knowledge acquisition	basic 1.1	independent 2.2.

Second, based on EPG Key Teaching Competences for Assessment, the existing assessment instruments ranged from basic to independent phase. There were only some assessment instrument components found and some essential assessment instruments were not in the existing assessment instruments.

The last, the CEFR showed that the grammatical competences found in the existing assessment instruments ranged from level A2 to B2, with one grammatical competence from the existed assessment instrument of one university fell on C1 level. The analysis of the existing assessment instruments answered sub-research question one.

In order to answer the second sub research question, there needs to elaborate the components of the table of specification that are used in this research. This study adapted the table of specification from (Bachman, Lyle F & Palmer, 1996). The test components consist of purpose, construct, setting, time allotment, instructions, characteristics of input and expected response and scoring method. in the design of the table of specifications, the ICT Competences were integrated in some components, namely setting, time allotment, instructions, characteristics of input and response, and

scoring method. The integration of the ICT Competences was in forms of being able to use hardware such as desktop computer or laptop and using software such as Windows or Mac. The competences were in knowledge acquisition level of UNESCO and independent level of EPG.

The non-test components consist of purpose, construct, setting, time allotment, instructions, characteristics of input and expected response, and feedback. The integration of ICT Competences was also in the same components as the test ones. The ICT Competences were also in the knowledge acquisition level of UNESCO and independent level of EPG. both assessment instruments in the design used Google classroom as a media platform in delivering the assessments.

Once the table of specifications was made, the researcher designed the grammar assessment instruments for both test and non-test. The basic, intermediate and advance grammatical features were taken from the English Profile which is developed from the CEFR. The designs were for both test and non-test.

CONCLUSION

The main goal of this research was to design the ICT Competences-integrated grammar assessment instruments for English Language Education Study Program. it was started by analyzing the existing assessment instruments. The results showed that the ICT competences found in the exiting assessment instruments were in knowledge acquisition level of UNESCO ICT Competency Framework and basic and Independent phase of EPG. This was suggested by the use of hardware such as desktop computer, laptop, printer or mobile device, and also the use of software such as Windows/Mac software. The results of the analysis also suggested that the existing assessment instruments were in the basic and independent phase based on EPG Key

Teaching Competences. The grammatical features found in the existing assessment instruments showed that the grammatical competences were spread from A2 to C1 level of the CEFR. The first step before designing the ICT Competences-integrated grammar assessment instruments was to create the table of specifications which was the blueprint of the assessment instruments. The table of specifications integrated the ICT Competences in some of its components. Once the table of specification was made, the assessment instruments for basic, intermediate and advance grammar were created.

Recommendation

The existing assessment instruments showed that there is still a lack in ICT competences integration in the assessment instruments. With piloting and further development, the proposed designs of the ICT competences-integrated assessment instruments can be used and adjusted according to the course's needs. Moreover, the frameworks used are the international standard that are acknowledged worldwide. In addition, by integrating ICT competences into assessment instruments, teachers or lecturers are given positive reinforcement to enhance the ICT competences which might affect the students and language learning.

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