DESIGNING ICT COMPETENCES-INTEGRATED ASSESSMENT INSTRUMENTS OF PRACTICAL KEY TEACHING COMPETENCES FOR ENGLISH LANGUAGE EDUCATION STUDY PROGRAM

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Abstract

The rapid development of information and communication technology (ICT) in this 21st century arises a new major challenge in education. 21st century learning challenges require the assessment instrument to be integrated with the ICT competences which is not yet accomplished by the existing assessment instrument. This study aims to design ICT competence-integrated assessment instruments of practical key teaching competences courses. This research adapted Design and Development Research (DDR). The used of DDR stages are need analyzing, designing. prototype and evaluation. The data were taken from the existing assessment instruments from seven different universities in Indonesia. The result of the research shows that first, the existing assessment instruments make use of ICT in extent of technology literacy where the ICT competences indicators that mostly used were using word processing software by following standard conventions, using ICT resources to enhance their productivity and download resources from websites. Second, based on the need analysis the researcher designed the procedures of integrating ICT competences into table of specification of practical key teaching competences. Third, the researcher designed the table of specifications of practical key teaching competences course namely, lesson course planning, Instruction Management and Monitoring and Teaching Practice. Fourth the researcher designed the ICT competences- integrated assessment instrument test of practical key teaching competences course namely, lesson course planning, Instruction Management and Monitoring and Teaching Practice. The last, the researcher designed the ICT competences-integrated assessment instrument non-test of practical key teaching competences course namely, lesson course planning, Instruction Management and Monitoring and Teaching Practice.

Keywords: ICT competences, Assessment Instruments, Practical Key Teaching Competences

The rapid development of information and communication technology (ICT) creates a more convenient life in many countries in this 21st century. In the field of language teaching and learning, ICT is believed to have contexts that facilitate the development of second language abilities. It offers rich, multidimensional learning environments for language learners, giving them access to many resources and opportunities to engage with native speakers to make interactions with other learners at a distance and to access authentic materials (Richards, 2015).

It is proven by exponentially increasing numbers of books, journals, articles, and dissertations now constituting our stockpile of knowledge. There are many topics and issue growing in academic context, assessment remains an area of intense fascination. The reason behind it lies on its importance in teaching and learning in academic context.

Assessment is the bridge between teaching and learning, it is only through assessment that teachers can discover whether the instructional activities in which we engaged our students resulted in the intended learning. Assessment has always been an integral part of the education landscape. The information from assessments can be used for several purposes with collecting, synthesizing and interpreting information in order to make decision. Depending of decision being made, testing, measurements and evaluation often contribute to the process of assessment (Russel & Airasian, 2012). It provides valuable insights into students' learning and serves as a reference point for their progress. At a broader systemic level, data from assessments provide schools with a better understanding of how entire cohorts are progressing during learning activities. The importance of assessment also stated by (Department for Education and Skills (DES), 2004) which is about pedagogy and practice states that teaching and learning of teacher involves, planning or designing lesson, teaching repertoire, assessment for learning and creating conditions for learning.

So far, there are many scholars who study about assessment such as (Brown, 2003), (Russel & Airasian, 2012), (Anderson, 2003), (McKay, 2006) and (Robert J. Marzano, 2006) which provides us mostly about principle of assessment. There are also some research journals in assessment areas such as (Rahmawati, 2014), (Putu et al., 2014), (Carless & Lam, 2014). Their study in assessment are mostly in assessment in education, applying certain method in assessment, relation between assessment and education. There only are few researches in more specific area of assessment that is assessment instrument. One of the example of research in assessment instrument comes from (Margareta, 2016) and (Rizki, 2016) they tries to develop assessment instrument although not it in an explicit and detailed way. Considering the study of assessment instrument is hard to find and the number of it is very small, research about assessment instrument is worth to be conducted about.

The importance of assessment instrument lies on its compatibility with the learning objectives. In other words, in doing assessment to measure the achievement of the students based on the objectives of learning, teacher should choose appropriate assessment instrument (Bank & Covacevich, 2014). The application of assessment instrument also stated in lesson planning or syllabus as it is mentioned by (University of Cambridge, 2015) and (Boye, 2010) that assessment instrument is one of essential part in course planning. Although based on the researcher initial observation' data by collecting 10 syllabi course of English Language Study Program (ELESP) the researcher found out that most of them just mentioned the assessment instrument (some used term *assessment* only) without attaching the assessment instrument that is actually used and it couldn't be seen how it really looks like. Whether it is reliable or not, valid or not and effective or not. It still remains undefined.

Without appropriate choice and application of assessment instrument used by teacher, it tends to decrease the effectiveness of the assessment to capture the student achievement of the learning objectives (Reilly, 2007). As it is mentioned above so far that there are few studies that explicitly focus on assessment instrument and the assessment instrument on the syllabus is only mentioned without being attached; hence, it is important to conduct a study of developing assessment instrument to capture students' achievement based on the learning objective effectively as well as to give an insight for the teacher or other educational practitioner.

In line with the beginning statement above; that in this 21st century, the rapid development of information and communication technology (ICT) creates a more convenient life in many

aspects of living, it also arises a new major challenge in education especially in this context challenge in assessment. According to (Chu, Reynolds, Tavares, Notari, & Lee, 2016) states that 21st century learning assessment requires that assessment should be able to measure learners' knowledge, application and learning of 21st century skills, and identify where intervention is required; be applicable across a wide range of instructional programs; allow learners to demonstrate their proficiency in 21st century skills to educational institutions and prospective employers. And the essential point of 21st learning skill is ICT competences. As it is stated by (Celebic & Rendulic, 2011) that ICT is the foundation of knowledge, economy, technology and communication in driving force of changing in 21st Century. There are several researches of assessment instrument that conducted by the previous researcher to answer the 21st century challenge such as (Fitriyani, 2018) and (Efendi, 2016) who develop assessment instrument which suit the requirement of 21st century learning by combining it with CEFR but none of them explicitly state the use the ICT competence in their product. As it is stated by (Assar, 2015) that it is been essential for many countries to regard understanding ICT and mastering the basic skills and concepts of ICT as part of the core of education. In other words, it is an ideal to conduct a study which clearly focus on developing assessment instrument with ICT competence integrated in it.

Based on the background above this study aimed to design ICT competencies integrated assessment instrument for practical key teaching competence. The term of practical key teaching competence here refers to the courses in English Language Study Program (ELESP) which cover practical pedagogy aspect that teacher trainee should master as it is stated by (Department for Education and Skills (DES), 2004) which is about pedagogy and practice states that teaching and learning of teacher involves, planning or designing lesson, teaching repertoire, assessment for learning and creating conditions for learning. Practical key teaching competence in this study consists of 3 courses namely: Lesson Planning, Teaching Practice, Instruction, Management and Monitoring.

Each of the course has its own learning objectives which obviously different between one another. Then the assessment instruments needs to match the learning objectives of each course by nature (Robert J. Marzano, 2006). As it was found that on the data from syllabus of initial observation the assessment instrument mostly only mentioned on the syllabus. In this kind of condition, the current assessment instrument likely couldn't capture the achievement of students as the learning objectives intended as well as to meet the requirement of 21st century learning. Thus, it is an urgent matter to develop assessment instrument with ICT competence integrated in it which could capture the nature of each courses based on their objectives as well as answering the requirement of the 21st century learning's challenge.

Therefore, the researcher conducted this study which entitled "Designing ICT Competences-Integrated Assessment Instruments of Practical Key Teaching Competences (Design and Development Study of English Language Education Study Program Assessment Instrument)".

METHOD

Design and Development Research was used as the research design of this study. Design and Development Research Project is based on the concept that the practice of design and development is empirical by nature (Richey, Klein, 2007). It emphasizes that instructional design process is similar to scientific problem-solving processes. In such a project the researcher develops innovative interventions to provide possible solutions to practical problems (Thomas & Rothman, 1994). The DDR model proposed by Richey and Klein (2007). According to Richey and Klein (2007) the basics of design and development knowledge have six main components. These six components direct the focus on the different elements of the design and development

effort: (a) students and how they learn, (b) the context of learning and performance that appears, (c) the nature of the content of learning and how it is sorted, (d) learning strategies and activities implemented, (e) the media and delivery system used, and finally (f) the designer itself and the process they follow. Furthermore, Richey and Klein (2007) stated there are four steps to build and construct research and development, 1) Analyze, 2) Design, 3) Prototype, and 4) evaluate. Thus, this research followed the Design and Development Research model by Richey and Klein (2007) which consist of 4 stages that have been mentioned before.

In Analyzing, the writer formulating a table of analysis of the ICT competences in the existing assessment instruments of practical key teaching competences. The researcher used assessment instruments component provided by brown (2004) and Russell & Airasian, (2012). In this phase the researcher, the writer formulating a table of analysis of the ICT competences in the existing assessment instruments of practical key teaching competences. The researcher used assessment instruments component provided by brown (2004) and Russell & Airasian, (2012). After the data was analysed, the researcher made conclusion based on phenomena founded that is to what extent do the existing assessment instrument make use of ICT competences to answer the first research questions.

In designing, the writer formulated the way to integrate the ICT competences integrated assessment instrument into practical key teaching competence's table of specification to answer sub question 2 (How are the ICT competencies integrated into the table of specification of practical key teaching competences assessment instruments?).

In Prototype, the writer developed the prototypical design of the assessment instruments integrated with ICT competences for Practical key teaching competences for English language study program. The products are ICT competences integrated table of specification, ICT competences-integrated assessment instrument and non-test assessment instrument. The last step is Evaluate, in this phase the writer validated the products of assessment instrument by using expert judgement.

RESULTS AND DISCUSSION

Based on the data presentation and the analysis of the ICT competences in the existing assessment instrument. The researcher found that the existing assessment instrument's components make use of ICT on their components. The ICT competences indicator that can be found on the existing assessment instrument are eight items which are use the search engines in computer devices (UNESCO, 2011; Technology Literacy), Use ICT resources to enhance their productivity (UNESCO, 2011; Technology Literacy), Use presentation software and digital resources to support instruction (UNESCO, 2011; Technology Literacy), Search for potential teaching material on the internet. (EPG; Technology Literacy), download resources from websites (Healey, 2008; Technology Literacy), engage students in exploring real-world issues and solving authentic problems using digital tools and resources (ISTE, 2008; Knowledge Deepening), and demonstrate the integration of the technology in innovative ways (Healey, 2008: Knowledge Deepening). There are six items of ICT competences indicator of Technology Literacy used in the existing assessment instrument's components. There are two Knowledge Deepening used on the existing assessment instrument and there is none of knowledge creation found on the existing assessment instrument.

Based on the finding and discussion above, the researcher concludes that the extent of the existing assessment instrument made use of the ICT competences in extent of technology literacy. Proven by the number of technology literacy used by the components existing assessment instrument.

After finding out the extent of the existing assessment instrument made use of the ICT

competences the researcher proposed steps in integrating ICT competences into assessment instrument. The first thing that was going to do is looking at the nature of each courses to find out the learning objectives, expected learning outcome and skills that integrated in it, as it is stated by (Robert J. Marzano, 2006). After knowing the nature, leaning objective, skills from each course the next step was to prepare the formulation of the specification. Table of specification according to Kibler (1998) is to ensure that the subject matter content and the course objectives are adequately sampled by the test items; it is a need to develop a table of specification that will provide a guide to the item construction which takes into account the relative importance of each component of the syllabus and each level of cognitive domain. The model of table of specification used here is (Taylor, 2014). This design is adopted by considering the practicality of this design in supporting the lectures to create ICT competences integrated assessment instrument for practical key teaching competences course. After knowing the procedures of designing the table of specification and adopting the table design of the specification the next step is to integrate the ICT competences in it. In this table of specification the researcher wanted to integrate the ICT competences based on (UNESCO, 2011a), (European Union, 2011), (Healey, 2008), (Dilek Cakiki, 2006), (ISTE, 2008) and (Tomei, 2005). The integration of the ICT competences descriptors would be chosen inserted into the elements of table of specification. The element of table of specification is based on Carey (1998).

The table of Specification Model

The design of ICT competences integrated of assessment instrument specifications in this study is adopted from (Taylor, 2014) as the inspiration of table design to show the detail of each elements in TOS and the elements of TOS will be inferred from Carey (1998). After the Table design and the elements or components is decided the researcher chose the ICT competence indicator which is going to be integrated on the elements of TOS. This design is adopted by considering the practicality of this design in supporting the lectures to create ICT competences integrated assessment instrument for practical key teaching competences course.

The test specification in this study is an ICT competences integrated assessment instrument for s1 English study program which developed from the EPG and UNESCO in which the ICT competences' indicator are adapted from. The practical key teaching competence as the focus course of S1-English study program (appendix e) comprising three courses; Lesson Planning, Instruction, Management and Monitoring.

Based on the need analysis to answer the sub question 1, the researcher found out that the existing assessment instrument is lacking on the ICT competences of knowledge creation as it is proven that none of the knowledge creation descriptor is reached by the assessment instrument components, based on that finding the researcher wanted to integrate not only technology literacy, knowledge deepening but also the knowledge creation indicator to the specification. The detail of each category can be seen on table below.

Table 1 Integrating ICT-Competences Into Test Components

Components	Integrated ICT Competencies
Learning Objectives	Use ICT to search for, manage, analyze, integrate and evaluate information that can be used to support their professional learning. Use available digital devices to achieve teaching goals
Description of Test Taker	Use ICT tools to organize and retrieve materials and students' data.

Test Level	
Taxonomy	Decide and design relevant materials to test students' achievement in all skills and look for the appropriate ICT that can be used.
Input Sources	Implement ICT to make the process easier Use search engines, online databases, and email to find resources.
Topics	Use available digital devices to achieve teaching goals Download resources from website Engage students in exploring real-world issues and solving authentic problems using digital tools and resources
Time Allocation	
Nature of Content	Design online materials and activities that engage students in collaborative problem-solving, research or creating art. Design or adapt relevant learning experiences that incorporate digital tools and resources to promote student learning and creativity
Test Format	
Instruction	Use word processing software to write a worksheet following standard convention
Test Items	Based on the nature of the course (in the printed or displayed the test must be written and typed using word processing software)
Scoring	Develop and apply knowledge- and performance-based rubrics that allow teachers to assess students' understanding of key subject matter concepts, skills, and processes.
Administration	Use a network and appropriate software to manage, monitor, and assess progress of various student projects

Based on the table of specification the writer decides to design an assessment instrument test with ICT Competences are integrated in it. The design of ICT competences integrated assessment instrument test of practical key teaching competences can be seen on the table below

Table 2 ICT Competences-Integrated Assessment Instrument Test

University Data (Logo and information)	Course : Clasroom Management
	Course Code :
	Assessment Type : Mid-Test
	Test Format : Written/ Computer-Based Test

Test Type	: Essay
Lecturer	: (Lecturer's name)
Credits	: 5 SKS
Semester	: 1
Time Allocation	: 90 minutes

INSTRUCTIONS

Turn on the computer and login your google class & you will find the questions!

Please do all the task below as instructed!

1. Please explain how to develop an effective classroom management plan
2. Please describe the factors that influence the learning of students in schools
3. Please explain proactive behaviour strategies to implement in order to prevent classroom management issues
4. Determine ways to bring the background experiences of the students' lives outside of school into their school experiences.
5. Compare and contrast various discipline/management models, based on current research.
6. Develop management systems for diverse populations and instructional situations (i.e., ADHD, and cooperative learning)

Note

1. Type all the Tasks in computer using Ms. Word & you are welcome to use picture/shapes/diagram to give an illustration.
2. You may find any resources from the internet using the computer or any other devices to find book, journals to provide you the supporting theory (Mind the time allocation)
3. Submit it on Google Class at the end of the time. Your work won't be accepted if you late.
4. Use our own words, don't just copy from the other sources or your friends. (your work will get through plagiarism checker)
5. Your result and feedback will be uploaded on Google class on 1 September, 2019

GOOD LUCK

The assessment instrument above is designed by following the table pf specification which have been designed before. By completing the components of the assessment instrument and integrating the ICT competences into each of its components. The ICT competences which is integrated into the assessment components is chosen based on the nature of each course and also based on the finding of the ICT competences of the existing assessment instrument are lacking. Thus, the ICT competences-Integrated assessment instrument uses ICT competences in 3 level namely: Technology Literacy, Knowledge Deepening and Knowledge Creation. In order to design ICT competences integrated test, the test components were adapted from by (Brown, 2003) and (Russell & Airasian, 2012) which infusing ICT competences by ICT competency framework by UNESCO and digital media

descriptor by EPG.

CONCLUSION

First, based on the findings from the analysis and synthesizes process of the 11 assessment instrument from 7 Universities, it can be concluded that the existing assessment instrument only made use of ICT competences in extent of technology literacy phase in phase 1.1 and 2.1 of EPG due to the use of ICT competences are still as a tool which use hardware such as computer, laptop and printer as well as software such as Windows/Mac and Microsoft Word by using features on them such as page layout, margins, table, font type and size, numbering, space and grammar checker. The ICT competences indicators that mostly used on the existing assessment instruments is using word processing software to write a worksheet, following standard conventions (EPG; Technology Literacy). The second is using ICT resources to enhance their productivity. (UNESCO, 2011; Technology Literacy) and the last is download resources from websites (Healey, 2008; Technology Literacy)

Second, in creating an ideal table of specification it is a must to consider the nature of the course, course objectives and skill to be covered which can be obtained from the existing syllabus and theory from scholar. After that the elements of the table of specification should be decided based on the underlying theory. The components of table of specification is adapted from (Taylor, 2014), (Brown, 2003) and (Russell & Airasian, 2012) which consist of learning objectives, description of test taker, test level, taxonomy, input sources, topics, time allocation, nature of content, test format, instruction, test items, scoring, and administration and finally the ICT competences indicators are integrated within each components of the table of specification.

Third, based on the analysis that shows the extent of the existing assessment instrument made use of ICT competences and procedure of designing table of specification, the ICT competences-integrated table of specifications were designed by using the components of table of specification described by scholars (Taylor, 2014), and (Brown, 2003). ICT competences infused in components of table of specification were on learning objective, input sources, topics, nature of content, and administration.

Fourth, based on the table of specification the ICT competences-integrated assessment instrument test is designed to fulfil the gap found on the analysing phase. The ICT competences-Integrated assessment instrument use ICT competences in 3 level namely: Technology Literacy, Knowledge Deepening and Knowledge Creation. In order to design ICT competences integrated test, the test components were adapted from by (Brown, 2003) and (Russell & Airasian, 2012) which infusing ICT competences by ICT competency framework by UNESCO and digital media descriptor by EPG.

Fifth, based on the table of specification the ICT competences-integrated assessment instrument non-test is designed to fulfil the gap found on the analysing phase. In designing ICT competences integrated non-test was also adapted by components of test described by (Taylor, 2014), and (Brown, 2003). which infusing ICT competences by ICT competency framework by UNESCO and digital media descriptor by EPG. The ICT competences-Integrated assessment instrument use ICT competences in 3 level namely: Technology Literacy, Knowledge Deepening and Knowledge Creation.

REFERENCES

Anderson, L. W. (2003). Classroom Assessment; Enhancing the Quality of Teacher Decision Making.

Assar, S. (2015). Information and Communications Technology in Education. International Encyclopedia of the Social & Behavioral Sciences: Second Edition, 66–71.

https://doi.org/10.1016/B978-0-08-097086-8.92104-4

Bank, D., and Covacevich, C. (2014). instrument for assessing How to select an instrument for assessing student learning, (December).

Boye, A. (2010). How do I create an effective syllabus?, (Tapp), 1–8.

Brown, D. (2003). Language assessment piciples and classroom paractice.

Carless, D., and Lam, R. (2014). Designing Assessment for Quality Learning, 1, 167–179. https://doi.org/10.1007/978-94-007-5902-2

Celebic, G., and Rendulic, D. I. (2011). Basic Concepts of Information and Communication Technology Handbook. ITdesk.info – project of computer e-education with open access.

Chu, S. K. W., Reynolds, R. B., Tavares, N. J., Notari, M., and Lee, C. W. Y. (2016). 21st century skills development through inquiry-based learning: From theory to practice. 21st Century Skills Development Through Inquiry-Based Learning: From Theory to Practice, (January), 1–204. https://doi.org/10.1007/978-981-10-2481-8

Department for Education and Skills (DES). (2004). Pedagogy and Practice: Teaching and Learning in Secondary Schools Leadership guide Senior leaders, subject leaders and teachers in secondary schools. Retrieved from www.standards.dfes.gov.uk

Efendi, A. S. (2016). Designing the common european framework of reference (cefr) for languages based english listening test specifications for s1 english study program.

Fitriyani, D. (2018). Developing European Profiling Grid (Epg)-Based Assessment Specifications Of Assessment Competences For Undergraduate English Education Study Program.

Margareta, Y. (2016). Designing Common European Framework of Reference (Cefr) for Languages-Based English Speaking Skill Syllabi for S-1 English Study Program Thesis Faculty of Language and Art Master Program of English Language Education.

McKay, P. (2006). Assessing Young Language Learners. Assessing Writing. https://doi.org/10.1017/CBO9780511733093

Putu, N., Devi, P., Istri, A. A., Marhaeni, N., Luh, D., and Artini, P. (2014). Developing Self-Assessment for Writing Competency of Grade 8 Junior High School Students in Denpasar, 2.

Rahmawati, Y. (2014). Developing Assessment For Speaking Yenny Rahmawati & Ertin.

Reilly, L. O. (2007). Assessment & Instructional Alignment Online Tutorial, 1–38.

Richards, J. C. (2015). Technology in language teaching today. Indonesian Journal of English Language Teaching, 10(1), 18–32.

Rizki, E. N. (2016). Designing Common European Framework of Reference (Cefr) for Languages-Based English Speaking Skill Syllabi for S-1 English Study Program Thesis Faculty of Language and Art Master Program of English Language Education.

Robert J. Marzano. (2006). Classroom Assessment & Grading that Work. Virginia USA: Association for Supervision and Curriculum Development. Retrieved from www.ascd.org

Russel, M. K., and Airasian, P. W. (2012). Classroom Assessment concepts and applications.

University of Cambridge. (2015). Syllabus and Assessment Guidelines 2015. Retrieved from https://www.cambridgeenglish.org/Images/21797-icelt-syllabus.pdf