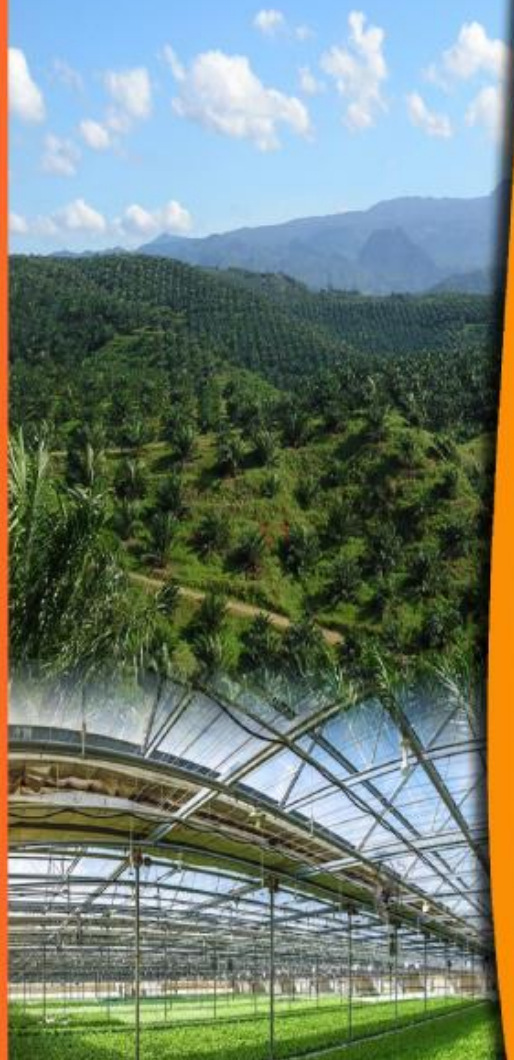

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Constructing the Measurement of EFL Students' Core Competencies Practices in Learning Activities

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Abstract - **This article aims to describe the process and the result of a measurement development for English students' core competencies practices in learning process. Self-evaluation questionnaire was developed to measure the students' core competencies practices in their learning process. Sixth steps were applied in the instrument constructions; they were literature studies; defining constructs and sub-constructs; constructing indicators; assessing and judging indicators; defining face validity, confirming content validity, consistency testing; and confirming constructs validity. The result came out with three main constructs; soft skills, hard skills and academic character. Soft skills classified into six sub-constructs with 49 indicators. Hard skill was classified into 11 indicators with no classification into sub-construct. While academic character classified into seven sub-constructs with 48 indicators.**

Keywords: ***core competencies, soft skills, hard skills, academic character, Indonesian Conceptual Framework-KKNI.***

I. INTRODUCTION

Much research on development of core competencies, generic skills, life skills or interpersonal skills at university had been discussed broadly and hugely published since 1990.Most of the research was conducted in field settings where the most commonly used method of data collection is the survey questionnaire. Unfortunately, the measurement developed and used often has lacked reliability and Validity which has led to difficulties in interpreting research results This is because of the procedure and the process of the measurement development was unexplained and unjustifiable(Esposito, 2002).

In relation to this study, Indonesian Qualification Framework (KKNI) emphasized on Core Competencies Outcomes of graduate. To implement the KKNI, Indonesian Higher Education Curriculum suggested core competencies development must be embedded in the teaching and learning process in undergraduate program. Every program needs to design and formulate how to embed core competencies development in the teaching and learning process as well as the instrument for evaluating the development of core competencies itself (Tim Kurikulum dan Pembelajaran Direktorat Pembelajaran dan Kemahasiswaan, 2014).

Thought the KKNI had been established since 2013, however the implementation of core competencies development in teaching and learning process at English Department of University of Jambi is not practice yet in real action. This caused by there is no to guidance and instrumentation of core competencies practices. In relation to the issue, the researcher initiated to conduct a research to produce a model of core competencies development in the teaching and learning process at English Department of University of Jambi. The first phase of the research is instrumentation development and need analysis on core competencies development model. This paper reports the process and outcomes of the first phase of the development.

II. THE OBJECTIVE

This paper aims to define, describe and discuss the process and outcomes of instrument development for core competencies practices in teaching and learning process at English Department at University of Jambi. This paper also aims to report and discuss the content main construct, sub construct and indicator developed. And validity and reliable of the instruments are also discussed.

III. DEFINING CORE COMPETENCIES AND IT'S INSTRUMENTATION

In this study, by refereeing to some previous resources such as Hadiyanto & Suratno, 2015, Bialik, et., al. (2015), Hassan., et. al. (2013), Hadiyanto & Mohammed Sani (2013), Hadiyanto.(2011), Hadiyanto, (2010), Person, Ann ., et. al. (2009) and Zalizan., et. al (2006) core competencies reconceptualise and redefine as skills developed during teaching and learning process at university in order to provide students with three major competencies; Soft Skills, Hard Skills and Character. Soft skills include communication skills, IT Skills, numeracy skills, learning how to learn skills, problem solving skills, working with others and subjects core

competencies. Hard skills related to major knowledge skills; in these study hard skills is the ability of students use their four major English skills and specific skills of each major skill in real practices. Academic character is defined as the practical values which are automatically embed in the students learning activities to support their soft and hard skills performance.
In relation to Preparing the classroom for core competencies development certainly requires proper planning and preparation. Giving a full lecture or demonstrating the core competencies practices; soft skills, hard skills and academic character are not proven methods of developing the skills among the students. The literature stresses the importance of both theory and practice as necessary elements in the process of learning (and the development of core competencies through real practice, yet many writers assert that students have difficulty in transferring theoretical concepts acquired in the classroom to practical applications in the workplace in areas as varied as aviation, all disciplines knowledge. For answering the issues some expert suggested that important opportunities for the development of core competencies must occur in the selection of delivery methods. Teaching contexts can provide an explicit focus on the development of core competencies, thus providing students with opportunities to develop them. The students' core competencies will be highly promoted if the large opportunity given to the students to practice these attributes within learning activities and otherwise (Hadiyanto & Suratno, 2015, Hassan., et. al. 2013, Hadiyanto, 2010).

Students learn most effectively when they have the opportunity to interact with other students. Interaction among students typically leads to group problem solving. When students are unable to meet together, appropriate interactive technology for learning such as E-mail, E-learning, Online learning, Online course some current ICT application, should be provided to encourage their it skills as well encourage their small group and individual communication. Assignments in which students work together and then report back or present to the class as a whole, encourage student-to-student interaction. Ensure clear directions and realistic goals for group assignments. Distant students need to reflect on what they are learning. They need to examine the existing knowledge frameworks in their heads and how these are being added to or changed by incoming information (Hadiyanto, 2010).

In short there are many ways of achieving the goals and learning outcomes or program objectives that have been set by each institution. Nevertheless the approaches used in designing the curriculum and the selection of the teaching-learning activities must be based on sound learning principles. Students learning activities should be designed with a view of encouraging students to actively participate in their process of learning. Priority is placed on lecturer setting goals and objectives for the students' engagement and activities related to the promotion of core competencies (Hadiyanto, 2013; Washer 2007; .Zalizan Mohammad Jelas & NorzainiAzman 2005)

Measurement of core competencies practices in the process of learning was discussed in literature study at previous stage. Some theories were retrieved and characterized into practical statements of core competencies. In daily teaching, hard Skills are typically easy to observe, quantify and measure. The evaluation formally designs for this type of skills for every subject. However the hard skills in term practices in real contact were rarely measured by educator. Soft skills are typically hard to observe, quantify and measure by a test. Self-evaluation questionnaire model were be developed to measure students' experience, learning activities, learning strategies and how they cope with E-learning, online learning and ICT based learning. Academic Character qualities are defined as distinct from soft skills, which represent the ability to fell, knows, express and practice of humanism values in learning activities context. In this study, academic character encompasses into seven characters, honesty, appreciating, tolerance, discipline, patient, confidence and responsible (Bialik, et., al 2015; British Council, 2015;Tim Kurikulum dan Pembelajaran Direktorat Pembelajaran dan Kemahasiswaan, 2014; Wilson., et. al. 2014; Lowden, et. al. 2011; Hadiyanto, 2010; Hadiyanto, 2011; Hadiyanto, 2013; Zalizan 2006; and Vezzuto, 2004)

IV. METHOD

The development used qualitative and quantified method in deferent steps and analysis. The measurement was design with model of self-evaluation. The first step was analysis of HE curriculum and literature studies including previous existing instrument; the second step was defining constructs and sub-constructs to be developed; the third step was indicator development, and assessment and judgment of researchers to see the appropriateness of each item under the belonging construct, the fourth step was holding a seminar among lecturers to analyze face validity, confirm content validity as well as check technical errors in the instrument; the fifth steps confirmatory factor analysis and the last step was consistency analysis.

V. THE OUTCOME OF INSTRUMENT DEVELOPMENT

The outcomes of Indonesian HE curriculum guidelines and literature studies as **the first step** of instrumentation development come out with three mains construct of core competencies: Soft Skills, Hard Skills and Academic Character**. The second step** was defining sub-constructs. The result categorized soft skills into communication, IT Skills, Numeracy, Learning how to learn, Problem Solving Skills, Working with others. Hard Skill was not divided. Based most of hard skills practices had been embedded into hard skills, and based on KKNI itself hard skills only 20% of total skills

needed, and it's already measure by CGPA. In this case hard skills cover the general content subject practices.

The third step was indicator development, assessment and judgment of researchers to see the appropriateness of each item under the belonging construct. The result coming with numbers of indicators toward each sub-construct (scale). Core competencies in term of soft skills coming with 49 indicators and categorized into six sub-constructs of indicators. Core competencies in term of Hard skills coming with 10 indicators, while Academic Character was coming with seventh sub constructs with 49 indicators. **The fourth step** was holding a seminar attended by some lecturers and master degree students to analyze face validity, confirm content validity as well as check grammatical errors of the instrument of core competencies practices as a whole. Some indicators had been revised by considering participants' suggestion, and as the result all indicators toward each sub-construct can be understood and agreed by the seminar participants. The number of indicator had been revised based on sub-construct were one indicator of communication skills, four indicators of numeracy, three indicators of problem solving skills, and one indicator of working in team. While there was no indicator of hard skills revised. In term of academic character, two indicators of honesty, three indicators of patient, three indicators of confidence and three indicators responsible were revised.

The fifth step was trying out the questionnaires and consistency testing with 50 respondents. Pallant (2011) and Hair, et. al ( ) suggested that Cronbach alpha coefficient .60 for a construct consists of 10 items and below, while coefficient .70 is recommended for a construct that consists of more than 10 items. And Corrected item-total correlation at 0.30 is acceptable. The result of consistency analysis is presented in Table 2.

The result of consistency analysis found that 10 indicators of Core Competencies yielded low consistency or did not obtained recommended corrected item total correlation value at .300 (Julie Pallant, 2012, Hair, et. al 2011). The ten unreliable indicators distributed into sub-constructs as follow: two indicators of communication skills, two indicators of numeracy skills, two indicators of working with others, two indicators of hard skills, three indicators of academic characters in term of honesty. The indicators were not deleted but they were revised in term of content and phrases. Then the content and statement of indicators had been revised and redistributed for sample size 150 and above. Sample size at 150 and bigger is good to run factor analysis in order to confirm construct validity (Julie Pallant, 2012, Hair, et. al 2011).

The sixth steps confirmatory factor analysis was conducted with sample size 186 and above. The criterion for the construct validity was considered as acceptable if the items in each construct yielded loading factor at least 0.40 or higher, in others way to say the statement used in the construct is measured what supposed to measure (Hair at al. 2011 & Pallant 20011). The factor loading was investigated thought *Component Matrix* and *Rotated Component Matrix*. The result of factor analysis is presented in Table 2 and 3.

Table 3 confirms that all of the items were related strongly with its construct. All statements now are valid to measure its construct. The statements in communication skills yielded factor loading in the range .452 to .647, information technology in the range .477 to .740, numeracy in the range .462 to .764, learning how to learn in the range .478 to .709, and problem solving between .634 to .770 and working with others between .539 to .719. Hard skills yielded factor loading .599 to .722. The factor loading of each variable (items) confirm that the statements of the construct explain and measure what supposed to do.

Construct validity of Academic Character in term of loading factor as shown in Table 4 confirms that all of the items were related strongly toward its construct. On other hand, the statements used to measure academic character are valid to measure its construct. The loading factors yielded are from .469 to .647 for honesty, .542 to .746 for appreciation, .675 to .784 for discipline, .503 to .775 for patient,.639 to .795 for confidence and .577 to .722 for responsibility.

It is concluded that the process of the instrument development had produced valid and reliable measurement of the students' practices of core competencies during their study at English department at Universitas Jambi. Table 4 shows the final result of main content of statements toward its construct in core competencies development.

VI. DISCUSSION

A set of questionnaire was developed to acquire information of the practices of core competencies through the students' engagement and activities. Questionnaire academically is able to measure the students' core competencies practices in teaching and learning process. The instrument core competencies consist of three main scales soft skills and, hard skills and academic character. Soft skills and academic character was developed in multiple measures each of which consists of multiple items, while hard skills were developed on a single scale which consists of multiple items. The instrument was design in questionnaire form with 5 like rt scale alternative answers. The number 1 to 5 was used to describe respondent core competencies practices. We should note that there are many different types of measures, but the vast majority of scales used by behavioral scientists in survey questionnaires are Likert scales that utilize an interval level of measurement.

It might be there is some similar instrument in measuring soft skills, generics skills, interpersonal professional skills, and character however it is not found yet the instrumentations developed in measuring core competencies practices in the

process of teaching in learning. While many researchers may not be interested in measurement development per se, they just looking at and use an existing Instrument without knowing how the instrumentation developed as the result they often used inadequate, inappropriate or unreliable and could not measure what expected to measure. Some available questionnaire developed aims to measure graduates' soft skills, generic skills or interpersonal skills performance at work place, however this instrument developed to investigate the development of core competencies applied in the classroom setting, embedded between soft skills, hard skills and academic character.

The instrument development are following research ethic, logic, scientific and using both qualitative and quantitative data, in term of theory and practice. The procedure and steps applied in the development processed are very clear, academically responsibility and normally used and accepted and commonly understood by social scientist. In addition, it is true that this instrument developed to measure core competencies practices teaching and learning process for EFL students at English Department of Jambi University, however it is academically adaptable and usable for any field of courses in term of investigating core competencies practices in teaching and learning activities.

VII. CONCLUSION

This article presented the process measurement of core competencies practices in teaching and learning activities at English Department of Jambi University. Four out of five steps had been done; they are; analysis of HE curriculum and literature studies including previous existing instrument; defining constructs and sub-constructs; indicators development, and assessment and judgment of researchers and holding a seminar among lecturers. While the fifth step is confirmatory factor analysis, and ideally conducted on sample size at least 150. However, it assumed that there will be no changes made for the main construct and also sub-construct, however the changes might be made for indicators based on the analysis result later. The result the fourth steps come out with core competencies soft skills, hard skills and academic character. Soft skills is coming with 49 indicators and categorized into six sub-constructs; hard skills coming with 10 indicators, while Academic Character was coming with seventh sub-constructs with 49 indicators.

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