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by Reno Renaldi

Syntax Validation Based On Work-Based Learning Model According To Respondents' Assessment

Hastuti Marlina, Reno Renaldi, Ambiyar, Nizwardi Jalinus, Fahmi Rizal

Abstract: This study aims to assess the validation of the syntax construct of the work-based learning model that was developed based on a modification of the basic work-based learning syntax by Hobbs and Siswanto. The research methodology uses 4D development procedures (Define, Design, Develop and Disseminate). This validation test phase is the Develop stage. Respondents numbered 25 people. Data collection using a questionnaire with a semantic differential scale. Syntactic construct validation analysis uses Aikens'V and SMART PLS to determine the uniqueness of a model. The results of the analysis revealed that the syntax construct was designed by Valid and had a unique model. The results of this study are used for the next stage of development, namely Desseminte. Where a valid Syntax model will be tested to measure the knowledge and abilities of midwifery study program students in midwifery care learning II.

Index Terms: Syntax, Validation, Work-Based Learning

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1. INTRODUCTION

IUndustrial revolution 4.0 brought changes to almost all aspects of human life, especially in the field of education. It is a new challenge for the world of education to prepare graduates who are competent and able to compete in the world of work, especially in vocational education. Vocational education is an educational institution that prepares skilled workers and should be able to adapt to various changes that occur in an increasingly competitive workforce. The high demands of the world of work on vocational education institutions will certainly be the basis for preparing competent human resources in the future [1] [2]. Competence that is in line with the desires of the world of work, of course, requires tangible efforts from various vocational education institutions. How policyholders in the vocational education sector revitalize education and literacy also depend on the quality of learning itself. Therefore, one concrete effort that can be done is to develop a learning model that can be used as a guide in creating and managing effective, innovative and adaptive learning to produce graduates by the needs of the workforce [3] [4]. The needs of the world of work for graduates of educational institutions certainly cannot be guessed at. Therefore it is necessary to have a direct approach between the organizers of vocational education learning with the world of work. Vocational learning needs to be designed to provide direct experience to students in the real world as widely as possible. In the sense of presenting the real world in class and vice versa, class also needs to be brought to the real world. The learning model that fits the design is Work-Based Learning [5] [3]. Work-Based Learning is learning that utilizes the world of work to hone and build experiences gained from the workplace both socially, academically and career development plans [6]. The main purpose of Work-Based Learning is to expose students to the world of work to gain experience and skills gained by learning while working in the

world of work by the scientific field [7] [8]. The scope of vocational education is very broad and almost all of them are developing rapidly by globalization and technological development. For example, vocational education in the field of mechanical engineering is currently in the process of finding and assembling intelligent robots that are designed in such a way as to replace human functions. Even now there are several hotels abroad that have used intelligent robots as hotel maids who can work like humans like delivering food to hotel rooms and cleaning hotel rooms. Of course, now it is increasingly difficult to hinder the progress of technological development [9] [10]. Midwife is someone who has attended a midwifery education program that is recognized by his country, has graduated from that education, and has fulfilled the qualifications to be registered (registered) and or has a valid license (license) to conduct midwifery practice [11]. Midwifery practice is the application of obstetric management to individuals, families, groups and the community in providing midwifery care [12].

Midwifery care is an activity by midwives to clients who have obstetric needs or problems which include pregnancy, cameraderie, postpartum, infants, family planning, reproductive health, and public health services. In carrying out midwifery care, of course, a midwife must have expertise by competency standards and by the needs of the workforce, especially those who will later work in health facilities such as General Hospitals, Mother and Child Hospitals, community health centers, and Maternity Hospitals [13]. A midwife is said to have become a complete midwife if she has been able to provide birth assistance independently. Competence regarding childbirth is obtained by midwives when taking midwifery education in midwifery care subject II. Of course, the world of work also wants midwife education graduates who will work in health institute must have the skills and skills in helping with childbirth. Therefore, through the development of the Work-Based Learning model in midwifery education, it can improve the skills of midwife graduates who are relevant to the work industry and have aspects of task skills in either category. This whole description becomes the rational development of the Work-Based Learning model in learning Midwifery Care II in Midwifery Diploma III Education. Although there have been many studies and the application of Work-Based Learning with good results abroad, it is not certain that they can be adopted

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and applied directly in Indonesia, because the characteristics of business actors in the world of work in Indonesia are very different from those of overseas business. Besides, the characteristics of students in Indonesia are also very different from the characteristics abroad, especially if viewed in terms of curriculum used abroad, so it is necessary to develop a Work-Based Learning learning model that is suitable and compatible with the characteristics in Indonesia so the steps can be implemented. Therefore, the purpose of this study is to validate the syntax of work-based learning models that have been developed for midwifery study programs.

2 REVIEW OF LITERATURE

2.1 Work Based Learning
Work-Based Learning is a learning approach that includes work experience. The learning process is done by presenting the world of work in the learning process to gain experience and apply skills by what is needed in the work environment [6]. The basic development of the syntax of this model is modified from the two basic work-based learning syntax models that have been studied before. The first basic development is the Work-Based Learning syntax of Georgia which is quoted in the book by Hobss (2018) as follows: a) Identify and utilize resources and services for finding problems. b) Observation and Great Promise Partnership / GPP. c) Processing permits in the department by the field of work to be carried out. d) Complete pre-employment documents and employment screening assessment (drug testing, physical, for Occupational Safety and Health Administration / OSHA) to field implementation programs. E) Evaluation about Employability Skill Development / ESD [14]. The second basis of development is taken from the syntax of the Integrated Rolling WBL (RoTer) which is the result of research by Siswanto (2012) in the automotive field, namely planning which includes a whole series of activities before the implementation of the WBL Roter, Implementation, Supervision and monitoring, Supervision. Evaluation [15] [16]. Modification as a novelty of this research is the creation of a new syntax for work-based learning models in midwifery study programs based on needs analysis such as problem analysis, student analysis, concept analysis, task analysis, formulation of learning objectives. The process has been carried out at the Define stage which is the first step in developing a model with a 4D design by Thiagarajan (1974). Furthermore, the Design stage has compiled the learning objectives and analysis of students in the form of a test grid identifies the learning media that are relevant to the characteristics of midwifery material and forms the initial design of the syntax.

METHOD
This type of research is research & development (R&D). The Development Procedure used in this study to better suit education and learning products "is 4D (Define, Design, Develop, Disseminate). This research has proceeded to the development stage, namely the stage to produce product development which is carried out through two steps, namely: (1) expert appraisal followed by revision, (2) developmental testing. the model validation is based on respondents' assessment, namely 10 midwifery lecturers, 10 midwifery students, and 5 graduate users. Research was conducted by distributing questionnaires containing questions about the syntax of work-based learning that has been used during one semester of learning in midwifery II subjects namely about childbirth care The questionnaire uses semantic differentials that are analyzed using Aiken's V and SMART PLS to assess whether the syntax at each step of the model has a unique model.

4 RESULT AND DISCUSSION
This research produces a novelty in the form of a new syntax of work-based learning model which consists of four core steps, namely 1) Initiation, namely preparation before taking midwifery measures, 2) Necessity of Information, namely gathering information before performing midwifery actions to patients. 3) Action is the process of conducting midwifery learning in the laboratory and the field of midwifery practice, 4) Assessment which assesses learning according to the assessment that has been prepared. Syntactic validity test is conducted on respondents who use the learning model, namely midwifery lecturers, midwifery students and users of graduates. The results of the analysis using Aiken's V by 25 validators of 11 sub-syntax can be seen in table 1. Based on Table 1 it is known that the final result of the validation of the new model syntactic construct Aikens' V value is above 0.80 which means that the construct model syntactically is valid. To assess whether the model developed has a unique mode value, the discriminant validity analysis is performed using the SMART PLS with the output in Table 2. Based on table 2 it is known that the value of the root of the Average Variance Extracted (AVE) is greater than 0.50 which means that the syntax of the new work-based learning model that is produced is unique. If described the output of the SMART PLS syntax can be seen in Fig 1.

TABLE 1
VALIDATION RESULT OF NEW SYNTAX CONSTRUCTIONS BY RESPONDENTS

Syntax	Sub Syntax	Aikens'V	Ket
Syntax 1	Syntax 1.a	0.85	valid
	Syntax 1.b	0.95	valid
	Syntax 1.c	0.85	valid
Syntax 2	Syntax 2.a	0.90	valid
	Syntax 2.b	0.80	valid
	Syntax 2.c	0.95	valid
Syntax 3	Syntax 3.a	0.85	valid
	Syntax 3.b	0.85	valid
	Syntax 3.c	0.82	valid
Syntax 4	Syntax 4.a	0.80	valid
	Syntax 4.b	0.80	valid

TABLE 2
DISCRIMINANT VALIDITY FORNELL-LACKER CRITERION

	Syntax 1	Syntax 2	Syntax 3	Syntax 4
Syntax 1	0.849			
Syntax 2	0.439	0.907		
Syntax 3	0.492	0.468	0.881	

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Syntax 4   0.536   0.628   0.485   0.935

Noted: diagonal value are square root of AVE, off-diagonal are correlations cooeffiecientsBased on Fig.1, the outer loading value > 0.50 means that the direct relationship between Syntax and sub-syntax on the model meets the validation of a model. The results of this study will then be compared with the results of validation by experts at the next stage of development and then a trial is carried out by applying a valid model later in the midwifery learning process to assess its impact on increasing the knowledge and task skills of midwifery students in helping normal deliveries independently.

5 CONLUSION

The results of this study note that the Syntax work-based learning model developed in a construct based on the analysis of respondents is declared valid and has a distinctive or unique model. This development research is still at the Develop stage at the stage of developing the 4D model. the research process is still ongoing to determine expert validation and the final syntax will later be tested on students in pregnancy care learning to assess the effectiveness and practicality of the resulting model seen from the output of knowledge and the ability to help deliver labor to students.
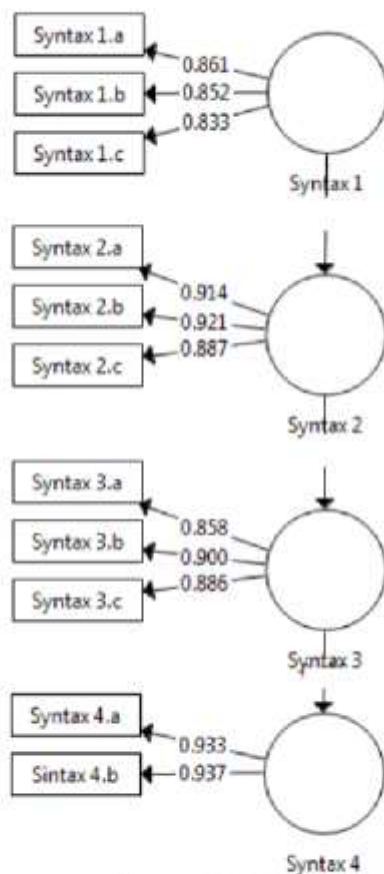

Fig 1. Initial PLS

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