INDICATOR DEVELOPMENT OF LEARNING MODEL EVALUATION INSTRUMENT

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Abstract—Professional educators are required to develop a learning model that was based on a constructivist understanding. This study aimed to obtain the indicators needed to measure a learning model developed by educators in all types and levels of education. Indicator is intended to evaluate the components of a learning model.
The method used in this research is quantitative descriptive. Data was collected by the Focus Group Discussion (FGD) with three steps; a preliminary investigation, design, and realization / construction. It was involving six experts and four practitioners. Validation of the construct is in the form of expert judgment. The opinions of experts and practitioners were analyzed descriptively, while the reliability of the instrument was analyzed by Cronbach's Alpha.
The results showed that there were 7 indicators of learning model developed from five aspects; rational theoretical (2 indicators and 11-item criteria), syntax (1 indicator and three item criteria), the principle of interaction (1 indicator and 7 item criteria), social systems (1 indicator and three item criteria) and the impact of learning (2 indicators and criteria item 7). The measurement results were using 3-scale models of learning; 1 (= if the indicator is less good / less logical), 2 (= if the indicator is good enough / illogical) and 3 (= if the indicator is good / logical). Assessment categories were grouped into three; No Good (TB), Good (B) and Very Good (SB). Reliability value questionnaires are rational theoretical aspects of 0.89, the syntax of 0.81, 0.93 interaction principle, the social system and the impact of learning 0.86 0.84. Based on reliability testing all aspects of the value of Cronbach's Alpha of 0.94, thus all items contained in the questionnaire are reliable and all indicators internally consistent because they have a strong reliability.

Key words: *five aspects, learning model, seven indicators*

I. Introduction

Professional teachers in all types and levels of education are required to have professional competence, pedagogical, social and personality. One of the accomplishment in the learning process, teachers are required to provide education in an interactive, inspiring, fun, challenging, motivating the students to actively participate and provide enough space for innovation, creativity, and independence in accordance with their talents, interests, and physical development as well as psychological learners

Moreover, in the process of learning, educators should prioritize the planting of the character values in addition to the transfer of knowledge

and skills. Therefore, educators must design the advanced needs of the students, as the outlined in lesson planning. Instructional design promotes character education and encourages students to think high to achieve learning goals effectively and efficiently, if the design is embodied in the learning model. Educators can design their own model of learning and use learning model that has been designed by experts or other practitioners.

According to Arends (2008) learning model has four characteristics; (1) rational theoretical, has a foundation to think how the nature of learners can study well, (2) learning objectives, namely what is the purpose of students learning, (3) the syntax, that is how sequence patterns of behavior of learners with educators, and (4) how to support the learning environment. Meanwhile, according to Bruce Joyce and Weil (2009), learning model is as a conceptual framework that describes a systematic procedure for organizing the learning experience of students.

In detail, Bruce Joyce and Weil (2009), explains the components of learning models, namely: (1) rational theoretical, as a basis to think how the nature of learners can study well, (2) syntax, how the sequence pattern of behavior of learners with educators, (3) the principle of interaction, how educators positioned themselves against educators and learning resources, (4) social system, how do you view among components within a social community, (5) support system, how a supportive learning environment, and (6) the impact learning, namely how the results and impact of the expected good learning instructional impact (instructional effect) and the impact of Bridesmaids (nurturant effect).

Since it is lack of an evaluation tool that can be used by teachers to measure the design of learning model by themselves or other experts, it needs to develop the indicators of evaluation instrument. So the evaluation instrument to measure a learning model is available.

The problem of this study is how the development of the indicator of learning model can provide information about a model of learning. The objective of the study is to get the instruments indicators on learning model. The advantage of the study is teachers can use a set of indicators to evaluate a learning model which is designed by themselves or other experts.

II. The Methods of Study

This type of study is development research. The steps are preliminary investigation, design, realization/construction, test, evaluation and revision, and implementation (Plomp, 1977). The steps are adjusted with the development of a learning model evaluating indicators, it is only up to the stage three.

The first stage is introduction; preliminary study activity and collection of information are taken due to the learning model that is often used by teachers. It is intended to seek information about the weaknesses and strengths of the learning model. It is also to examine theories of learning models, as well as the assessment of the relevancies of previous studies. Second step is the design phase; the development of components and aspects of learning and the planning model evaluation base on the grid instruments of data collection. The third step is realization/construction phase; the construction is validated by expert in order to know whether the indicators of learning model evaluation instruments appropriate to the theory/construction.

This activity is done by 6 experts in Focus Group Discussion (FGD) to analyze if the indicator was suitable to the construction. In this step, Review of practitioners is performed by 4 senior teachers. After FGD and review were done, the indicators were revised to repair and to take other inputs Cronbach's Alpha.

III. The Result and the Discussion of Study

Based on the result of FGD of experts and practitioners, it is released the indicators of learning model evaluation instruments to be used to measure a learning model. The result of the study is available on Table 1.

Table 1. The Result of Indicator Development of Learning Model Instrument.

No.	Aspect	Indicator	Criteria
A.	Rational Theoretical	There are theories relate to the character of subjects	The dimension clarity of cognitive process to be achieved
			The dimension clarity of knowledge to be achieved
			The clarity of competency level to be achieved
			The clarity of affective domain level to be achieved
			The clarity of affective domain type to be achieved
			The clarity of psychomotor domain level to be achieved
		There are theories relate to the character of students	The clarity of learners' early competency
			The clarity of learners' learning motivation
			The clarity of learners' interest
			The clarity of learners' socioeconomic background
			The clarity of learners' multiple intelligence
B.	Syntax	The sequence of learning steps that must be done by teachers when going to use certain learning model	The clarity of the sequence of learning steps that must be done by teachers
			The clarity of the approaches, strategies, methods, techniques and tactics that available in a model
			The clarity of both hierarchical sequence of steps or procedures
C.	Principle of Interaction	The patterns of interaction both learners and teachers in the learning and assessment	There is educational interaction between learners and educators
			Educational interaction between learners and learners
			Variation of interaction between learners and educators
			Variation of interaction between learners and learners
			The interaction between students and other learning resources, which are designed and utilized
			The frequency or more or less the turn of the action between teachers and learners
			The frequency or more or less the turn of the

No.	Aspect	Indicator	Criteria
			action between learners and learners
D.	Social System	The design of collaboration between learners and teachers in learning	Learners' participation in individual learning
			Learners' participation in group learning
			Teachers' participation in learning
E.	Instructional Effect	The effect of direct learning (Instructional Effect)	The increasing of learning achievement of cognitive process dimension
			The increasing of learning achievement of psychomotor dimension
		The effect of indirect learning/supporting (Nurturing Effect)	The increasing of soft skill of value affective dimension
			The increasing of soft skill of motivation affective dimension
			The increasing of soft skill of value affective manner
			The increasing of soft skill of value affective emotion
			The increasing of soft skill of value affective interest

Based on the analysis of experts and practitioners, to evaluate a learning model there are five aspects and 7 measurement indicators, and developed criteria as a measure of each indicator. Table 2 shows the number of indicators and criteria from each aspects.

Table 2. The Number of Indicators and Criteria of Learning Model

No.	Aspects	Amount of Indicators	Total of Criterion
1.	Rational Theoretical	2	11
2.	Syntax	1	3
3.	The Principle of Interaction	1	7
4.	Social System	1	3
5.	Instructional Effect	2	7
Total		7	31

The result of learning model measurement uses 3 scales; 1 (=if the indicator is not good/illogical), 2 (=if the indicator is enough/illogical), and 3 (=if the indicator is good/logic). Assessment categories are grouped into three, they are No Good (TB), Good (B) and Very Good (SB). The way of

calculating the category follows the opinion of Arikunto (2009), as showed on Table 3.

Table 3. Assessment Categories

No.	Reference	Category
1.	≥ ($\bar{x}$ + 1. SD)	Very Good (SB)
2.	($\bar{x}$ – 1. SD) ≤ ∑ < ($\bar{x}$ + 1. SD)	Good (B)
3.	< ($\bar{x}$ – 1. SD)	Not Good (TB)

Table 4 shows that the value of reliability questionnaires rational theoretical aspects of 0.89, the syntax of 0.81, 0.93 interaction principle, the social system and the impact of learning 0.86 0.84. Based on reliability testing all aspects of the value of Cronbach's Alpha of 0.94, with demikisn all items contained in the questionnaire is reliable and all indicators internally consistent because it has strong reliability, (Maier, U., Wolf, N., & Randler, C. , 2016; Bonett, DG, & Wright, TA, 2015; Sebastian Rainsch, 2004).

Table 4. The reliability Indicator Score of Learning model

No.	Aspek	Nilai Cronbach's Alpha
1.	Rational Theoretical	0,89
2.	Syntax	0,81
3.	The Principle of Interaction	0,93
4.	Social System	0,86
5.	Instructional Effect	0,84
6.	All aspects	0,94

Conclusion

The conclusion of this study is the indicator development of learning model instruments through expert judgment, FGD, and practitioners' review can

be used to measure a learning model. Since indicator is based on the clear construction, so it is possible to expose a learning model.

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