An Evaluation of the Implementation of Practice Teaching Program for Prospective Teachers at Ganesha University of Education Based on *CIPP-Forward Chaining*

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***Abstract*—The recognition of teacher status is very high and this is followed by a requirement of a high competence level that a teacher has to have that the existence of teachers has to gain a serious attention, including also the beginning of prospective teachers preparation. Ganesha University of Education (Undiksha) as one of public universities in Indonesia is given authority by the government to train prospective teachers. To produce quality prospective teachers that meet the requirement Undiksha requires all education students who will become prospective teachers to take Practice Teaching Program (PPL Real). However, in its implementation it can be said that it has not been effective yet. Thus there is a need to evaluate the implementation of Practice Teaching Program for prospective teachers at Undiksha. One of the techniques used is the CIPP model that is combined with Forward Chaining Method that is one of inferring strategies of Expert System. From the components of context, input, process, and product, the implementation of Practice Teaching Program (PPL-Real) of the education students of Undiksha in 2015 falls into an effective classification.**

Keywords—Evaluation; Practice Teaching Program; CIPP; Forward Chaining; Expert System

I. INTRODUCTION

The existence of teachers in Indonesia is strictly regulated in [1] that states that a teacher has a status as professional profession, and a teacher also has four major competences, namely pedagogical, personal, social and professional competencies. In [2] it is stated that the four competencies that can be used as the most important characteristics of teachers as profession.

Pedagogical competence is the ability of the teacher in managing instruction for the students that consists of the understanding of the students, the development of potentialities of the students, the planning and implementation of instruction, and the evaluation of learning achievement. Personal competence is the personal ability of the teacher that is reflected in a healthy, stable, matured, wise, charismatic, creative, polite, disciplined, honest, neat and becomes the model for the students. Professional competence is the ability to master the instructional materials well and has an expertise in the field of education that consists of: mastery of the instructional materials, understanding of curriculum and its development, classroom management, use of strategies, media, and learning resources, has an insight into educational innovations, gives help and guidance to the students, etc. Social competence is the teacher's ability to communicate and interact well with the students, students' parents and the community, all of his or her fellow teachers/colleagues and can work together with the education council/school committee, is able to participate actively in preservation and development of the community's culture, and participates actively in social activities.

The so high recognition of the teacher's status and the high requirement for the competences that the teacher has to meet, makes the existence of the teacher something that has to gain a serious attention, including the beginning of the prospective teachers' preparation.

Ganesha University of Education (Undiksha) as one of public universities in Indonesia is given authority by the government to train prospective teachers. The graduates are expected to be of good quality that have skill, knowledge and disposition to be effective educators and ready to teach and able to have impact on the students' learning at the local schools [3].

To be able to produce good quality prospective teachers, as to meet the above requirement Undiksha requires all education students who will become prospective teachers to take Practice Teaching Program (PPL Real). In [4] it is stated that PPL is a program that forms a forum of training to apply various knowledges, skills, and attitudes in the framework of developing teacher professionalism in keeping with the demand of developments in science and technology, and art as stipulated in the National Education Art. As a program, success of PPL Real that is run by Undiksha needs to be seen carefully to be of use as a consideration about its usefulness, process and results.

II. LITERATURE REVIEW

A. Practice Teaching Program for Prospective Teachers at Ganesha University

In [5], [6] it is stated that practice teaching has a key position in the teachers education program. PPL Real will give an opportunity to the student teachers to connect theories and concepts that they studied with experience in the real classroom [7]. Considering the essential nature of practice teaching program for the teacher's education program, PPL Real, which is the practice of real teaching at school, is established as a compulsory program that has to be taken by all education students at Undiksha.

In [4] some conditions have been decided that the education students at Undiksha have to meet to be eligible to take PPL Real, namely having been registered formally as participants, having taken PPL Awal, having passed major instructional program development (micro-teaching), having passed at least 120 semester credit units, and taken the whole of the preparation activity. The preparation activity is held before the students do practice teaching at school.

The implementation of PPL Real calls for the application and integration of all of the students' previous learning experiences into the training program, in the form of performances in all that are related to the teaching position, both the teaching activity and other teaching tasks. The activities are done gradually and in integrated way in the form of field orientation, limited practice, guided practice and independent practice that are systematically scheduled that are facilitated by a supervising lecturer and guiding teacher in collaboration.

The supervising lecturer and the guiding teacher assigned to guide the student during the teaching practice at school have to meet the conditions that are regulated in [4]. The *conditions* for the guiding teacher are : (a) having a status as a full time teacher and preferably with at least S1 educational background and D2 educational background for Early Child Education Teacher Program and Primary School Education Program, (b) having worked at least 5 years or having at least "guru dewasa" position, (c) experienced in teaching the subject that he or she guides at least 3 years, and, (4)having taken the practice teaching pattern training. While for the supervising lecturer, the conditions are : (a) for the lecturers who are the S1 certificate holders, having worked at least 5 years or possessing at least "lektor" position, (b) for those who are the S2 or S3 holders, having worked at least 3 years, and (c) having taken the practice teaching pattern training.

In [4] it is mentioned that the responsibility of the supervising lecturer and guiding teacher is to guide the student teachers in doing practice teaching, to discuss various problems faced at the school, and to direct the students towards the pursuit of various experiences obtained that can be used as the preparation as professional prospective teachers. In everyday activities the guiding process is largely done by the guiding teacher. While the supervising lecturer due to his or her tight schedule on campus, is required to supervise/ be present at the partner school at least 4 times, that is, at the first meeting, in the middle, prior to the student takes the practice teaching examination and at the practice teaching examination.

In doing PPL Real the student is also required to observe an experienced teacher. In [8] it is stated that observing an experienced teacher is the important part of the many kinds of practice teaching programs in the world.

Success in or passing PPL Real is determined based on the score obtained by the student from the guiding teacher and the supervising lecturer, the score in the preparation program and the score in the monitoring with the minimum score 70 (in the 100 scale).

The score given by the guiding teacher and the supervising lecturer refers to four components using Instrument for Evaluating Prospective Teacher (APKCG) that is Lesson Plan (N1), Instructional Procedures (N2), Non-instructional Task (N3), Practice Teaching Final Report (N4).

B. Evaluation

In [9], evaluation is an activity for collecting information about the effectiveness of something; the information is then used to determine an appropriate alternative in making a decision.

In [10], evaluation is a systematic collection of facts to determine whether in fact there is a change in students and establish the extent of change in the individual student.

In [11], the evaluation is an activity for data collecting, data analysing and data presenting into information about a particular object under study so that the results can be used to take a decision.

In [12], evaluation is a process starting from describing, obtaining and explaining various pieces of information that can be used for determining a decision.

From various points of view above, it can be concluded that evaluation is an activity that consists of the process of gathering, describing, and explaining various pieces of information about the effectiveness of something that can be used later as the consideration for making a decision and a recommendation.

C. CIPP (Context, Input, Process, Product)

In [13], CIPP model is a model that essentially has four stages of evaluation are: evaluation of the component context, component input, component process and component product.

In [14], the CIPP evaluation there are four components that must be passed is the evaluation of the component context, the evaluation of input component, the evaluation of process components, and the evaluation of product components.

In [15], one of the major strengths of CIPP model is it provides a useful and simple instrument to help the evaluator to generate important questions to be raised in the evaluation process.

From various points of view above it can be concluded that CIPP model is a model that consists of four major components, that is, context, input, process, and product that are often used by an evaluator to evaluate an object.

D. Forward Chaining

In [16], The inference engine contains the methodology used to perform reasoning on the information in the knowledge base and used to formulate conclusions. Inference engine is the part that contains the mechanism and function of thought patterns of reasoning systems that are used by an expert. The mechanism will analyse a specific problem and will seek answers, conclusions or decisions are best. Because the inference engine is the most important part of an expert system that plays a role in determining the effectiveness and efficiency of the system. There are several ways that can be done in performing inference, including the Forward Chaining.

In [17], If there are many competing hypotheses, and there is no reason to start with one rather than another, it may be better to chain forward. In particular, forward chaining is more natural in monitoring tasks where the data are acquired continuously and the system has to detect whether an anomalous situation has risen, a change in the input data can be propagated in the forward chaining fashion to see whether this change indicates some fault in the monitored process or a change in the performance level. If there are a few data nodes and many goal nodes then forward chaining looks more appropriate.

In [18], forward chaining is a top down method which takes facts from satisfied conditions in rules which lead to actions being executed.

From various points of view above, it can be concluded that forward chaining is a strategy of making an inference that is used in Expert System to obtain a conclusion / decision that starts by tracing facts and premises.

III. METHODOLOGY

A. Object dan Research Site

1) Research Object is Practice Teaching Program (PPL Real).

2) Research Site is at Ganesha University of Education, Bulleng, Bali.

B. Subjects of Research

The subjects were 250 Undiksha education students that took PPL Real in the Odd Semester in 2015 drawn at random out of 1640 students dispersed in 145 schools where the practice teaching program was implemented (kindergartens, primary schools, junior high schools, senior high schools, vocational high schools) in Buleleng and Denpasar.

C. Data Type

In this research, the authors use primary and secondary data, qualitative and also quantitative data.

D. Data Collection Techniques

In this research, the authors use data collection techniques such as observation, interviews, questionnaire, and documentations.

E. Evaluation Model

Evaluation model used in this research is CIPP model.

F. Aspect of Evaluation

The aspects evaluated in practice teaching program for prospective teachers at Ganesha University of Education can be seen in the table of evaluation criteria below.

TABLE I. EVALUATION CRITERIA FOR PRACTICE TEACHING PROGRAM FOR PROSPECTIVE TEACHERS AT GANESHA UNIVERSITY OF EDUCATION BULELENG

No	Component	Aspects	
1.	Context	A_1	Position of PPL Real in higher education curriculum
		A_2	Vision and Missions of PPL Real
		A_3	PPL Real Implementation Regulation
2.	Input	A_4	Syllabus, lesson plans
		A_5	Human resources
		A_6	Infrastructure and facilities
3.	Process	A_7	PPL Real implementation plan
		A_8	PPL Real implementation
		A_9	PPL Real evaluation
4.	Product	A_{10}	Impacts of PPL Real implementation
		A_{11}	Results expected from PPL Real implementation

IV. RESULT AND DISCUSSION

A. Result

1) Result of Model CIPP Analysis

The result of analysis using CIPP model obtained from the evaluation of the practice teaching program implementation of the prospective teachers at Ganesha University of Education in Buleleng can be described as follows.

a) In the Context component, the effectiveness level of 78. 52% is obtained with T-Score = 52. 235. Thus it can be concluded that in the context variable, the implementation of the practice teaching program (PPL-Real) of the education students of Undiksha in 2015 falls into effective classification.

b) In the Input component, the effectiveness level of 72. 47% is obtained with t-score = 51. 084. Thus it can be concluded that the implementation of the practice teaching program (PPL-Real) of the education students of Undiksha in 2015 falls into effective classification.

c) In the Process component, the effectiveness level of 70. 26% with t-score = 50. 003. Thus it can be concluded that in the Process component, the implementation of the practice teaching program (PPL-Real) of the education students of Undiksha in 2015 falls into effective classification.

d) In the Product component, the effectiveness level of 71. 94% is obtained with t-score = 50. 072. Thus it can be concluded that in the Product component, the implementation of the practice teaching program (PPL-Real) of the education students of Undiksha in 2015 falls into effective classification.

2) The result using Forward Chaining method

Before we look at the result of the analysis using forward method to evaluate the practice teaching program of the prospective teachers at Ganesha University of Education, first let us make it clear that the effectiveness level in all of the components of CIPP using *Glickman's pattern* is as follows[19].

TABLE II. EFFECTIVENESS LEVEL IN ALL OF THE COMPONENTS IN CIPP USING GLICKMAN'S PATTERN

Component	Effectiveness Level			
	Very Less Effective	Less Effective	Effective	Very Effective
Context, Input, Process, Product	- - - - - - - - - - - - - - - -	+ - - - - + - - - - + - - - - + + + - - + - - + + - + - - + - + - + + - - - + +	+ + + - + + - + + - + + - + + +	+ + + + + + + + + + + + + + + +

Notes:

T-Score > 50 → + (Positive)

T-Score ≤ 50 → - (Negative)

The result of analysis using Forward Chaining obtained from the evaluation of the practice teaching program of the prospective teachers at Ganesha University of Education in Buleleng is as follows.

TABLE III. RESULT OF ANALYSIS USING FORWARD CHAINING METHOD OBTAINED FROM THE EVALUATION OF THE PRACTICE TEACHING PROGRAM OF THE PROSPECTIVE TEACHERS AT GANESHA UNIVERSITY OF EDUCATION

No	Component	Effectiveness Level			
		%	T-Score	+ (Positive)	- (Negative)
1.	Context	78.52	52.235	√	X
2.	Input	72.47	51.084	√	X
3.	Process	70.26	50.003	√	X
4.	Product	71.94	50.072	√	X
Result				**Very Effective**	

From the above table a detailed description was made through a tracing chart with Forward Chaining Method as shown below.

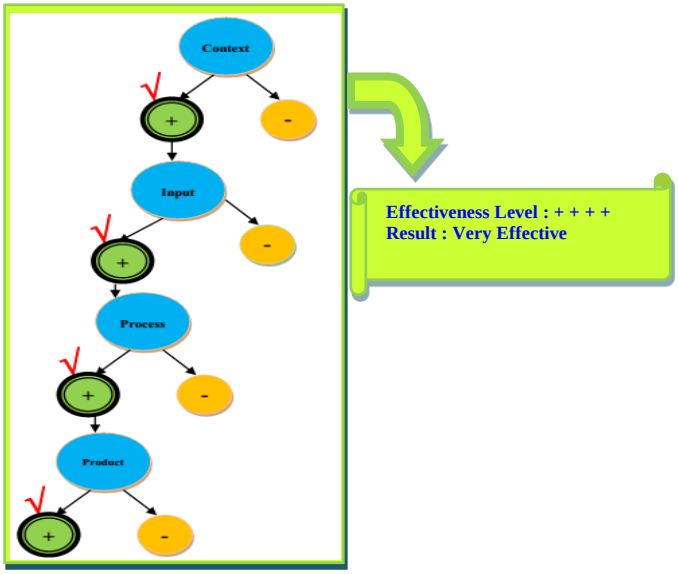

Fig. 1. Tracing with Forward Chaining to Evaluate the Practice Teaching Program Implementation for the Prospective Teachers at Undiksha

From figure 1 above we can see green circles marked with red check marks indicating that the Context component obtains an effective level of + a (positive) value, the Input component + a +(positive) value, the Process component a + (positive) value, and the Product component a + (positive) value. Thus if this is matched with the table of effectiveness level in all CIPP components pada semua komponen CIPP using Glickman's pattern, then the result of the evaluation of the practice teaching program implementation for the prospective teachers at Ganesha University of Education is very effective.

B. Discussion

In the Input component, of the 276 teachers involved as guiding teachers for the students taking the practice teaching (Real PPL) at schools, 118 teachers (42. 754%) had a status as full time teachers of foundations or "contract teachers". Especially for "contract teachers" they did not meet the requirement for becoming guiding teachers who have to be full time teachers.tentu tidak sesuai dengan persyaratan. However, considering the assignment of them by the school principals, the limitation in human resources and the teachers' competences, they were also included as guiding teachers. This policy turns out not to be wrong, as proven by the score of the Input component that remains high. The students guided by the "contract teachers" stated that the guiding teachers are those who match their fields, can guide and evaluate well. From this fact, it can be said that the requirement concerning the status of guiding teachers does not hinder the implementation of the practice teaching. Thus, a revision needs to be made to the requirement concerning the status of guiding teachers.

Although in the Context and the Process components of the implementation of the practice teaching program (PPL-Real) of the education students of Undiksha in 2015 falls into very effective classification, based on the result of monitoring there were still some students who left the schools to take courses. Although they did not ignore the main duties of practice teaching, this should be avoided since the essence of PPL-Real is not only having the teaching practice only. Thus a better regulation concerning the implementation of PPL Real needs to be made.

V. CONCLUSIONS

Based on the analysis that has been made and the results of the discussion in the previous section, then some conclusions can be drawn as follows:

a) From the components of contex, input, process, and product of the implementation of Practice Teaching (PPL-Real) of the education students in 2015 is effective.

b) Although in the components of contex, input, process, and product of the implementation of Practice Teaching (PPL-Real) of the education students of Undiksha in 2015 is effective, but there are some problems that need to be improved, including the requirement that has to be met by the guiding teachers concerning their status, and improvent of the regulation for the implementation of the practice teaching (PPL Real).

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