

## Mobile Phone-Based CIPP Evaluation Model in Evaluating the Use of Blended Learning at School in Bali

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**Abstract**—Through the use of information technology, the students no longer find it difficult to look for sources/learning materials, interact and discuss with each other any time and any where they are. One form of the roles of information technology which can facilitate students in individual learning, group learning and learning together with the teacher in the classroom and outside of the classroom is blended learning. The fact in schools shows that not all of the learning process can be optimized by using blended learning. Therefore, there is a need to evaluate comprehensively any time and any where they are (evaluators). For this purpose, the appropriate evaluation model to be used is mobile phone-based CIPP. By using this model, then the evaluator can study evaluating the use of blended learning overall through of the context, input, process and product that will be able to provide appropriate recommendations for the improvement of the learning process using blended learning in school.

**Keywords**—Blended Learning, Evaluation, CIPP.

### 1 Introduction

The presence of information technology at school broadens the insight of the school into the importance of information technology in the technology development era today. The development of information technology today help very much the learning process at school, both in the classroom between the teacher and the students and outside of the classroom between one student with another in a group/community. Through the use of information technology, the students no longer find it difficult to find learning materials which are very easy to obtain through an internet access. In addition, they can interact and discuss with each other whenever and where ever they are through social media facilities. With the ease of information access through internet, then it cannot be denied that may facilities are available to be accessed which give learning services both online and offline.

One of the forms of learning services that can facilitate the students in learning independently, in groups, and learning together with the teacher in the classroom and outside the classroom both fully online and offline is blended learning.

Through blended learning the teacher and the students can use information technology in the learning process online and offline. In the use of blended learning,

learning quality obtained at school, that is, through direct interaction between the teacher and the students is always maintained, but the use of information technology used to facilitate the students in seeking/accessing learning resources and makes it easy for the students to seek/access learning resources and to interact/discuss with their groups/learning communities at school and outside. By using blended learning at school, the students will have increasingly more knowledge and insights so that they do not only focus on the information/ knowledge given by the teacher in the classroom, but can obtain comprehensive knowledge from various reliable sources, through social media, internet and from a community.

There are some choices of platforms that can be used for blended learning in the learning process at school, which among others are Edmodo, quipper school, Moodle, Kelase, etc [1]. These platforms, obviously have their strengths and weaknesses. Generally, the platforms are able to offer and provide facilities needed for learning process at school.

However, the fact at school shows that not all learning processes that use blended learning can run optimally. Therefore, there is a need to do a comprehensive evaluation of the use of blended learning at school. The evaluation process that needs to be done by educational evaluators is an evaluation that is capable of seeking information comprehensively and accurately on the extent of effectiveness of the use of blended learning at school viewed from the components of context, input, process and output. There are some aspects evaluated concerning the use of blended learning at school viewed from the component of context, which cover: vision, missions, goal, support from the school community and legal foundation for the implementation of blended learning. The aspects evaluated in the component of input cover: the structure of management, readiness in terms of infrastructure and facilities, teacher's ability, students' readiness and management's ability. The aspects evaluated in the component of process cover: the process of introducing blended learning to the users, the process of teaching the users to operate blended learning, and the process of financial management in blended learning implementation. The aspects evaluated in the component of product covers blended learning service quality from the points of view of tangibles, reliability, responsiveness, assurance, and empathy.

The evaluation process of the use of blended learning at school is expected to be done anytime and anywhere the evaluators are by interested parties.

To overcome the problem, then the evaluation model which is appropriate to use is mobile-phone-based CIPP. By using the model, the educational evaluators can evaluate the use of blended learning comprehensively in terms of the components of context, input, process and product, that is done anytime and anywhere they are without any pressure from the interested parties so that they can give an appropriate recommendation to improve the process of learning by using blended learning at school.

## **2 Literature Review**

### **2.1 Blended Learning**

Definitions of blended learning range from the very broad where practically any learning experience that integrates some use of ICTs qualifies, to others that focus on specific percentages of online curriculum and face to face instruction. Most people agree that blended learning combines teaching and learning methods from both face to face, mobile and online learning and that it includes elements of both synchronous and asynchronous online learning options [2]. Blended learning is also defined as learning that can conventionally be defined in the classroom combined with online learning both independently and in a collaboration by using information and communication technology facilities [3]. Blended Learning is a student-centered learning using a systematic approach that combines face-to-face learning and online learning aided by ICTs [1]. Blended learning is a student-centered approach to creating a learning experience whereby the learner interacts with other students, with the instructor, and with content through thoughtful integration of online and face-to-face environments [4]. Blended learning is a strategic and systematic approach to combining times and modes of learning, integrating the best aspects of face-to-face and online interactions for each discipline, using appropriate ICTs [5].

The core of blended learning theory is the integration of multiple teaching means, teaching media, and teaching environments [6]. Blended learning has many advantages over E-learning; the most important one is that blended learning participants being able to socialize face-to-face interaction in order to motivate the less independent student [7].

Based on the opinions above, then blended learning is a learning approach which combines direct face to face learning in the classroom and online learning through information technology facility and learning interaction keeps on being developed well both in the classroom and outside of the classroom.

### **2.2 Evaluation**

Evaluation is an activity for collecting, understanding and reporting the result of analysis of a particular program/object in such a way that the result can be used for consideration in making a decision whether the program will be continued or stopped [8]. Evaluation is an activity for collecting, analyzing and presenting information about a particular object under an investigation to be used as a consideration in making a decision [9]. The evaluation is an activity for data collecting, data analyzing and data presenting into information about a particular object under study so that the results can be used to take a decision [10]. Evaluation is an activity for collecting, analyzing, and explaining comprehensively information about a particular object/program/policy being studied and the result can be used for a consideration in making a decision to continue or stop the object/program/ policy[1].

From the various opinions above it can be concluded in general that evaluation is an activity for collecting, analyzing, and presenting, information about a particular object to be used for a consideration in making an appropriate and accurate decision.

### **2.3 CIPP (*Context-Input-Process-Product*) Evaluation Model**

Basically, the CIPP evaluation model requires that a series of questions be asked about the four different elements of the model on context, input, process, and product [11]. When compared with professional standards for project evaluation, and after being rated by their utility, feasibility, propriety, and accuracy, the best approach that has surfaced is the Context, Input, Process, and Product evaluation model. The CIPP evaluation model belongs in the improvement/accountability category, and is one of the most widely applied evaluation models [12]. The CIPP model is the most widely known and applied model that is used by evaluators. This model was developed by Stufflebeam. CIPP is an acronym using an initial letter of each of four words, that is, Context, Input, Process and Product [13]. One of the strengths of CIPP model is, especially, that it is a useful and simple tool for helping evaluators produce questions of vital importance to be asked in an evaluation process [14].

Based on the various opinions above, CIPP evaluation model is a model that essentially has four stages of evaluation are: evaluation of the component context, component input, component process and component product.

## **3 Research Methodology**

### **3.1 Object of Study**

The object of this study was blended learning at school.

### **3.2 Subject of Study**

The subjects of this study were teachers, students, and blended learning management. The subjects were determined by Purposive Sampling.

### **3.3 Location of Study**

The locations of this study were vocational high schools in Singaraja, Bali.

### **3.4 Methods of Data Collection**

The methods of data collection used were questionnaire distribution, observation, and documentation.

### 3.5 Design of the Study

The study used CIPP model design which can be shown as follows.

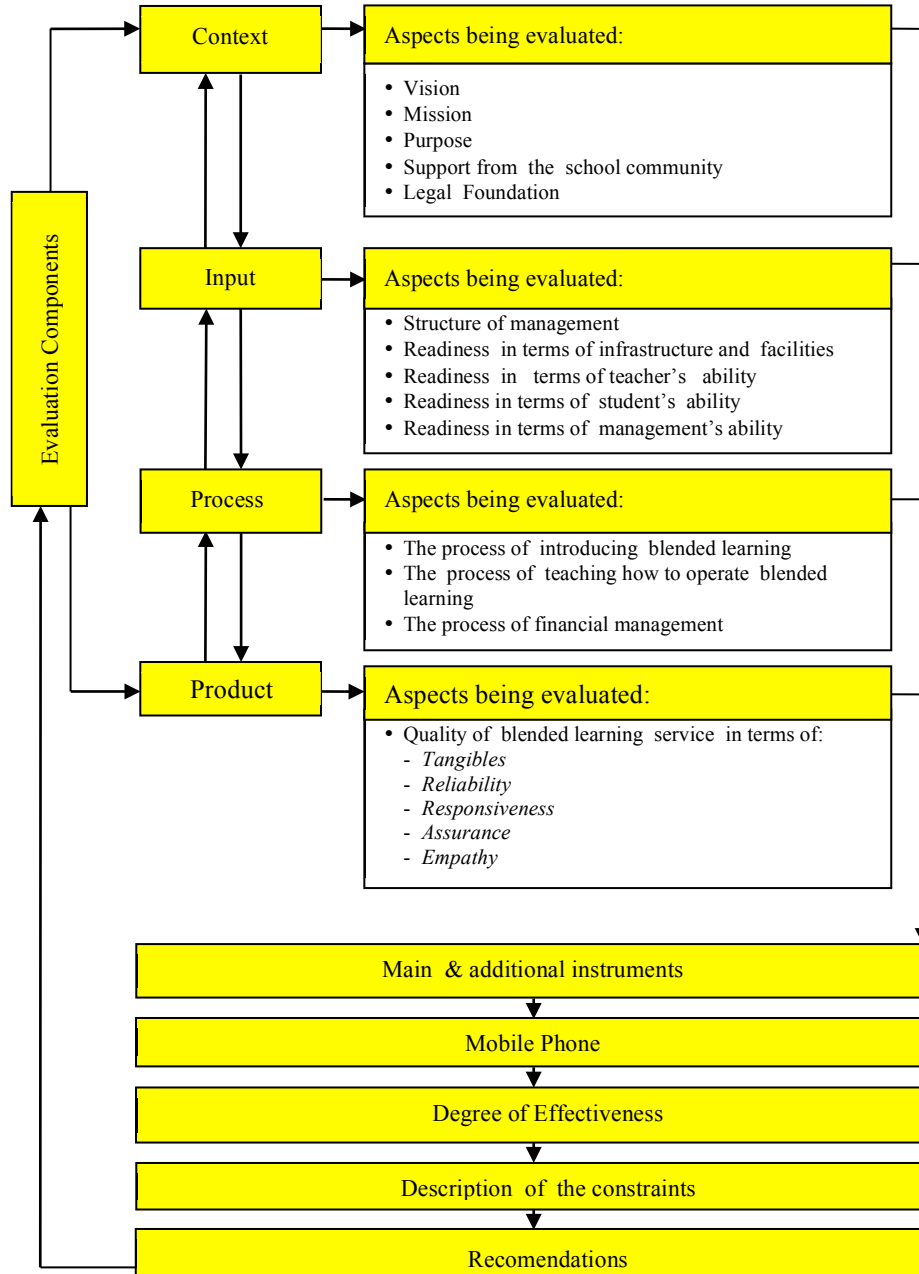


Fig. 1. A Design Model of Mobile Phone-Based CIPP Evaluation Model

### 3.6 Technique of Data Analysis

Data analysis about the implementation of an evaluation of the use of blended learning at school by using quantitative descriptive technique.

## 4 Results and Discussion

### 4.1 Results

1. The standard of the effectiveness of the use of blended learning at school  
 The Standard effectiveness of the use of blended learning at school can be shown in Table 1 as follows.

**Table 1.** The Standard of Effectiveness of the Use of Blended Learning at School by Using CIPP Model

No	Evaluation Components	Evaluation Aspects	Effectiveness Standard (%)
1.	<i>Context</i>	Vision	85-100
		Missions	85-100
		Goal	85-100
		Support from the school community	85-100
		Legal Foundation	88-100
2.	<i>Input</i>	Structure of management	85-100
		Readiness in terms of infrastructure and facilities	85-100
		Readiness in terms of teacher's ability	86-100
		Readiness in terms of Student's ability	86-100
3.	<i>Process</i>	Readiness in terms of management's ability	88-100
		The process of introducing blended learning	85-100
		The process of teaching how to operate blended learning	85-100
4.	<i>Product</i>	The process of financial management	90-100
		<i>Tangibles</i>	88-100
		<i>Reliability</i>	88-100
		<i>Responsiveness</i>	88-100
		<i>Assurance</i>	88-100
		<i>Empathy</i>	88-100
		Note: Categories of Effectiveness Standard Scales Very High 90%-100% High 80%-89% Satisfactory 70%-79% Low 60%-69% Very Low 0%-59%	

2. Results of the Evaluation of the Use of Blended Learning at School

The results of the evaluation of the use of blended learning at school by using Mobile Phone- based CIPP Model can be seen in Table 2 as follows:

**Table 2.** Results of the Evaluation of the Use of Blended Learning at School by Using Mobile Phone -Based CIPP Model

No	Evaluation Components	Evaluation Aspects	Result of Evaluation (%)			
			B1	B2	B3	B4
1.	Context	Vision	86.4	85.2	85.6	85.4
		Missions	85.2	85.4	85.8	85.6
		Goal	85.8	85.6	85.2	85.2
		Support from the school community	85.6	85.4	85.2	85.4
		Legal Foundation	90.2	89.4	88.6	88.6
Average of the Context Component			86.6	86.2	86.1	86.0
2.	Input	Structure of management	85.6	85.2	85.4	85.2
		Readiness in terms of infrastructure and facilities	85.4	85.2	84.6	85.2
		Readiness in terms of teacher's readiness	87.4	86.6	85.4	86.2
		Readiness in terms of student's ability	88.2	86.8	85.6	87.8
		Readiness in terms of management's ability	89.6	88.8	87.8	88.2
Average of the Input Component			87.2	86.5	85.8	86.5
3.	Process	The process of introducing blended learning	87.2	86.4	86.2	87.4
		The process of teaching how to operate blended learning	86.4	87.2	85.8	86.8
		The process of funds management	92.8	93.2	92.4	91.6
Average of the Process Component			88.8	88.9	88.1	88.6
4.	Product	Tangibles	89.2	88.4	87.6	88.6
		Reliability	88.8	89.2	88.6	88.2
		Responsiveness	89.6	88.4	89.8	88.6
		Assurance	89.2	88.6	88.8	88.4
		Empathy	89.8	88.8	88.4	88.2
Average of the Product Component			89.3	88.7	88.6	88.4
Notes : Types of Blended Learning Platforms :						
B1 : Edmodo						
B2 : Quipper School						
B3 : Moodle						
B4 : Kelase						

### 3. The Simulation of Mobile Phone Application in Evaluating the Use of Blended Learning at School by Using CIPP Model

The description about the implementation of mobile phone application in evaluating the use of blended learning at school by using CIPP model can be visualized in Figure 2 as follows:

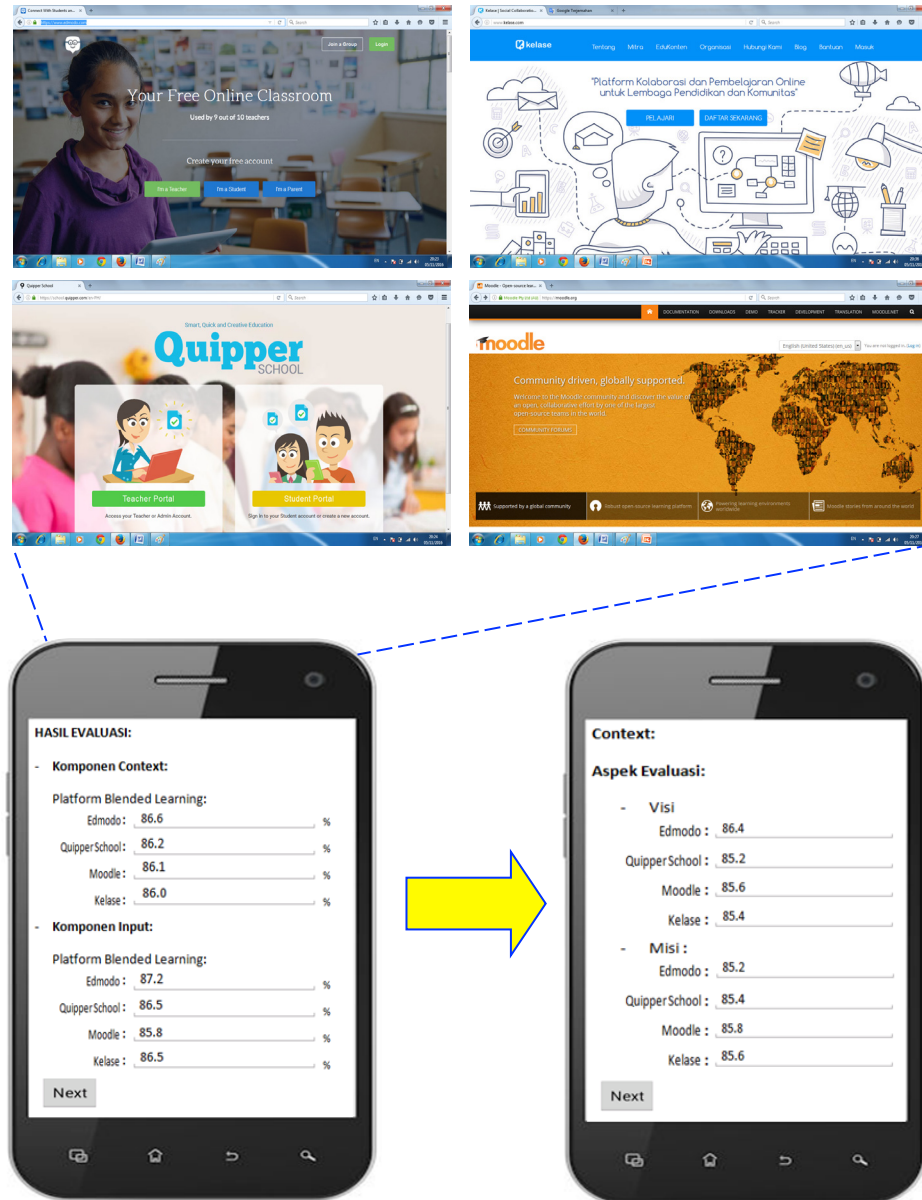


Fig. 2. A Simulation of Mobile Phone Application-Based CIPP Evaluation Model



## 4.2 Discussion

Based on the results that have been described above there are some points that have to be discussed, which are among others are:

a. The Structure of Mobile Phone - Based CIPP Model Application

This mobile phone CIPP model application was made by using Android application with SQLite database.

b. The highest result of Effectiveness Computation.

The highest result of effectiveness in the use of blended learning at school by using Android application-based CIPP model can be explained as follows:

- 1) In the component of context the highest percentage of effectiveness obtained for the use of blended learning at school was 86.6% by using edmodo platform, so that edmodo falls into the high category of blended learning platform.
- 2) In the component of input the highest percentage of effectiveness obtained for the use of blended learning at school was 87.2% by using edmodo platform, so that Edmodo falls into the high category of blended learning platform.
- 3) In the component of process, the highest percentage of effectiveness obtained was 88.9% for the use of blended learning at school by using quipper school platform, so that quipper school falls into the high category of blended learning platform.
- 4) In the component of product, the highest percentage of effectiveness obtained was 89.3% for the use of blended learning at school by using edmodo platform, so that edmodo platform falls into the high category of blended learning platform.

c. Constraints in each component being evaluated

The constraints faced in each component being evaluated in the Android application-based CIPP evaluation can be explained as follows:

- 1) In the component of context there was no constraint found in the implementation, since the score of effectiveness of the evaluation result exceeds the standard of effectiveness that has been specified.
- 2) In the component of input there were constraints in the implementation, i.e. : a) the aspect of readiness in terms of infrastructure and facilities to support moodle platform which is not yet optimal, b) in the aspect of readiness in terms of teacher's readiness, the teachers were not yet competent enough to use moodle platform. c) the aspect of readiness in terms of student's ability, the students were not yet competent enough to use moodle platform, and d) in the aspect of readiness in terms of the developer's ability in developing moodle platform used for blended learning was not yet optimal. The evidence for the presence of the constraints is shown by the score of effectiveness in the results of evaluation which was below the effectiveness standard that has been specified.

- 3) In the component of process there was no constraint found in the implementation, since the score of effectiveness of the evaluation result exceeds the effectiveness standard that has been specified.
- 4) In the component of product there was a constraint faced in the implementation, i.e., the aspect of quality in blended learning service in terms of tangibles by using moodle platform which was not yet optimal. This is shown by the score of effectiveness of the evaluation result which was below the effectiveness standard that has been specified.

## 5 Conclusions

Based on the results of the study and the discussion the following points can be concluded:

- a. The percentage of effectiveness of the use of blended learning at school viewed from the components of context, input, process, and product can be counted validly and accurately, whenever and wherever the evaluators do the evaluation by using mobile phone-based CIPP model.
- b. From some platforms that can be used for blended learning at school, it turns out that the most appropriate platform used at school is edmodo due to the ease in using it, while the most difficult to use is moodle.

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