The effectiveness of CIPP model’s implementation in secondary school

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Abstract. This present study aimed at determining the effectiveness of implementing research councils in secondary schools. To determine the effectiveness of the implementation of the research council in preparing students to participate in scientific writing competitions, and the ability of students to innovate in research, it is necessary to do evaluation. The method used to evaluate the implementation of research boards in schools is the CIPP evaluation model. The use of CIPP model, the implementation of school research boards was evaluated in terms of context, input, process and product. This research was conducted at the Bali Mandara State Senior High School. The result of this research showed that, from a contextual perspective, was the legality of the existence of the research board in schools as indicated by the school's decision letter regarding the research board. However, from the students' point of view there were 140 students and teachers involved in research council activities, supported by assignments. Meanwhile, from a process perspective, the research council's activities were carried out through extra-curricular activities. The last, in terms of products, the research council's activities produce scientific work of students who were ready to take part in scientific writing competitions. There were 4 students whose research results succeeded in becoming Indonesian students' research competency finalists and 6 students who passed the scientific writing competition.

1. Introduction

High school is a school that aims at educating the students so that they can continue to a higher level that requires students to think more complexly and be able to make simple innovations. To accommodate the innovations that have been made by students, the government has conducted scientific writing competitions. In order to prepare students to take part in the Kelompok Ilmiah Remaja (KIR- Teenage Science Group), the school has formed a group of students who are involved in research at school which is often called the school research board.

The members of this research board are students who have the ability and interest in researching something that will later be used as material in the KIR competition. The research board's activities are usually carried out outside of class hours so as not to interfere with class hours. However, the activities of this research board will certainly disturb students' learning hours, especially concerning subject matter at school if the student is unable to manage their study time. To find out how much influence the implementation of the research board on students 'readiness in the competition, students' ability to innovate in research, it is necessary to evaluate. Evaluation is very important to be carried out in various activities in the field of education, and specifically in the implementation of school research boards.
Evaluation is an activity that must be carried out to determine the extent to which a program/activity has been implemented. By evaluating an activity, the advantages and disadvantages of the activities carried out will be found, so that later solutions can be given. As with the implementation of research boards in schools that invite students to conduct research aimed at preparing students to participate in scientific writing competitions. But on the other hand, students must learn to fulfill the lesson assignments given by the teacher. Given these problems, it is necessary to evaluate the effectiveness of the implementation of research boards in these high schools. The evaluation model is used to evaluate the implementation of the research board is the CIPP model. With this CIPP model, the implementation of school research boards can be evaluated in terms of context, input, process, and product. So that it is known the effectiveness of implementing research boards in secondary schools and how the implementation of research boards in schools is so that it does not interfere with the student learning process.

According to Olivia, evaluation is a tool to determine what decisions need to be developed and to provide a basis for developing effects. Cronbach and Patton [1] put forward general principles of evaluation, namely: (1) evaluation is an art, therefore there is no best model that can always be chosen by an evaluator. For an evaluation, maybe several designs can be submitted but none of them is the most perfect; (2) an evaluator should not ask certain answers to the questions posed; (3) evaluation studies should be conducted and accounted for by a team; (4) evaluation studies should use different schools from one evaluation to another; (5) the study design should be made flexible so that it is possible to modify it along the way; (6) identification of relevant questions and areas to emphasize in an evaluation study; (7) objectives, quantitative methods, humanistic and qualitative techniques can be used complementary. Evaluation instruments should not ignore historical aspects and social processes; (8) an educational program does not require a treatment unit such as a strong drink or vaccine; (9) the evaluation should look at the timing of the treatment and between treatments in the population to identify differences in influence; (10) aspects of attitude, motivation, goals and psychomotor aspects should not be ignored, among the good cognitive goals; (11) the results should be evaluated for program implementation; and (12) a joint analysis would be more reliable than an individual model.

Which states that evaluation refers to or implies: an action or a process to determine the value of something. The term evaluation comes from the word evaluation, which means to assess, but before assessing, it is done by measuring it first. Evaluation utilizes inquiry and determination methods, which include things such as: 1) setting quality standards, 2) gathering relevant information, and 3) applying standards in order to determine the value, utility, effectiveness, or significance of an object being evaluated. Stufflebeam further defines evaluation as the difference between what is there and a standard to determine whether there is a difference. Evaluation uses agreed standards or norms so that it can be believed from the results of the implementation of these activities. So, the evaluation process is not just measuring the extent to which goals have been achieved, but is used to make decisions.

Stufflebeam defines evaluation as "a process of describing, obtaining, and providing useful information for assessing decision alternatives". He created work guidelines to serve managers and administrators in facing four kinds of educational decisions, dividing evaluation into four types, namely: 1) Context evaluation to serve planning decision. This evaluation context helps plan decisions, determine the needs the program will achieve, and formulate program objectives. 2) Input evaluation, structuring decision. This evaluation helps organize decisions, determine existing resources, what alternatives are taken, what are the plans and strategies to achieve needs. Whenever working procedures to achieve it. 3) Process evaluation, to serve implementing decision. Process evaluation to help implement decisions. To what extent have the plans been implemented? What should be revised? Once these questions are answered, the procedure can be monitored, controlled and improved. 4) Product evaluation, to serve recycling decisions. Product evaluation to help with subsequent decisions. What results have been achieved? What do you do after the program starts? The first letter of the evaluation context is used as a summary of the CIPP. This model is known as the CIPP model by Stufflebeam [2].

When compared to professional standards for project evaluation, and after being assessed by their utility, feasibility, appropriateness and accuracy, the best approach that has emerged is the Context, Input, Process, and Product evaluation model [3]. The CIPP evaluation model is included in the
improvement / accountability category, and is one of the most widely used evaluation models. The CIPP evaluation model is the most widely used model in program evaluation because this model has a planned, systematic evaluation stage, and the results can be clearly measured. The CIPP evaluation model is a model that has four important stages of evaluation, including: context components, input components, process components and product components. Basically the CIPP evaluation model requires that a series of questions be asked about four different elements of the model in context, input, process, and product. In CIPP, there are criteria used to evaluate a program from the components of the context, input, process and product. For the criteria in the context component, it must be able to produce information about the kinds of needs that have been prioritized so that objectives can be formulated. The criteria for the input component must be able to provide information about the selected input, strengths and weaknesses, strategies and designs to realize the objectives. The criteria for the process component must be able to provide information for evaluators to carry out selected monitoring procedures that may have just been implemented so that the strong points can be used and the weak points can be eliminated. For the product component criteria must be able to accommodate information to ensure under what conditions the objectives can be achieved and also determine the strategy related to the procedures and methods applied.

CIPP explains several important parts in evaluating context, input, process, and product. The important part in context evaluation provides information about stakeholder needs and the rationale for the program, organizational strengths and opportunities to strengthen the program. In the evaluation the input provides data on the allocation of program physical resources. Process evaluation provides information about program implementation in order to improve, detect or predict defects in design. Finally, product evaluation identifies desired and undesirable program outcomes by comparing the results with stakeholder needs. The CIPP model consists of four types of evaluation, namely: context evaluation, input evaluation, process evaluation and product evaluation. In the context evaluation, the identification and assessment of the needs that underlie the formulation of a program is carried out. In the input evaluation is carried out to choose between several existing plans. The process evaluation is carried out to access the implementation of the plans that have been determined. And product evaluation is carried out to identify and access the outputs and benefits of a program. The CIPP evaluation model is structured with the aim at completing the basis for decision making in system evaluation with an analysis that is oriented towards planned change. The purpose of an analysis that is oriented towards planned change has several basic assumptions, including: (1) stating questions that ask for answers and specific information that must be achieved; (2) requires relevant data to support the identification of the achievement of each component; (3) provide information whose existence results are required by program improvement decision makers.

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### 2. Research Methods

The method used in this research included qualitative program evaluation research with an emphasis on the objectivity aspect of the evaluation of the implementation of the research board which was focused on obtaining data by document study, interviews, and observations to school leaders, supervisors, and students participating in school research boards. So that in this study used qualitative methods. Based on the ontology, the approach used in this study was a management-oriented evaluation approach or Management Approach Evaluation (EBM) with an evaluation of Stufflebeam's CIPP model. Management-approached evaluation is intended to be able to assist policy makers. The rationale for using this approach was based on the assumption that information obtained from evaluative efforts was an essential part of making good and effective decisions. In this regard, there were four types of decisions that can be determined, namely: planning, structuring, implementing, and recycling. For this purpose, the CIPP evaluation study model evaluates four elements, namely the background (context), the carrying capacity (input), the process (process), and the results of an activity (product). The relationship between context, input, process, product in the implementation of the research board can be seen in Figure 1.
Figure 1. Relationship of Context, Input, Process and Products in the Implementation of the Research Council.

The main data of this research were primary and directly obtained from the source through interviews. Data retrieval was carried out regressively, first of all, observations were made of students who participated in the research board group in order to obtain data related to the implementation of research by students, then cross-check was carried out with the supervisor teacher to obtain data related to the implementation of the research board at the school and then the relationship was sought. Then carried out observation and documentation study related to the context, input, process, and product of the research council implementation. Then performed a qualitative descriptive analysis of the data obtained from interviews, document studies, and observations. Spradley argues that component analysis includes the entire process of searching for contrasts, selecting those contrasts, classifying them as dimensions of contrast, and incorporating all this information into a paradigm. By adopting the Spradley analysis model, data from interviews and scattered observations were collected. The collected data were reduced and classified into variable components. The classification result data was reduced again and the final analysis was carried out. The results of the analysis were reduced and produce variable findings of the effectiveness of implementing research councils in secondary schools. From the results of this analysis, interpretations can be made regarding the effectiveness of implementing research councils in secondary schools. The middle school that was used as the sample in this study was SMA Negeri Bali Mandara.

3. Research Results and Discussion
From a contextual perspective, the principal makes a policy that is strengthened by a decision letter to form a research board. With this decree, the existence of the research board in the school is under the coordination of the principal. This is known from the results of interviews with Drs I Nyoman Darta, M.Pd. principal of the Bali Mandara State High School. The results of this interview were also corroborated by a decree regarding the research board and a letter of assignment given to the coaches involved. From a contextual perspective, the implementation of the research council was under the coordination of the principal. The purpose of establishing this research council was to make it easier to find young intellectual candidates who would be able to find solutions to various existing problems and
the results would be used in the preparation of articles to participate in scientific writing competitions (LKTI). From the perspective of input, the curriculum was not explicitly included in the curriculum, but this research activity was part of extra-curricular activities. In this extra-curricular activity involved students who were willing to take part in these activities. At SMA Negeri Bali Mandara, the students involved in this extra activity were outstanding students who had an interest in research. These students had passed the test to select students who may take part. The number of students who took part in this research board group was 140 people. Meanwhile, the supervisor in these activities was appointed by the principal according to their competence. One of the extra guidance teachers involved in the research board at SMA Negeri Bali Mandara, Mr. I Wayan Madya, S.Pd. M.Pd. always fostering students in doing research. When viewed from a process perspective, the implementation of this research council was carried out through extra-curricular activities that were carried out outside of class hours so that students and supervisory teachers could freely conduct research without disturbing school hours so that the implementation of this research council can take place effectively. When viewed from a product perspective, the existence of this research board was able to produce students as young researchers in innovating and researching whose results could be prepared to participate in scientific writing competitions such as KIR. This could be seen from the work of 4 students who managed to qualify as finalists for Indonesian student research competency (KoPSI) and 6 students who passed the scientific work competition (LKTIS). However, there were still many student researches result that were still prototypes that still require further research.

4. Conclusion

Based on the results and discussion, it can be concluded that the implementation of research councils in schools could be carried out effectively in secondary schools in terms of contests, inputs, processes, and products. This could occur because in context the implementation of research boards in secondary schools began with the making of a decision letter from the principal. Then proceed to choose the best students as many as 140 people as input from the research council followed by a coaching process by the supervisor teacher who has been given the assignment. Finally, to produce scientific work products as a product of the implementation of research councils that have been able to excel at the national level.

References

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