

## A Conceptual Framework Curriculum Evaluation Electrical Engineering Education

Nurulita Imansari<sup>1</sup>, Eddy Sutadji<sup>2</sup>

<sup>1,2</sup> Postgraduate, State University of Malang, Indonesia

---

### Article Info

#### Article history:

Received Sep 9, 2017

Revised Nov 20, 2017

Accepted Dec 15, 2017

#### Keyword:

CIPPO

Curriculum

Electrical Engineering

Education

Evaluation

---

### ABSTRACT

This evaluation is a conceptual framework that has been analyzed in the hope that can help research related an evaluation of the curriculum. The Model of evaluation used was CIPPO model. CIPPO Model consists of *context*, *input*, *process*, *product*, and *outcomes*. On the dimension of the context includes the vision and mission of the study program, the purpose of the study program. On the input, dimension consists of learning achievements, curriculum structure, qualified lecturer, and course outline. On the dimensions of the process consists of academic activities, implementation of industry practice, PPL and KKN, facilities and infrastructure, learning strategies, resources and learning media and also learning evaluation. On the product, dimension consists of the value of the GPA and dimension outcomes consist of skills match the needs of the working world.

Copyright © 2017 Institute of Advanced Engineering and Science.  
All rights reserved.

---

### Corresponding Author:

Nurulita Imansari,

Postgraduate, State University of Malang,

Malang, Indonesia.

Email: nurulita.imansari@gmail.com

---

## 1. INTRODUCTION

Major global changes make higher education systems in all over the world able reserves to face local needs and global issues. It is considered the change in politics, traditional education proram, quality dan the effectiveness of the education program [1]. The most effective efforts to improve the quality of human resources are to improve the quality of education. In this case, the teachers become the object to improve the quality of national education. Only with a professional teacher and the implementation of national education can be enhanced substandard, and only with the implementation of national education quality and quality of human beings can be improved. Based on a qualified human this is the nation of Indonesia will have sufficient competitiveness in the 21<sup>st</sup> century.

In the 21<sup>st</sup> century later challenges teachers are not light, but the more severe. On the other side of the task of the teacher is not a simple but increasingly complex. To address the challenges that the more severe and tasks that are more complex that is then the professionalism of teachers must be increased from that already exists for this. The role of the teacher is very important and is one of the main key development success educations. In line with the globalization era, science and technology is developing very quickly and is becoming more sophisticated, with the role of the wider than required teachers who have characters. This teacher deployment of course started from the education process teachers, which will produce energy teachers that are professional and character.

An Education Institution Educators (LPTK) is an institution that is known as the organizer of the institution for the education of prospective teachers to produce professional teachers and character. Nawacita has put vocational education as a priority for development of education. The President also has issued a Presidential Instruction Number 9 Year 2016 about the revitalization of SMK in order to increase the quality and the competitiveness of Indonesian Human Resource in the direction of the development of vocational education to the future. Through the revitalization of this hope is able to be in the sphere of SMK deployment superior human resource and competitive. Where the role of the University there are two namely 1)

accelerate the provision of vocational teacher SMK through education, equalizing and recognition; and 2) developing study programs in Universities to produce teachers vocational training needed.

Vocational teachers prepared course must be teachers 21<sup>st</sup> century. Teacher competencies 21<sup>st</sup> century, Teacher Professionalism is no longer simply a teacher who is able to teach with good but teachers who are able to be learning and agents of change schools and also able to build and develop relationships for the improvement of the quality of teaching in their schools. The teachers in the 21<sup>st</sup> century challenged to perform an acceleration of the development of the information and communication. The progress of information technology has increased in organizing and grouping pupils' knowledge acquisition for each individual both teachers and students. Consequently, the teacher is able to develop approaches and learning strategies appropriate to the development of the environment. There is also the abundance of information about education. This condition increases alternative choices of education for the parents and the community. This has spillover effects on the improvement of the quality of education demands by the community.

There is a large mismatch between the things that students are being asked to do when they graduate and subtitled schools prepare them to do [2]. Therefore the relevance of the curriculum becomes a very important. Hope is what is obtained on-campus students will be in accordance with the needs of the 21<sup>st</sup> century. An evaluation of the curriculum is expected to be the first step to adjust to the needs of the teachers of the 21<sup>st</sup> century.

To prepare for the needs of the teachers of the 21<sup>st</sup> century then required an evaluation of the curriculum on Education Study Program of Electrical Engineering. This evaluation aims to evaluate the curriculum used in education study program of electrical engineering. In the 21<sup>st</sup> century there are 7 the skills needed: (1) critical thinking and problem resources'; (2) collaboration across networks and leading by influence; (3) agility and adaptability; (4) initiative and entrepreneurialism; (5) effective oral and written communication; (6) accessing and analyzing information; and (7) curiosity and imagination [3],[4].

In fact, the evaluation of curriculum quality shows the strength and weaknesses points of curriculum in the educational systems, curriculum is not the only context but facial also includes some components such as aims, teaching methods, space, time and evaluation .in this research, one feature that we must pay attention to it , is that the evaluation must be a continuous and dynamic process, since it refers to some causes such us: changing in technology and sciences , evolutions of economic and social, alteration of cultural , political changing and globalization [5].

According to the history of education, the term 'curriculum' bothered originally related to the concept of a course of studies followed by a pupil - in a teaching institution. The concept of "curriculum" bothered used in the English-speaking tradition the United States is equivalent to the French concept of program 'etudes. In fact, the term curriculum is mostly used to refer to the existing contract between society, the State and educational professionals with regard to the educational experiences that learner's solution to undergo a certain phase of their lives. For the majority of authors and experts, the curriculum defines: (1) why; (2) subtitled; (3) presiding; (4) where; (5) how; and (6) and the World Health Organization can teach us [6],[7]. Curriculum revision process is a dynamic system of elements depending on shipbuilders other is includes needs analysis, setup issues and goals, and implementation and evaluation of programs [8].

The results of the evaluation are done this then will be seen whether the curriculum used was appropriate or not. The results of this evaluation will also be the basis of the curriculum development. In the simple process of curriculum development can be described in Figure 1.

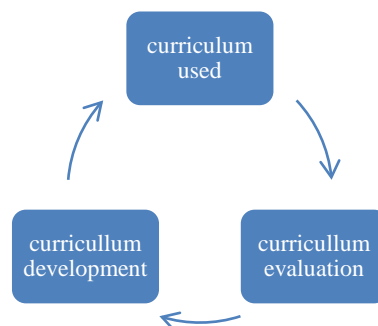


Figure 1. The Curriculum Cycle

This cycle is a process that continues. When this is done with the right cycle, it can be produced according to the needs of the curriculum and the demands of the 21<sup>st</sup> century. This cycle must be done in a sort; it starts implementation, evaluation, and development. Then the result of development is used and so on.

## 2. RESEARCH METHOD

This research aims to determine the dimension of the context, input, process, product and the outcomes of the educational curriculum Electrical Engineering Education, Universitas PGRI Madiun. This evaluation is using CIPPO evaluation model that consists of the context, input, process, product, and outcomes. Loading data in this evaluation is using questionnaire and also study the document. The evaluation model used in this research is the CIPPO model is enhanced by an expert evaluation from the University of Washington named Sax player in 1980 from CIPP evaluation model developed first by Stufflebeam in 1967 at Ohio State University. CIPPO is an abbreviation for context, input, process, product, and outcome. Evaluation Model CIPPO (Context, Input, Process, Product, Outcomes) [9],[10]. This model is enhanced model from the CIPP model [11].

CIPPO Model arranged with the aim to complete the basis of decision making in the evaluation of the program with oriented analysis on changes planned. The five dimensions can be drawn in Figure 2.

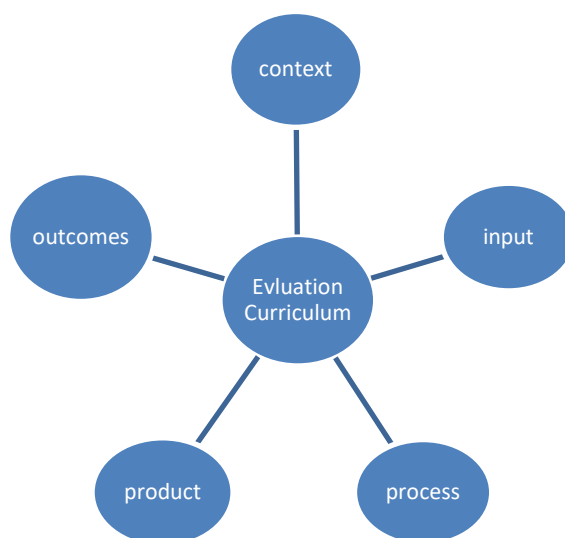


Figure 2. Five Evaluation Dimension CIPPO

## 3. RESULTS AND ANALYSIS

The characteristics of a good curriculum across 1) services as following across the characteristics of good curriculum; 2) development of social understanding; 3) promotion of maximum personal development; 4) promotion of continuity of experience; 5) provision for educational goal; 6) maintenance of balance among all goals; 7) utilization of effective learning experiences and needed resources [12],[13].

Adopting a 21<sup>st</sup>-century curriculum solution is blending knowledge, thinking, innovation skills, media, Information and Communication Technology (ICT) literacy, and real-life experience in the context of core academic subjects [14].

In order to achieve authentic learning that is demanded in the 21st century, students engage in the learning environment effectively and develop 21st-century skills such as critical thinking, problem-solving, and collaboration. In this way, students will be prepared with the necessary knowledge and life skills that will help them be successful in their future careers [15].

Therefore, curriculum in the 21st century should focus on the construction of knowledge and encourage students to produce the information that has value or meaning to them in order to develop new skills. Preparing curriculum to be connected with the real world can support student participation, their motivation, and understanding for the academic subjects, as well as preparing them for adult life [15].

The evaluation context (context evaluation), the main orientation is to identify, assessing, problems occur, assets or resources available and opportunities that owned, in order to help the decision makers to

determine the purpose and priority scale, help users of the program in determining the purpose of the priority scale and the results will be reached. Evaluation of the context is also related to the problem analysis of the strengths and weaknesses of the specific object that will be or is running and how a rational program. The dimension of the context in the conceptual framework is it consist the vision, mission, and purpose of Electrical Engineering education study program [16],[17].

The input evaluation is an evaluation that can help regulate the decision, determine existing sources, alternative what is taken, what the plan and strategies to achieve the needs and how the procedures work to achieve it. Input evaluation provides specific data and considerations for assessment of staff, time, budget needs, education strategy and administration and others [18],[19]. On the conceptual framework is the input consists of achievements, curriculum structure, qualified lecturer, and course outline.

The process evaluation(process), the orientation to identify, predict the weakness in the procedure or its implementation, provides information the decision of the program, recording, procedures and their activity [16]. Process evaluation considered with implementing such the curriculum as the main object of evaluation. On the dimensions of the process consists of academic activities, implementation of industry practice, PPL and KKN, facilities and infrastructure, learning strategies, resources and learning media and also assessment.

The product evaluation (product) is a collection of image and the results of the assessment of the associated with the purpose of context, input, and the process is then interpreted, judged, narrowly defined with honest [16]. Product evaluation related to the result of a program. Product evaluation in the conceptual framework consists of GPA.

The outcome can be interpreted as a result or output from an activity [20]. But the outcome is different from the output. For certain institution, indicated with quantification output of goods or services provided regardless of the wider social impacts. It can be said that the assessment outcome depending on the values that are in the output. The dimension of the outcome in this conceptual framework is compliance skills with the needs of the working world.

In brief, there are five dimensions which are evaluated in the context of the process input, products, and outcome. The elements of each of the dimensions can be described in Figure 3.

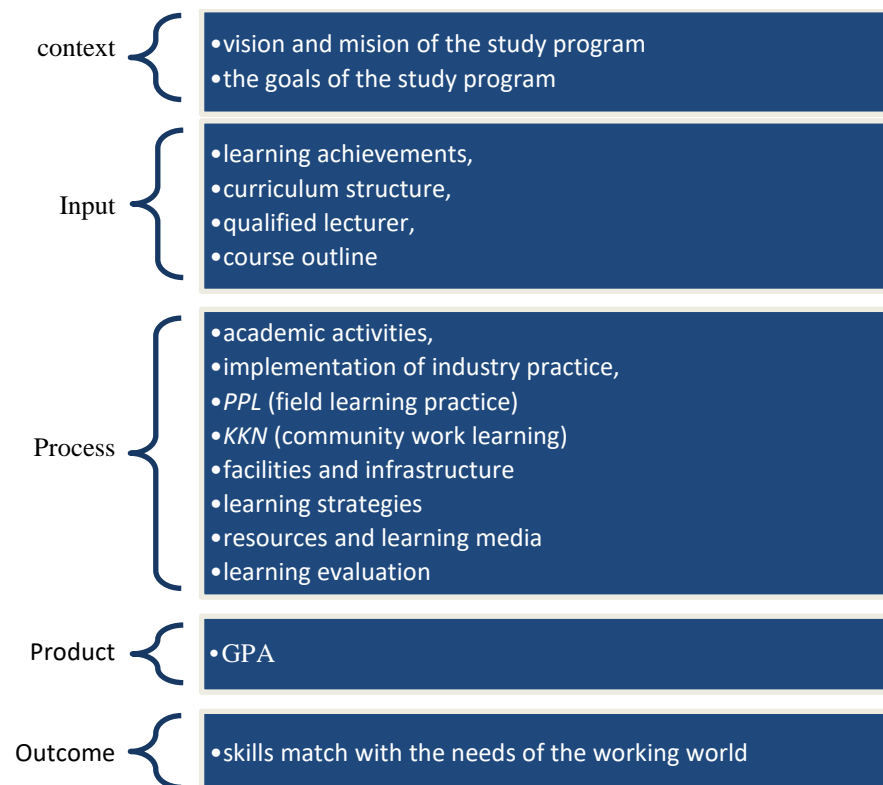


Figure 3. The Elements of CIPPO

#### 4. CONCLUSION

One of the evaluation models that can be used to evaluate the curriculum is CIPPO model. CIPPO Model consists of five dimensions of the context, input, process, product, and outcomes. All the components that are related to the curriculum can be evaluated with the model CIPPO. The implementation of the curriculum evaluation with CIPPO model must be done thoroughly. An evaluation of the curriculum should be done with the principle of goal-based evaluation the evaluation based on the destination.

#### REFERENCES

- [1] E. El- khawas, "Accountability and quality assurance: new issues for academic inquiry," *Springer International handbook of higher education*, vol/issue: 18(1), pp. 23-37, 2006.
- [2] L. Noonan, "Education For The 21st Century Executive Summary a whole populace threw of Ideas from the Harvard University Advanced Leadership Initiative think tank," Cambridge, MA, 2014.
- [3] P. D. S. U. Ansari and A. P. D. S. K. Malik, "Image of an effective Teacher In 21st Century Classroom," *The Journal of Educational and Instructional Studies in the World*, vol/issue: 3(4), pp. 61-68, 2013.
- [4] N. M. Meyers and D. D. Nulty, "How to use (five) curriculum design principles to align authentic learning environments, assessment, students' approaches to thinking and learning outcomes," *Assessment & Evaluation in Higher Education*, vol/issue: 34(5), pp. 565-577, 2009.
- [5] M. R. Keramati and A. Ahmadi, "The quality curriculum evaluation in postgraduate studies of Educational Management and Planning in the public universities of Tehran City," *Procedia-Social and Behavioral Sciences*, vol. 15, pp. 3723-3730, 2011.
- [6] C. Tsui, "Quality Assurance in higher education: a Hong Kong perspective," PhD thesis, University College London, 2009.
- [7] O. O. Tom-lawyer, "An evaluation of the English language curriculum of the Nigeria certificate in education: A case study of a college of education," *Open Journal of Social Sciences*, vol. 2, pp. 69-79, 2014.
- [8] Y. Kirkgöz, "The challenge of developing and protecting canceling curriculum innovationat higher education," *Journal of Procedia Social and Behavioral Sciences*, vol. 1, pp. 73, 78, 2009.
- [9] H. Prasetyono, "Graduate Program Evaluation in the Area Leading Educational, Outlying and Backward," *Journal of Education and Practice*, vol/issue: 7(36), pp. 109-116, 2016.
- [10] N. Santiyadnya, "The Program Evaluation of the Implementation of Productive Skill Competency Test in Smk Negeri 3 Singaraja," *JISAE: Journal of Indonesian Student Assesment and Evaluation*, vol/issue: 1(1), pp. 1-11, 2015.
- [11] Ann and P. L. Crabbé, "The Handbook Of Environmental Policy Evaluation," 2008.
- [12] A. Hussain, "Evaluation of Curriculum Development Process," *International Journal of humanities and Social Science*, vol/issue: 1(14), 2011.
- [13] K. S. S. Al-Jardani, "Evaluating a Developed Framework for Curriculum Evaluation in Oman," *International Journal of English Linguistics*, vol/issue: 2(6), pp. 17, 2012.
- [14] P. Johnson, "The 21st century skills movement," *Educational Leadership*, vol/issue: 67(1), pp. 11, 2009.
- [15] M. M. Lombardi, "Authentic learning for the 21st century: An overview," *Educause Learning Initiative*, vol/issue: 23(1), pp. 240-241, 2007.
- [16] D. L. Stufflebeam and A. J. Shinkfield, "Evaluation Theory, Models, & Applications," San Francisco, Jossey-Bass, 2007.
- [17] A. Hasan, *et al.*, "A Conceptual Framework for Mechatronics Curriculum Using Stufflebeam CIPP Evaluation Model," *Procedia-Social and Behavioral Sciences*, vol. 195, pp. 844-849, 2015.
- [18] F. J. Tayibnapis, "Evaluation of the Program and Evaluation instruments for the Program of Education and Research," Jakarta, Rineka Copyright, 2008.
- [19] Y. Patil and S. Kalekar, "CIPP model for school evaluation," *Scholarly, Research Journal for Humanity Science & English Language*, vol/issue: 2(10), pp. 2615-2619, 2015.
- [20] P. Smith, "Measuring Outcome in the Public Sector," London, Tayor & Francis Ltd., 1996.