

Online Learning Program Evaluation Using the Cipp Model on Industrial Electronic Engineering Expertise Competency in SMK

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Abstract— The implementation of online learning carried out in schools, especially during the Covid-19 Pandemic, cannot be separated from its advantages and disadvantages. The most popular obstacles encountered in online learning include loss of learning generation, namely the loss of student learning opportunities, especially the lack of student character discipline, the material received is poorly understood, and there are students who cannot learn online due to the absence of learning facilities. , like; no internet network, insufficient internet quota, inadequate online learning facilities, such as no Android phone. The research that will be carried out is the evaluation of online learning using the CIPP model on the competence of Industrial Electronics Engineering expertise in SMK. The research method is a mixed quantitative and qualitative research that will be carried out at SMK Negeri 1 Karimun. Data collection techniques and tools are through; observations, interviews, questionnaires and documents. The analytical techniques used include validity and reliability tests. While the evaluation model used is the CIPP model evaluation.

Keywords— Context, Input, Process, Product.

INTRODUCTION

Almost evenly throughout the world feel the impact of the danger of Covid-19 transmission, human activities cannot run normally as before before the emergence of this virus. The inhibition of human activities can be felt in various sides of life, ranging from government activities, the economy and without exception in the field of education and social activities of the community. The impact felt in the field of education, among others, almost all over the world closed schools and carried out learning activities from their respective places of residence. Learning activities carried out from home /

residence are usually referred to as being connected via computer networks on the internet. This online education is carried out to prevent the spread of the Covid-19 virus in the school area, so that students are required to study from home by using the internet network. Based on the results of the Study From Home survey for the 2020/2021 Academic Year, where the implementation was carried out in August 2020 by the policy makers, namely the Ministry of Education and Culture on the <https://puslitjakdikbud.kemendikbud.go.id> page with the following graph:

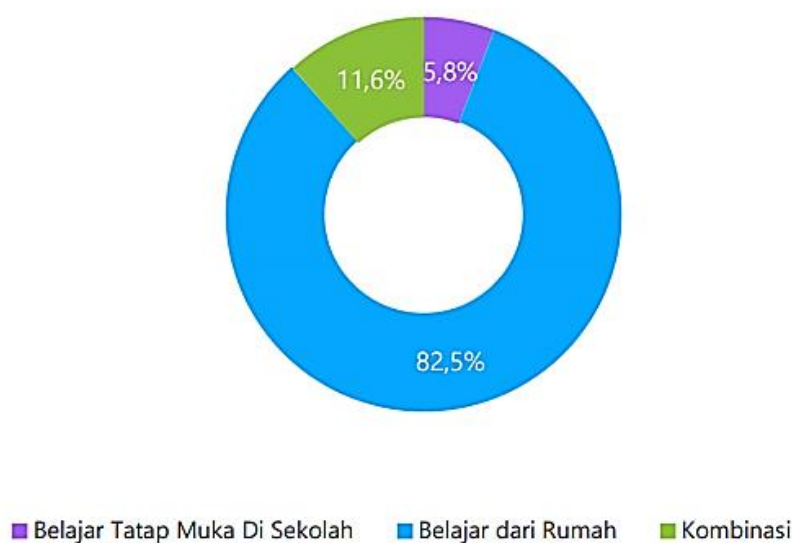


Figure 1: Graph of How Students Learn

Source: <https://puslitjakdikbud.kemdikbud.go.id>

The survey results from the Indonesian Child Protection Commission (KPAI), through the KPAI Commissioner, Retno Listyarti, have conducted a survey in 34 (thirty-four) provinces in Indonesia with 1700 students in school as respondents, stating that; as many as 43% of students complained about quota problems, 29% of students did not have cellphones, 16% of students did not have quotas and cellphones. This data is very surprising, because online learning will not be held massively and comprehensively in the territory of Indonesia, if this cannot be overcome or minimized.

Many problems are encountered during the implementation of learning from home or online learning. These problems have been widely researched and followed up by the government to overcome them. One of the studies conducted by Vera Mandailina, et al (2021:120), published in her journal, on online learning stated that online learning could not fully increase students' motivation and learning outcomes during the Covid-19 pandemic, this was because there are obstacles faced during the online learning process, both by students, educators and lecturers. This is in line with the data displayed by the Center for Policy Research, Research and Development Agency and Books of the Ministry of Education and Culture (2020):

Online learning is also experienced or carried out by SMK Negeri 1 Karimun and schools in Karimun Regency, Riau Islands Province. In contrast to SMA which prioritizes academic intelligence, learning in SMK places more emphasis on practical learning because graduates from SMK are expected to be ready to use certain skill competencies possessed by graduates.

The curriculum in SMK is generally carried out face-to-face such as the practice of skill competence, this activity cannot be carried out during this pandemic. The need for evaluation in learning during the Covid-19 pandemic is so that the implementation of learning such as learning programs, as well as the use of ICT in online learning by educators can be carried out optimally in the future.

According to Fastinus Nua (31 May 2021), in his blog stating that the long-lasting Covid-19 pandemic has not only caused learning loss, but also has an impact on generation loss in the education sector. Ikhsyat Syukur (31 May 2022), commenting on Fastinus Nua's blog, stated that the impact of the pandemic is not only in the form of, but also the damage from virtual learning. In the past, there was learning loss, but now there can be generation loss. Ikhsyat Syukur also stated that many educators complained about a number of problems due

to online learning. Starting from the problem of discipline, character, to the material received by the students is not optimal. The originator of the SIM also stated that the impact of the Covid-19 pandemic in the education sector was not directly felt at this time. There is concern for Indonesia Gold target in 2045, with its superior and productive golden generation (demographic bonus), will experience a setback. The Covid-19 pandemic may only last 1 or 2 years, but the damage can be up to more than 5 years.

The researcher was inspired and interested in conducting an evaluation of a learning program with the research title "Evaluation of Online Learning Programs Using the CIPP Model on Industrial Electronics Engineering Expertise Competencies in Vocational High Schools" based on the background and findings of the problems made. The learning process does not always run well and smoothly, so it is important to evaluate the learning program. The results of this research are expected to be a reference to improve learning outcomes, quality or quality of online learning at SMK Negeri 1 Karimun.

METHOD

This type of research is a combined research or mixed research. According to Muri (2019:428), combined research or Mixed Research is combining quantitative and qualitative research in researching problems. It further said that incorporation was carried out at different phases in the research process. In mixed methods research, researchers use quantitative research methods or techniques in one phase and use qualitative research methods and techniques in another phase, or vice versa.

The population in this study are all subject educators who teach in class X Industrial Electronics Engineering at SMK Negeri 1 Karimun. There are 12 subject educators for class X class X Industrial Electronics Engineering.

According to Baley in Mahmud (2011:159), for research that uses statistical data analysis the minimum sample size is 30. In accordance with the population of this study, which only amounted to 12 people who were less than the minimum sample, the population was used as the research sample.

The data collection technique was carried out aiming to get a clear picture of Online Learning Evaluation Using the CIPP Model on Industrial Electronics Engineering Expertise Competencies in Vocational High Schools, the following variables, indicators, data sources, and methods used for data collection are shown:

Table 1: Evaluation Variables, Indicators, Data Sources, and Research Methods

No	Variable	Indicator	Data source	Method
1.	Context	1. Learning Environment 2. Vision 3. Mission 4. Destination	1. Industrial Electronics Engineering Educator	1. Questionnaire/ Questionnaire 2. Observation 3. Documentation
2.	Input	1. Educator 2. Curriculum 3. Lesson Planning 4. Learning methods 5. Learning Media 6. Learning Platform 7. Facilities and infrastructure 8. Learners	1. Industrial Electronics Engineering Educator	1. Questionnaire/ Questionnaire 2. Interview 3. Observation 4. Documentation
3.	Process	1. Learning process	1. Industrial Electronics Engineering Educator	1. Questionnaire/ Questionnaire
4.	Product	1. Learning outcomes	1. Industrial Electronics Engineering Educator 2. SMK Negeri 1 Karimun	2. Questionnaire/ Questionnaire 3. Documentation

Researchers make observations or observations related to several sub-variables that exist in the Context Variables and Input Variables of this study. Observational data on each research indicator will be evaluated and described in the form of research data tables.

In this study, researchers will conduct interviews with personnel at the research location to ask problems related to research variables. In this study, the research variables that will be used as interview materials are context variables consisting of two questions, input variables consisting of seven questions, and process variables consisting of two questions. Techniques and data collection tools through questionnaires in the form of questionnaires aimed at obtaining accurate and real data and information at the research site. The distribution of the questionnaire was aimed at respondents as the research sample, namely educators who teach in class X Industrial Electronics Engineering at SMK Negeri 1 Karimun with a total of 12 people as respondents. The questionnaire is in the form of a set of questions or statements in google form format which will then be answered by respondents online via android or laptop.

Questionnaire data in this study is quantitative data which was analyzed descriptively by percentage. According to Riduan (2004:71-95) which states that the steps for analyzing quantitative data descriptively are as follows:

1. Calculate the respondent's value and each aspect or sub variable.

2. Record value.
3. Calculate the average value.
4. Calculate percentage by formula;

Information;

$$DP = \frac{n}{N} \times 100$$

DP = Descriptive Percentage (%)

n = Empirical Score (Score obtained)

N = Ideal score for each question/statement item

According to Muri (2014: 234), the validity of an instrument is how far the instrument actually measures what (object) is to be measured, the higher the validity of an instrument, the better the instrument is to use. Reliability, according to Yusuf (2014: 242), is the consistency or stability of the score of a research instrument on the same individual and given at different times.

The method used to measure the level of reliability of an instrument is the test method. According to Yusuf (2014: 247), the test method is by giving the same instrument to the same number of subjects at different times, but under relatively the same measurement conditions.

The evaluation model used in this study is the CIPP Evaluation Model (Context, Input, Process, Product). The evaluation of the CIPP model is the most suitable and widely used to evaluate educational programs, because this model evaluates thoroughly or comprehensively, the following aspects will be evaluated in this study:

- a. Context evaluation includes aspects; learning environment, vision, mission, and goals in SMK Negeri 1 Karimun.
- b. Evaluation Input (input), covering aspects of educators/educators, curriculum, learning planning, learning methods, learning media, online learning platforms, facilities and infrastructure, and students, SMK Negeri 1 Karimun.
- c. Process evaluation, namely evaluating aspects of learning activities and online learning processes during the COVID-19 pandemic at SMK Negeri 1 Karimun.
- d. Product evaluation (results) in the form of learning outcomes for class X (ten) students for Industrial Electronics Engineering Expertise Competencies at SMK Negeri 1 Karimun.

RESULTS AND DISCUSSION

1. Context Variables

Based on the results of the validation using the IBM SPSS 25 application on the research results, it can be seen that the value of Corrected Item-Total Correlation or r count is greater than r table of 0.576, thus all questions/statements for the Context variable are declared valid. While the Guttman Split-Half Coefficient value in the research results obtained a value of 0.936 which is greater than the r table of 0.576, thus all questions/statements in the Context variable are declared reliable. Based on the statement above, it can be concluded that the instrument used to evaluate the context variable is declared valid and reliable.

Furthermore, based on the data from the respondent's Context variable in the research results, it can be seen that the average percentage of the Context variable is 71.85% with good criteria. However, there are some percentage values only with fairly good criteria, namely 42.96% and 59.26%, this is due to several factors.

2. Input Variables

Based on the results of the validation using the IBM SPSS 25 application on the research results, it can be seen that the value of Corrected Item-Total Correlation or r count is greater than r table of 0.576, thus all questions/statements for the Input variable are declared valid. While the Guttman Split-Half Coefficient value in the research results obtained a value of 0.931 which is greater than the r table of 0.576, thus all questions/statements on the Input variable are declared reliable. Based on the above statement, it can be concluded that the instrument used to evaluate the Input variable is declared valid and reliable.

Furthermore, based on data from respondents' input variables in the research results, it can be seen that the average percentage of input variables is 65.80% with good criteria. However, there are some criteria that are only good enough and need to be improved and the percentage value is not good, which is 40.00%, this is due to several factors.

3. Process Variables

Based on the results of the validation using the IBM SPSS 25 application on the research results, it can be seen that the value of Corrected Item-Total Correlation or r count is greater than r table of 0.576, thus all questions/statements for the Process variable are declared valid. While the value of the Guttman Split-Half Coefficient in the research results obtained a value of 0.982 which is greater than the r table of 0.576, thus all questions/statements in the Process variable are declared reliable. Based on the above statement, it can be concluded that the instrument used to evaluate the Process variable is declared valid and reliable.

Furthermore, based on the respondent's data on the Process variable in the research results, it can be seen that the average percentage of the Process variable is 77.36% with good criteria. However, there are unfavorable criteria with a percentage value of 40.00%, this is caused by several factors.

4. Product Variable

Based on the results of the validation using the IBM SPSS 25 application on the research results, it can be seen that the value of Corrected Item-Total Correlation or r count is greater than r table of 0.576, thus all questions/statements for the Product variable are declared valid. While the Guttman Split-Half Coefficient value in the research results obtained a value of 0.849 which is greater than r table of 0.576, thus all questions/statements on the Product variable are declared reliable. Based on the above statement, it can be concluded that the instrument used to evaluate the Product variable is declared valid and reliable.

Furthermore, based on the data from the Product variable respondents in the research results, it can be seen that the average percentage of the Process variable is 72.67% with good criteria. However, there are unfavorable criteria with a percentage value of 40.00%, this is due to several factors.

5. Learning outcomes

Based on the results of the study, it can be described that:

- a) The average value of all subjects is 70.08 with good/minimum criteria (Bmin).

- b) The minimum average value found in Pancasila and Citizenship Education (PPKn) subjects is 66.06 with Minimum Good criteria (B-)
- c) The maximum score for the subject of Informatics is 79.78 with very good criteria (B+).

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of research and discussion, it can be concluded that the following factors have an impact on student learning outcomes on the competence of Industrial Electronics Engineering expertise at SMK Negeri 1 Karimun, namely:

1. The condition of the house, the atmosphere of the house and the environment of the students are less supportive.
2. School goals that are less challenging and less realistic and less clearly defined.
3. Curriculum that has not been able to reduce the obstacles faced by teachers, parents and students
4. Educators do not hold fair competition or competition.
5. Learning methods that have not been fully able to stimulate the desire of students to learn further
6. Learning media that have not been able to foster positive attitudes of students towards the material and the learning process.
7. Utilization of Whatsapp, Zoom, Google Class Room, Google Meet and email that has not been maximized.
8. Inadequate communication infrastructure (internet).
9. The use of computers, cellphones and laptops is still not good.
10. The use of software and learning applications is less than the maximum.
11. Educators who have not used dynamic (quality) content in learning.
12. Inadequate school facilities and infrastructure.
13. Inadequate learning resources.
14. Students who have not collaborated and interacted well.
15. The skills of students to seek, find and conclude learning that is not yet independent.
16. Extracurricular activities that have not been carried out well.
17. Learning activities that are not in accordance with what is described in the syllabus.
18. Educators who have not analyzed student learning outcomes well.
19. Educators who have not been able to find the weaknesses and shortcomings of the learning process.

Based on the implications of the research results, several recommendations can be submitted to various parties. The recommendations are as follows.

1. To Parents of Students
 - a. The house and the atmosphere of the house are made as comfortable as possible so that students can study comfortably and quietly.
 - b. The learning environment of students must be made as good as possible.
2. To the School
 - a. The school's goals must be clearly defined
 - b. School goals made challenging and realistic
 - c. Extracurricular activities are made as good as possible
 - d. The communication infrastructure is made as good as possible.
 - e. Facilities and infrastructure, learning resources, and learning media are equipped.
 - f. Learning resources are equipped.
 - g. The emergency curriculum is well-designed.
 - h. Extracurricular activities must run smoothly.
3. Educator
 - a. Educators must make students motivated.
 - b. Educators must be able to take advantage of existing platforms for online learning.
 - c. Educators must analyze student learning outcomes well, as a basis for making decisions.
 - d. Educators must find the weaknesses and shortcomings of the learning process as a basis for improving the learning process.
 - e. The use of software and learning applications is less than optimal.
4. Learners
 - a. Learners must collaborate, and interact when finding learning difficulties.
 - b. Learners must be able to find and conclude learning independently.

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