EVALUATION OF HYBRID LEARNING IMPLEMENTATION OF AVIATION ENGLISH LEARNING IN VOCATIONAL HIGHER EDUCATION

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ABSTRACT
Politeknik Penerbangan Makassar has recently used hybrid learning for the first time, following the Ministry of Transportation's adoption of this approach in response to the Covid-19 outbreak. The objective of this study was to assess the implementation of Hybrid Learning in the English Course for Air Traffic cadets at Politeknik Penerbangan Makassar, with a focus on the comprehension and administration of Hybrid Learning by instructors, as well as the cadets' understanding of Hybrid Learning. The research employed quantitative research methods. The present study used the CIPP (Context, Input, Process, Product) evaluation paradigm as a questionnaire item administered to lecturers and cadets. The findings indicated that the lecturers achieved high marks in their comprehension and handling of Hybrid Learning, as assessed through the CIPP examination. The calculation results indicate the following percentages for each element: (1) Context aspect with 75.65%, (2) Input aspect with 84.92%, (3) Process aspect with 80.22%, and (4) Product aspect with 66.5%. In the interim, the results achieved by cadets in relation to their comprehension and handling of Hybrid Learning, as assessed by the CIPP evaluation, fell within the high range. The computation results of each facet are evident from the data presented. The results indicate that the context aspect received a score of 84.67%, the input aspect received a score of 82.08%, the process aspect received a score of 81.67%, and the product aspect received a score of 79.19%. In general, the lecturers demonstrated a good level of understanding and proficiency in managing Hybrid Learning, with a score of 76.82%. Similarly, the cadets exhibited a high level of understanding and proficiency in their management of Hybrid Learning, with a score of 81.90%.

Keywords: *evaluation, hybrid learning, implementation, aviation English, vocational higher education*

1. INTRODUCTION

An enhanced oriented assessment paradigm, or CIPP model for short, was put forth in 1967 by renowned American researcher Stufflebeam, D.L. It consists of Context assessment, Input Evaluation, Process Evaluation, and Product Evaluation. The input evaluation is based on the background evaluation to judge the feasibility and effectiveness of the information, resources, and ways needed to achieve the program's objectives. The process evaluation necessitates continuous supervision and inspection of the entire process. The background evaluation is primarily used to determine the objectives of the evaluation scheme and to evaluate the needs, problems, resources, and opportunities of the scheme in a specific environment. The CIPP model's four components work best together. It is suggested that evaluation should include a process of offering means for making decisions and ways to enhance the curriculum, rather than stopping after the evaluation aim has been fulfilled.

Examining and characterizing the program's context, determining the program's aims, and determining if the suggested objectives are sufficiently responsive to the recognized needs are all part of the context review process. Context evaluations assess needs, problems, and opportunities as bases for defining goals and priorities, and judging the significance of outcomes, Stufflebeam [1] suggests that it aids in program planning and decision-making.

Adjustments to education policy during the coronavirus pandemic also affected policies at official tertiary institutions, including the Makassar Aviation Polytechnic. Makassar Aviation Polytechnic is one of the official tertiary institutions under the auspices of the Ministry of Transportation of the Republic of Indonesia,

which organizes vocational and academic-based education in aviation engineering and safety. Following the government's call regarding the prevention of transmission of the COVID-19 virus, the Makassar Polytechnic also implemented an alternative Hybrid Learning education for cadets.

Aviation English is a branch of English for Specific Purpose (ESP) and has unique characteristics, combining professional knowledge with English knowledge. For example, more professional phrases, often passive voice used in the text, long and complicated sentences used in the context, etc. The course of Aviation English aims to supply awareness to trainees of their responsibilities to the aircraft passengers' safety. Therefore, communication is the core of learning Aviation English, and the objective is that the trainees will communicate effectively using the English language in the Aviation profession. English is one language recognized by the International Civil Aviation Organization (ICAO) as stated in Annex 1 [2]. The Annex has adopted personnel Licensing, in some languages, such as English, Arabic, French, Russian, Chinese, and Spanish. Each Contracting State is requested to select one of those texts for national implementation and other effects in the Convention. Either through direct use or translation into its language and to notify the organization accordingly. For an Air Traffic Controller (ATC), English is the most fundamental and crucial role in ATC's job. Before getting a license, an ATC must pass the ICAO English Language Proficiency (IELP) exam. Formal evaluation is not required for applicants who demonstrate expert language proficiency. e.g., native and proficient non-native speakers with a dialect or accent intelligible to the international aeronautical community.

Due to this phenomena, hybrid learning is thought to be sufficient to be used throughout the pandemic, especially in the new normal age where face-to-face learning is possible despite being subject to severe health rules. Sir Isaac Pitman delivered the first distance learning course in 1837, long before the hybrid learning approach became popular in schools. Pitman's concept, albeit there are additional iterations, is comparable to distant learning as we know it today. The abbreviated method is the main strategy. Pitman used postcards to communicate brief notes to his students, who were then asked to review and edit the text (Matthews, 1999 [3]). The procedure still requires adequate input and conclusions even though computers and mobile devices were not used and won't even be invented for another century or so. Since its inception, a number of institutions have embraced distance learning to provide education that is not limited by time or geography; Spector et al. [4]. E-learning, on the other hand, is viewed as a generalized channel of HL, whereas distance learning is considered a real example of hybrid learning.

Based on the results of observations made using the interview method with several lecturers who teach English courses at the Makassar Aviation Polytechnic, it shows that the application of Hybrid Learning at the Makassar Aviation Polytechnic could be more optimal, and there are many obstacles. In addition, the results of interviews conducted with several cadets indicated that some cadets needed help understanding Hybrid Learning-based learning, even though they had supporting facilities such as laptops and internet or smartphones connected to the internet.

Responding to the problems above, it is necessary to conduct research in the form of an evaluation to find out how Hybrid Learning is implemented in tertiary institutions. In this case, the author takes the researcher's place at the Makassar Aviation Polytechnic. How do lecturers carry out the management of the implementation of Hybrid Learning, how is the understanding of cadets in participating in Hybrid Learning, how is the availability of existing supporting facilities and infrastructure, and what obstacles are faced by the tertiary institution so that it can be implemented Hybrid Learning can run optimally. Therefore, the authors conducted research with the title "Evaluation of the Implementation of Hybrid Learning in English Courses at the Makassar Aviation Polytechnic."

Based on the reference to domestic and foreign literature, Indonesian Scholars have carried out corresponding research. The representatives of this field include: Ayunda [5] has made an insightful argument regarding the CIPP evaluation methodology for e-learning digital literacy; Ekayana [6] has research experience in CIPP-based higher education evaluation theory and practice; Wu and Teng [7] Based on the idea of CIPP, have done a fruitful analysis of the development and evaluation of higher vocational project-based curricula; Qin Yuan [8] highlights the use of CIPP in the assessment of Higher Vocational project-based curriculum, however, its application procedure relies more on subjective judgment than on quantitative analysis. In particular, the approach of the fuzzy evaluation index falls short; Ma [9] established the CIPP approach to conduct a fruitful investigation for the practical teaching quality evaluation based on other scholars' studies.

Based on the formulation of the problem described above, the purpose of this study is to evaluate the implementation of Hybrid Learning in the English course for Air Traffic cadets at the Makassar Aviation Polytechnic based on the understanding and management

of Hybrid Learning carried out by lecturers and their understanding of Hybrid Learning by cadets.

2. METHOD

This research uses a descriptive method. Colorafi [10] stated that the descriptive method is a research method to make a picture of a situation or event, so this method will only carry out essential data accumulation. The evaluation model used in this study is the CIPP model (context, input, process, product) related to implementing Hybrid Learning-based learning.

Table 1 Hybrid Learning Implementation Evaluation Instrument Items for Lecturers

Variable	Indicator	Sub-indicator
Context	Ability to plan and create learning materials based on e-learning.	Technical proficiency in planning e-learning-based learning
Input	Competencies to support the implementation of e-learning-based.	Mastering information technology and computers in learning
	Understanding of *e-learning*	Understand the definition and the use of hybrid learning
Process	Preparing the cadet to implement *Hybrid Learning*	Giving guidance to the cadet by implementing hybrid learning.
	Lecturers' technological skill	The ability to use supporting software or applications.

Table 2. Hybrid Learning Implementation Evaluation Instrument Items for Lecturers

Variable	Indicator	Sub-indicator
Context	The learning environment and technology-based learning.	Having supporting devices in implementing hybrid learning.
Input	Students' competency in technology-based learning.	Cadets can operate the devices (computers, tablets, mobile phones, or other devices
		Cadets can use some application or software.
	Knowledge about hybrid learning	Knowing and understanding *hybrid learning*
Process	Students' competency	The ability to use some software or application.
Product	The level of mastery of the material.	The mastery of the material getting better.

3. FINDING AND DISCUSSION

The results of this study are in the form of data descriptions that aim to present data that has been taken by researchers, namely the implementation of Hybrid Learning-based learning in terms of lecturers and cadets from each aspect contained in the CIPP evaluation method, namely context aspects, input aspects, process aspects, and product aspects.

The following presents the mean, standard deviation (standard deviation), and bar chart of each research indicator, calculated using the IBM SPSS Statistics 26 program. A description of the research data for each aspect is presented in the attachment of the paper, and the result of the calculated CIPP aspects for the lecturers as follows:

The first aspect was the Context aspect. From the results of the analysis that has been carried out, Hybrid Learning conducted by lecturers from the Context aspect is known that the highest score obtained is 17, with the lowest score being 13, while the mean is 15.13. The standard deviation (SDi) is 1.808. Thus, the mean from the context aspect obtained by the lecturer is 15.13 and is included in the high category with a percentage of $\frac{15,13}{20} x100\% = 75,65\ \%$.

The second aspect was the input aspect. From the results of the analysis that has been carried out, Hybrid Learning conducted by lecturers from the input aspect is known that the highest score obtained is 24, with the lowest score being 16, while the mean is 20.38. The standard deviation (SDi) is 2.825. Thus, the mean from the input aspect obtained

by the lecturer is 20.38 and is included in the high category with a percentage of $\frac{20,38}{24}x100\% = 84,92\ \%$.

The third aspect was the process aspect. From the results of the analysis that has been carried out, Hybrid Learning conducted by lecturers from the Process aspect is known that the highest score obtained is 34, with the lowest score being 25, while the mean is 28.88. The standard deviation (SDi) is 3.643. Thus, the mean from the process aspect obtained by the lecturer is 28.88 and is included in the high category with a percentage of $\frac{28,88}{36}x100\% = 80,22\ \%$.

The last aspect of the evaluation of the implementation of the Aviation English Learning in Vocational Higher Education for the lecturers was the product aspect. From the results of the analysis that has been carried out, Hybrid Learning conducted by lecturers from the Product aspect is known that the highest score obtained is 15, with the lowest score being 11, while the mean is 13.3. The standard deviation (SDi) is 1.356. Thus, the mean from the product aspect obtained by the lecturer is 13.3 and is included in the medium category with a percentage of $\frac{13,3}{20}x100\% = 66,5\ \%$.

The following presents the mean, standard deviation (standard deviation), and bar chart of each research indicator, calculated using the IBM SPSS Statistics 26 program. A description of the research data for each aspect is presented in the attachment of the paper, and the result of the calculated CIPP aspects for the cadets as follows:

From the results of the analysis that has been carried out, Hybrid Learning conducted by cadets from the Context aspect is known that the highest score obtained is 12, with the lowest score being 6, while the mean is 10.16. The standard deviation (SDi) is 1.438. Thus, the mean from the context aspect obtained by cadets is 10.16 and is included in the high category with a percentage of $\frac{10,16}{12}x100\% = 84,67\ \%$.

From the results of the analysis that has been carried out, Hybrid Learning conducted by cadets from the input aspect is known that the highest score obtained is 40, with the lowest score being 17, while the mean (mean) is 32.83. The standard deviation (SDi) is 3.776. Thus, the mean from the aspect of input obtained by cadets is 32.83 and is included in the high category with a percentage of $\frac{32,83}{40}x100\% = 82,08\ \%$.

From the results of the analysis that has been carried out, Hybrid Learning conducted by cadets from the Process aspect shows that the highest score obtained is 12, with the lowest score being 6, while the mean is 9.80. The standard deviation (SDi) is 1.445. Thus, the mean from the process aspect obtained by cadets is 9.80 and is included in the high category with a percentage of $\frac{9,80}{12}x100\% = 81,67\ \%$.

From the results of the analysis that has been carried out, Hybrid Learning learning conducted by cadets from the Product aspect shows that the highest score obtained is 16, with the lowest score being 6, while the mean is 12.67. The standard deviation (SDi) is 2.054. Thus, the mean from the product aspect obtained by cadets is 12.67 and is included in the high category with a percentage of $\frac{12,67}{16}x100\% = 79,19\ \%$.

From the results of the description of lecturer and cadet data in points 1 and 2 above, it can be seen that each aspect and percentage obtained by both lecturers and cadets are as follows:

Table 3. CIPP Evaluation of Lecturers and Cadets.

Object	Aspect	Category	Percentage
Lecturers	*Context*	High	75,65 %
	Input	High	84,92 %
	Process	High	80,22 %
	Product	Medium	66,5 %
	Average		**76,82 %**
Cadets	*Context*	High	84,67 %
	Input	High	82,08 %
	Process	High	81,67 %
	Product	High	79,19 %
	average		**81,90 %**

Table 4. Score Range and Percentage for Lecturers

Interval	Category	Interval in percentage
$75 < X$	High	$75\ \% < X$
$50 < X \leq 75$	Moderate	$50\ \% < X \leq 75\ \%$
$X \leq 50$	Low	$X \leq 50\ \%$

The transfer of intervals into percentage form is obtained by: 75/100 x100%=75 %. The average percentage obtained by lecturers is 76.82%, which is included in the medium category.

Table 5. Score Range and Percentage for Cadets

Interval	Category	Interval in percentage
$60 < X$	High	$76{,}25\ \% < X$
$40 < X \leq 60$	Moderate	$50\ \% < X \leq 76{,}25\ \%$
$X \leq 40$	Low	$X \leq 50\ \%$

Transferring the interval into percentage form is obtained by: 60/80 x100%=76.25 %. The average percentage obtained by cadets is 81.90%, which is included in the high category.

1. CIPP aspect from the lecturer

a) Context

From the context aspect, it can be seen that the average score (mean) obtained by the lecturer is 15.13 out of a maximum score of 17, and it gets a percentage of 75.65%. This score indicates that the context aspect, namely preparation in planning and making teaching materials for Hybrid Learning-based learning materials owned by lecturers, is included in the high category. This calculation will be better if the lecturer/educator increases mastery of the material, especially if it is related to the use of Hybrid Learning, especially in Hybrid Learning-based learning. According to Adijaya, N and Pertiwi, N [11], online learning teaching materials are efficient to use in lectures because they can be accessed anytime and anywhere.

b) Input

It can be seen that the mean score obtained by the lecturer is 20.38 out of the maximum score of 24 and gets a percentage of 84.92%. This score indicates the input aspect, namely the competency aspect supporting the implementation of Hybrid Learning-based learning, and an understanding of Hybrid Learning is good. The value obtained for the input aspect is included in the high category, but it would be better if this indicator were increased by both the lecturer and the school/campus. Lecturers must make improvements to mastery of Hybrid Learning and the ability to use the internet. The skill of using computer devices to support learning activities is quite good, but what the lecturer must do next is to practice using Hybrid Learning features so that the use of Hybrid Learning can be utilized optimally, especially in Hybrid Learning-based learning.

c) Process

The lecturer's mean score is 28.88 out of a maximum score of 34, and the percentage obtained is 80.22%. This score shows that the process aspect owned by the lecturer is included in the high category, which means that the score obtained by the lecturer for aspects of the lecturer's expertise regarding Hybrid Learning and preparing cultured students based on Hybrid Learning is quite good but still needs to be improved. The ability of lecturers to organize learning based on Hybrid Learning by utilizing Hybrid Learning is the primary basis for preparing students with an ICT-based culture. In addition, the lecturer also needs to provide guidance or direction for cadets who have difficulty using/applying Hybrid Learning during this Hybrid Learning-based learning process.

d) Product

The mean score obtained by lecturers is 13.5 out of a maximum score of 15, and the percentage obtained is 66.5%. This score shows that the aspect of the product owned by the lecturer is included in the medium category, which means that the score obtained by the lecturer for the aspect of the lecturer's competency regarding Hybrid Learning and its effect on cadet students is quite good but has not been running optimally. The score results for lecturers from the product aspect are related to the three previous aspects: context, input, and process. Improving product aspects can be done by increasing the quality of the Context, Input, and Process aspects. To increase the results of the product aspect, the cadets must improve each of these aspects so the product aspect will make a better result.

2. CIPP aspect from cadets

a) Context

For context, cadets get an average (average) of 10.16 from a maximum score of 12 and a percentage of 84.67%. This score indicates that the contextual perspective received by cadets is included in the "high" category, meaning that the score obtained by cadets is included in the "good" category related to learning aspects when implementing hybrid learning. This result is partly due to parental support and the availability of support services for implementing hybrid learning. In addition, as technology develops, students can easily access the learning environment used during the hybrid

learning experience. Firman and Rahayu, SR [12] show that the ergonomic use of laptops and smartphones ensures mobility that allows students or cadets during lectures. Students or cadets are greatly helped by the storage capabilities of laptops and smartphones, giving them more flexible access to files or lecture materials. According to Widiyono, Aan [13], using mobile phones is more comfortable because they are easy to carry everywhere, and the availability of different variants facilitates communication and accelerates learning. From this, using mobile phones is not an obstacle to online learning.

b) Input

Cadets get an average score of 32.83 with a maximum score of 40 and a percentage of 82.08%, so the input aspect is in the high category, meaning that cadets have met the requirements based on hybrid learning aspects and competency aspects of good hybrid learning. Most cadets can use hybrid knowledge during this hybrid learning-based learning. With the assignments given by the lecturer, the cadets become more skilled in using the e-learning function in this hybrid learning-based learning process.

c) Process

From the process aspect, cadets obtain a mean value of 9.80 out of a maximum score of 12 and get a percentage of 81.67%, so the process aspect is included in the high category, which means that students' understanding of computer use and use of Hybrid Learning features already well. This result is due to global developments that require cadets to be more active in seeking or obtaining the latest information. The learning applied during Hybrid Learning requires students to be more involved in getting information related to the material to be studied, so most students seek this information with the help of electronic media and the internet. Most cadets have been able to use and utilize electronic media and the internet during the learning process based on Hybrid Learning.

d) Product

From the product aspect, cadets obtained an average score (mean) of 12.67 out of a maximum score of 16. They received a percentage of 79.19%, so the product aspect was included in the high category, which means that the cadets' mastery of the material and willingness to learn have been pretty good. This result is related to the previous aspects, namely context, input, and process.

By taking into account the context, inputs, processes, and outcomes of the implementation, educational institutions can systematically evaluate and improve their hybrid learning programs by using the CIPP assessment model. For both instructors and students, this organized approach can result in better decision-making and the optimization of hybrid learning experiences. When considering the interconnectedness of the CIPP's components, the Department of Mechanical Engineering PNB's teaching program execution is classified as being "fairly effective." Darma [14].

However, it was discovered that teachers concentrated more on theoretical work and rote learning, which put pressure on students and had a negative impact on their intellectual abilities. Findings showed that this group of welfare schools focused on quality education by using different means, such as advanced technology, effective communication, relevant courses, as well as teaching and learning strategies. Additionally, there was a dearth of suitable space and an efficient setting, and the schools were housed in rented structures Azis [15].

4. CONCLUSION

Based on the results of the research and discussion that has been carried out, it can be concluded that the overall management and understanding of lecturers towards Hybrid Learning is included in the high category and reaches 76.82%. The context aspect is included in the high category, the input aspect is included in the high category, the process aspect is included in the high category, and the product aspect is included in the medium category. This result shows that the product aspect has not run optimally. Therefore improvements and enhancements are needed so that Hybrid Learning-based learning conducted by lecturers during this pandemic can run better. The understanding of Hybrid Learning possessed by cadets is included in the high category and reaches a percentage of 81.90%. The context aspect is included in the high category, the input aspect is included in the high category, the process aspect is included in the high category, and the product aspect is included in the high category. This result shows that each element has been running optimally, but it still needs to be improved so that Hybrid Learning-based learning can run even better.

AUTHOR CONTRIBUTIONS

This paper was authored by Ahmad Rossydi, who made significant contributions in terms of paper revision, finalization, model construction analysis, discussion, submission, and contact, accounting for 75% of the overall contribution. Adhitya Octavianie and Syamsuriani were involved in the literature search, discussion, and were responsible for proofreading and translation of the paper, accounting for 25% of the contribution.

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