

Context input process product evaluation of hybrid learning practices in Indonesian universities

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Article Info

Article history:

Received Jan 14, 2023

Revised Jul 20, 2023

Accepted Aug 15, 2023

Keywords:

CIPP evaluation
Higher education
Hybrid learning
Online learning
Readiness

ABSTRACT

The transformation of post-pandemic learning at Indonesian universities is becoming increasingly diverse. Several universities use hybrid learning models to implement hybrid learning practices. The purpose of this study is to assess the hybrid learning process at two Indonesian universities. The context input process product (CIPP) evaluation model is used in this study as part of a mixed method. Quantitative methods are used to get an overview of student and lecturer responses, whereas qualitative methods are used to dig deeper into data about hybrid learning practices. This study included 341 students and 22 lecturers from both universities. Techniques for collecting data include questionnaires, interviews, observation, and documentation studies. The data was analyzed using learning theories. The study's findings indicate that hybrid learning practices are performing well. The readiness of university infrastructure, as well as the readiness of students and lecturers, determines the success of hybrid learning implementation. In practice, however, some lecturers tend to use face-to-face or online learning practices exclusively to fill gaps in the hybrid learning process. This study suggests that universities investigate an effective model for implementing hybrid learning.

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1. INTRODUCTION

The pandemic has emerged as a new global trend, affecting many aspects. The previously face-to-face learning process must now be completed online. Each educational institution has its own policy for conducting online learning. Initially, various educational institutions encountered difficulties with online learning, particularly during the adaptation process. Schools, non-formal education, and universities all face unique challenges. Teachers, in particular, face challenges such as low digital literacy, difficulty adapting, limited interaction, and an online learning climate [1]–[3]. Meanwhile, students face various obstacles, such as internet devices and networks, learning habits, and motivation [4]–[6]. The success of online learning is influenced by several components, such as students, educators, learning resources, the technology used, and the government [7].

Along with the development of educational methods, online learning has begun to be widely applied. One of the positive impacts of implementing online learning is encouraging the development of information technology facilities for educational institutions, including developing an online learning environment [8]. The same thing has had an impact recently when face-to-face learning has begun to be implemented in various educational institutions. However, government policies affect the transition from online learning to traditional or face-to-face learning [9], [10]. For example, in Indonesia, even though initially the government's policy did not regulate how specific online learning was carried out from home, further arrangements are only regulated through various educational institutions, such as universities [11]. From a macro point of view, several studies have recommended that ministries issue policies regulating online and hybrid learning implementation nationally [12], [13]. However, each institution can also implement self-regulation strategies in higher education independently [14].

During the transition period, each educational institution's readiness to adapt varies. Most institutions, especially in higher education, continued to practice online learning until a new policy permitted face-to-face education. Several educational institutions, however, use both online and traditional face-to-face learning at the same time. The use of hybrid learning is one of the university's options for addressing the challenges presented by the previous learning method, which had numerous limitations. Blended, flipped, and hybrid (BFH) learning models provide institutions and instructors with new approaches to the traditional model of education and are becoming more common in curricula at postsecondary institutions worldwide [15].

The intentional use of technology to replace sitting time in class to foster an environment conducive to student learning defines the hybrid learning (HL) model [16]. For example, if a three-unit class meets three times per week, one of those times is dedicated to technology-enhanced instruction or extracurricular activities (such as watching lecture videos or participating in activities with others). The exact number of hours varies by course/unit load and institution, but technology-enhanced instruction typically accounts for 20% to 79% of seat time [17]. The removal of seat time can make class scheduling more adaptable and relieve pressure on classroom space [15], [18]. Some things inherent in hybrid learning are the integration of traditional learning with web-based online approaches, the combination of media and tools used in e-learning environments, and the combination of many teaching and learning approaches regardless of the technology used [19].

Hybrid learning is one of the ideas that can be implemented post-pandemic, which combines technology and distance learning, especially at universities. Implementation of hybrid learning increases productivity and is used effectively [20]. Almost all elements have changed in implementing hybrid learning, including the roles of lecturers and professors. Therefore, new adaptations are again needed to implement effective and efficient learning.

Several Indonesian universities are currently implementing hybrid learning. In this educational system, half of the students are in class and half are at home. Various groups are facing numerous challenges in implementing the newly implemented post-pandemic learning system. Universities, of course, face the most difficult challenges, particularly in terms of preparing information technology infrastructure. When implementing online learning, universities must develop and consider information technology readiness and technological devices, as well as staff skills [21], so that the success of implementing this method is not solely dependent on one factor.

In the school context, research in Indonesia shows that parents play a critical role in the success of this learning. Parents are expected to help their children stay happy and comfortable. Some preparation recommendations include facilities, proactive contact with teachers, and parents not adding to the burden by expecting maximum results from students, developing parenting strategies, motivating students, and maintaining positive communication [22]. Similarly, research findings in France indicated that various elements, such as teachers, students, and even leaders, needed to reconsider in order to optimize the adaptation of this learning method [23].

Meanwhile, post-pandemic learning evaluation research at universities focuses on research related to online learning. Meanwhile, due to the many differences in the two, hybrid learning research in colleges differs significantly from research in schools. Three major categories have an impact in higher education: online students, instructors, and content development [24]. In Indonesia, hybrid learning research has so far only looked at its positive and negative effects [25] as well as its application to specific courses such as English teaching [26] and physics [27]. Furthermore, existing research is still limited to a single university and employs small-scale methods [28].

Hybrid learning, despite its potential benefits, also has several weaknesses that need to be addressed. One major weakness of hybrid learning is the lack of student engagement and motivation, as students may feel disconnected from the online learning environment. This can lead to decreased participation and poor performance in online learning activities. Another weakness of hybrid learning is the lack of equal access to

technology and the internet, which can create barriers for students who do not have access to these resources. In addition, hybrid learning necessitates a major time and resource commitment from instructors who must develop and oversee both online and in-person learning materials. Finally, because they must use various platforms and keep track of numerous deadlines, students who participate in hybrid learning may also have an increased workload [29]–[31].

To fill these gaps, this study will conduct a large-scale evaluation of hybrid learning practices at universities implementing post-pandemic hybrid learning. The purpose of this study is to look at the overall and in-depth evaluation of implementation in terms of how students and lecturers respond, as they are the main actors in the hybrid learning process. The significance of this research lies in its contribution to the field of education in Indonesia and beyond. The research findings will provide valuable insights into the implementation and effectiveness of hybrid learning practices in Indonesian universities, which will help to improve education quality and support the development of hybrid learning as a viable alternative to traditional face-to-face teaching. Furthermore, the findings of this study will be useful to educators and policymakers in developing and implementing effective hybrid learning practices in other countries. This study will also contribute to the ongoing debate about the benefits and drawbacks of hybrid learning and its impact on student learning outcomes.

2. RESEARCH METHOD

This is a mixed-methods study that employs the context input process product (CIPP) evaluation model. To gain an overview of hybrid learning practices in higher education, quantitative methods are used. Simultaneously, the qualitative method was used to collect in-depth data on research questions. The CIPP evaluation model divides evaluation into four categories in practice. The four aspects of evaluation are context evaluation, which provides information about the types of needs that have been prioritized so that goals can be developed; input evaluation, which provides information about the selected inputs, strengths and weaknesses, strategies, and designs so that the evaluator can carry out selected monitoring so that the strong ones can be useful later and the weak ones are not used; and product evaluation, which provides information about the products [32]. The aspects studied in this study are based on previous studies related to the evaluation of online learning processes and hybrid learning in various contexts [25], [28], [33]. These aspects are presented in the Table 1.

Table 1. Research indicators

No	Component	Indicators	Sub-indicators
1	Context	Curriculum	University's vision and mission
		Learning achievements	Learning plan Learning outcomes
2	Input	Infrastructure and facilities	Classroom facilities
		Learning media	Learning management system (LMS) Asynchronous Synchronous
3	Process	Learning assessment	Instrument Feedback
		Material	Content quality
4	Product	Learning outcomes	Performance index Student difficulties Student satisfactory Lecturer difficulties Student satisfactory

This study included lecturers and students from universities in Yogyakarta, Indonesia who used post-pandemic hybrid learning. Yogyakarta State University and Yogyakarta PGRI University were chosen for this study. Questionnaires, interviews, observations, and documentation studies were used to collect data for this study. A questionnaire was used by 22 lecturers and 341 students from both universities to obtain an overview of the data. In addition, 22 lecturers from various faculties were interviewed to gather qualitative data on hybrid learning and practical experience.

The proper construction of instruments is the first step in a hybrid learning evaluation, ensuring that the collected data reflects results that are consistent with empirical data. The process of drafting instruments begins with the following: i) utilizing theoretical studies to identify aspects and indicators of hybrid learning evaluation; ii) utilizing the judgment of up to three experts in measurement and evaluation to compile and construct the specifications and forms of instruments; and iii) validating the instruments that have been made

using focus group discussion (FGD). The next instrument was tested for validity and reliability. While the qualitative data is processed using a coding system.

In this study, data analysis refers to both qualitative and quantitative methods. Quantitative data from all respondents, both students and lecturers, were analyzed and visualized in Microsoft Excel. The qualitative data collected through interviews, observations, and focus groups was then processed using interactive analysis techniques that included data collection, data presentation, data condensation, and conclusion drawing [34].

3. RESULTS AND DISCUSSION

3.1. Hybrid learning model

The data was collected through interviews and questionnaires distributed via Google Form to lecturers and students at Yogyakarta State University (UNY) and PGRI Yogyakarta University (UPY), totaling 360 respondents. Universities have chosen the hybrid learning program design for implementing education in the post-pandemic era. The obtained data is then described in the form of a hybrid learning implementation practice model. The hybrid learning implementation design is presented in Figure 1.

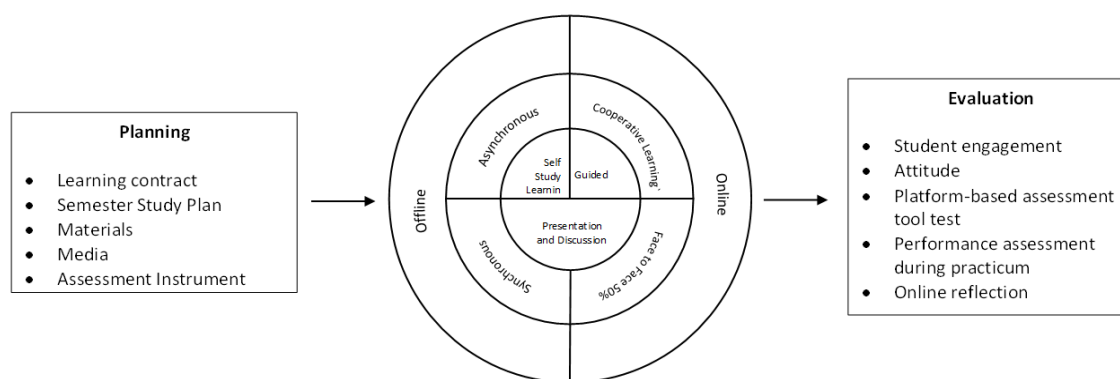


Figure 1. University hybrid learning design

Based on Figure 1, the implementation of hybrid learning in universities has been initiated with a plan consisting of learning contracts, lesson plans, teaching materials, media, and assessment instruments based on hybrid learning. In the development of the semester study plan (SSP), student activities are designed both offline and online, either synchronously or asynchronously. Where asynchronous learning is carried out to train students for independent learning, asynchronous and 50% face-to-face learning are carried out for collaborative learning through presentations and discussions. Group learning is carried out primarily offline using guided practice methods. After that, the evaluation was designed in a hybrid learning manner and assessed student activity, learning attitudes and ethics, knowledge tests regarding various kinds of platform assessment tools, performance and performance assessment, and online reflection.

The COVID-19 pandemic necessitates a change in the learning process in the higher education setting. Several universities have realized it in the form of a systematic model using a standard system in the hybrid learning method. Various universities have devised novel approaches to increasing student participation in the learning process [35]. The model is a design made to use systematic steps for an activity. However, in practice, some activities in the educational process were not developed at the beginning. Still, the existing process developed to form a pattern known as an “existing model”.

According to the findings of this study, the government strongly supports the use of the hybrid learning model in lectures to reduce the spread of the COVID-19 virus. This has also sparked new interest, namely the integration of digital learning with collaborative learning, constructive learning, cooperative learning, and transformative learning, which demonstrates that by integrating in-person and online activities to frame learning objectives and assess learners' expected learning outcomes, newer and more effective ways of experiential learning can be realized [36]. As a result, hybrid learning is a learning technology product that combines online and face-to-face learning [37]. The effectiveness of hybrid learning in education has piqued the interest of educational technology experts in creating an information technology environment in the field of education [38], [39].

Finally, learning evaluates the hybrid learning model in higher education. The evaluation procedure is not dissimilar to the direct procedure. Learning evaluation is an important, if not essential, component of the learning process. In the evaluation section, lecturers must also use a variety of precise tools to measure and even collect the data required to make decisions [32]. In some learning situations, the lecturer evaluates students based on the outcomes of their projects. These results are deemed appropriate for implementing online learning due to the limitations of lecturers supervising students in providing feedback or in the learning process.

Based on the results of the research, an increase in student learning outcomes was shown after using hybrid learning. This is in line with the results of previous research [40], which showed that there were significant differences between the hybrid learning group and the conventional group. This shows an increase in student learning outcomes using the hybrid learning model. Increasing learning outcomes is pursued through activities to seek information, obtain information, and synthesize knowledge. Lecturers have also carried out these activities at the research university. The similarity of the study's results serves as reinforcement in the development of hybrid learning models in university lectures. In addition to learning outcomes, based on research results by Lestari *et al.* [27] showed that hybrid learning can improve students' problem-solving abilities.

The findings, which show that the use of hybrid learning in lectures at universities improves student learning outcomes and problem-solving abilities, demonstrate that hybrid learning lectures are effective in achieving the learning objectives of the subjects discussed; of course, this effectiveness can improve the quality of learning. This is consistent with research findings by Wang [41] which showed that hybrid learning can increase the effectiveness of teaching and research activities. Hybrid learning becomes effective in learning as a result of the merger of e-learning and traditional face-to-face learning modes, resulting in improved learning outcomes [42].

3.2. Hybrid learning CIPP evaluation

Program evaluation was reviewed using the CIPP model. This model is considered suitable for evaluating programs or program quality in the educational context [43], [44]. Contextual evaluation seeks to determine learning outcomes as well as planning tools such as curricula and learning tools that can aid in the development of student competencies. Input evaluation seeks to answer questions about how infrastructure, teaching materials, and media are used to support student learning. Process evaluation seeks answers to questions about the management of learning materials and learning assessments that support student learning processes so that students can solve problems while studying. Furthermore, product evaluation seeks answers to questions such as meeting student learning needs and determining each individual student's competency characteristics in learning [45].

3.2.1. Context evaluation of hybrid learning in higher education

The CIPP model is used as a tool to determine whether there are obstacles in the implementation of a program starting from the context, inputs, processes, and products to be able to provide practical solutions on how a program should be maintained, repaired, or, for example, terminated [46]. In the first stage, the context aspect includes an evaluation of the educational goals or mission, which are implied in a plan's needs and objectives. This class's management must be evaluated in terms of context and system [47]. Contextual evaluation describes the environmental conditions associated with the needs of a program. The hybrid learning program at universities begins with developing a semester learning plan (RPS) designed to use hybrid learning, hybrid learning infrastructure, and hybrid learning-based assessments. In hybrid learning, context evaluation is carried out from planning to implementation to context assessment.

For theoretical courses, the 50% online and 50% offline lecture scheme is used, with half of the students attending class in person and the other half using the Zoom meeting platform. Unlike practical courses, which are conducted offline in groups in laboratories, workshops, and other locations. As a result, the implementation of hybrid learning lectures is tailored to the needs and characteristics of the courses, which have an impact on program objectives [40]. Of course, everything was planned before the start of the lectures. A Chancellor's Decree was issued to implement hybrid learning in universities because careful planning is required in program development, including developing hybrid learning programs in universities.

According to the results of a questionnaire distributed to lecturers, 71.4% of respondents stated that the online learning program, particularly the hybrid learning that was implemented, was guided by the university's vision. In comparison, 28.6% said the hybrid learning was in line with the university's vision. These findings suggest that hybrid learning can be used in appropriate universities and is consistent with the university's vision. Not only did the hybrid learning program conform to the university's vision, but 76.2% of respondents said it was because of instructions from the Director General of Belmawa and the Independent Learning Campus Curriculum. As many as 19% stated that hybrid learning was influenced by the Director General of Belmawa and the Merdeka Campus Learning Curriculum, while 4.8% stated

that hybrid learning was entirely influenced by the Director General of Belmawa and the Merdeka Campus Learning Curriculum. According to one lecturer:

“The development of the hybrid learning program is very relevant to the needs of education in the digitalization era because, with hybrid learning, students can learn without being limited by space or time, so freedom of learning will be created by the Director General of Belmawa and the Independent Campus Learning Curriculum.”

Based on the findings of these interviews, the findings of the context evaluation on the development of hybrid learning programs are relevant to government policies, the vision of higher education institutions, and the needs and demands of education in the digital era. In addition to curriculum suitability and careful planning, context evaluation is carried out by analyzing the lecture assessment portfolio, which shows that student learning outcomes in the realm of knowledge have obtained very good results [37]. However, it is preferable to carry out offline with direct practical methods for the realm of skills.

3.2.2. Evaluation of hybrid learning input in higher education

Input evaluation begins with an examination of RPS, curriculum, students, and university-owned infrastructure. To prevent the spread of the Coronavirus, university lecturers must create hybrid learning-based lesson plans. The RPS includes a table of lectures, both online and offline, as well as various lecture activities that demonstrate the design of hybrid learning models in universities. The selection of lecture designs in implementing hybrid learning is then tailored to the characteristics of the subjects in the curriculum of the study program in question, so that each study program has a hybrid learning policy tailored to the characteristics of each course [40].

Based on the questionnaire results, 61.9% of lecturers were very good at preparing lesson plans using the hybrid learning model, and 38.1% were good at preparing lesson plans using the hybrid learning model. In addition to evaluating the RPS and study program curriculum when implementing hybrid learning in universities, it is very important to pay attention to student input, where all new students are graduates of high school, vocational school, or MA students and their equivalents who are used to implementing online learning. Therefore, universities do not need to fundamentally equip students with online learning abilities; university lecturers only train advanced students' abilities in online learning. Online learning habits will become a learning need closely related to the hybrid learning program. Because, in essence, hybrid learning will be effective when students are used to doing both synchronous and asynchronous online learning.

In addition, evaluating facilities and infrastructure is essential in evaluating the input of hybrid learning programs in universities [32]. Universities have procured infrastructure facilities for implementing hybrid learning, such as web cameras that can be adjusted to point towards the blackboard or lecturer and that can increase object magnification, wireless displays that function to display material, class blackboards, lecturer laptops to display material, condenser mics, cabling, splitters, mixers and soundcards, and other equipment. One student said that:

“The facilities and infrastructure owned by universities have greatly facilitated the implementation of hybrid learning so that it can minimize the obstacles that occur during learning.”

Learning facilities are also very influential in implementing hybrid learning programs, so education providers should continue to develop digital facilities and infrastructure that can assist lecturers and students in organizing education for all in the era of educational transformation. In addition, the input evaluation also analyzed the use of learning media in implementing hybrid learning. Learning media in the hybrid learning program can use a Learning management system (LMS) as a means for lecturers to deliver learning materials that are designed with various kinds of media and learning activity forums. Therefore, every tertiary institution must have an LMS as a media and teaching resource for lectures. Essentially, hybrid learning must take place in a virtual interactive discussion while instilling character values that are integrated into the hybrid lecture model [48]. Of course, student involvement is critical for the realization of effective hybrid learning, so that students do more than just study electronic teaching materials, but also interact intensively with lecturers or peers [49]. Aside from using the LMS, lecturers and students revealed that:

“Multimedia and platforms such as Zoom meetings, Google meetings, Microsoft Teams, and gamification modes are used in lectures to make learning more enjoyable.”

The use of multi-media and platforms to achieve learning is effective so that students can increase their knowledge and skills in the learning process.

3.2.3. Process evaluation of hybrid learning in higher education

In universities, process evaluation focuses on implementing the results of the RPS planning that has been prepared, both materially and in terms of lecture assessment [32], [47]. In universities, hybrid learning is implemented through various schemes in which the lecture process is carried out simultaneously online and offline for theoretical courses. Offline practical courses, on the other hand, use the guided practice method. Universities use two modes of online learning in hybrid learning: synchronous and asynchronous. To carry out presentation activities and discussion of the material being discussed, synchronous mode lectures are carried out using the Zoom meeting platform, Google Meet, or Microsoft Teams. In contrast, the asynchronous mode is completed independently, also known as self-study learning, through the use of a LMS owned by the tertiary institution. This LMS allows lecturers to deliver learning material that has been designed with various types of media and learning activity forums. As a result, every tertiary institution must have a LMS as a media and teaching resource for lectures.

Process evaluation is carried out in addition to implementing the learning process by analyzing the material and learning assessment [47]. The material in the hybrid learning program's implementation is presented in the form of electronic teaching materials that are linked to the college's LMS, allowing these electronic teaching materials to be accessed at any time and from any location. The ability to study the material at your leisure is a benefit of using hybrid learning. Furthermore, the level of validation of teaching materials is higher because experts can freely assess it. An interview with one of the students revealed:

“It becomes easier for me to access learning materials so that I can study independently and collaboratively with my friends. In addition, through hybrid learning, assessment is dominated by the use of online media such as meter, Kahoot and quizizz which make tests fun and assessments transparent.”

According to the findings of the interviews, the use of hybrid learning is more effective in measuring student abilities, as well as more efficient, because the use of online assessments becomes more efficient without the need for doubling questions. Furthermore, the assessment is more transparent, allowing students to reflect on their abilities after they have learned. Management of online classes is now a requirement for hybrid learning so that hybrid learning can run effectively. This is in line with the results of research by Marsen *et al.* [50] which showed that every learning that is carried out requires several regulations that aim to make the learning process materialize as expected. Regulations were created in order to carry out management of virtual classes. Virtual learning can be implemented using a variety of applications that connect students with lecturers. Lecturers can upload teaching materials and assignments to the LMS for students to download and study independently. As a result, the development of digital teaching materials is also required in the hybrid learning process to make it more effective. Before the beginning of the semester, lecturers should have prepared digital teaching materials.

Lecturers must prepare digital teaching materials in order for hybrid learning to be effective and efficient. Of course, e-learning systems and tools are required to support this. Thus, the design of the hybrid learning program must be consistent with the development of context-rich software in classroom learning and the use of electronic communication in learning [51]. The use of e-learning in hybrid learning implementation is also consistent with the findings of Hall and Mooney [52] who found that hybrid learning should be implemented by combining the best of digitally learning and practice in sharpened classrooms with flexible time and lower costs. economical [53].

Several web tools are used to present content or learning material on the web in online learning which is part of a hybrid learning environment. Sharing material presented in different ways such as discussion platforms, evaluating and observing student performance, homework, exams, providing feedback about assignments and exams. These web tools include Moodle, Blackboard, Edpuzzle, Blogs, Camtasia Studio, E-learning Platform, Google Docs, LMS, Blackboard, Khan academy, Moodle, Prezi, Storyline, YouTube [54].

3.2.4. Product evaluation of hybrid learning in higher education

In universities, hybrid learning products are evaluated to assess goal achievement and changes in knowledge, attitudes, and skills [44]. According to the interview results, all lecturers believed that online attitude development was extremely difficult due to the difficulty in controlling and motivating students using online learning platforms. Because of network and device constraints, most students can turn off the camera when synchronous learning uses zoom meetings. The lecturer, on the other hand, cannot verify the

accuracy of the students' problems. Furthermore, because online learning overlaps with other academic and non-academic activities, it is difficult for lecturers to control the student's learning focus.

Similarly, offline mode is the most effective choice for skill development because lecturers can provide direct guidance regarding the skills being taught, and lecturers can see firsthand the competence and performance of students when doing practical on campus, as opposed to practicing with online mode. As a result, the hybrid learning program must be tailored to the material characteristics and student competencies that you wish to develop [40]. As a result, competency mapping and material content relevant to online and offline learning characteristics should be created at the start of planning a hybrid learning program.

To achieve educational goals effectively and efficiently, the quality of hybrid learning lecture programs implemented in universities must be measured. The quality of hybrid learning implementation in universities can be pursued through learning feedback, which can provide students with an overview of their strengths and weaknesses while studying. The results of completing student exams and the responses to each assignment can be used to provide feedback when implementing hybrid learning. According to the survey results, 56.3% of students believe that the quality of hybrid learning implementation is determined by the feedback given by lecturers on their assignments and exams. The quality of hybrid learning implementation can undoubtedly influence student learning outcomes. According to the findings of an interview with one of the students:

“My cumulative achievements have improved significantly since learning to use hybrid learning strategies in this pandemic era. Furthermore, the lecture assessment process was carried out transparently and is open to all students.”

The results of gathering data on respondents' perceptions of hybrid learning's effectiveness show that 54.6% of respondents agree that hybrid learning can be effective in measuring learning outcomes, and 15% believe that hybrid learning is extremely effective in measuring learning outcomes. Furthermore, 54% of respondents agreed that this hybrid learning program effectively improved IT skills. As a result, this hybrid learning program must be carefully planned in order for the implementation and evaluation processes to go smoothly. In addition to the benefits of hybrid learning, it has been discovered through interviews with respondents that hybrid learning has disadvantages in terms of learning focus because lecturers are confused about prioritizing focus in the classroom or virtual class because the transition between online and offline modes occurs at the same time. Because the division of the lecturer's teaching focus is the main impediment to implementing hybrid learning, university lecturers prefer to alternate between online and offline modes, or blended learning.

Evaluation of programs in hybrid learning systems (hybrid learning) is unquestionably required to determine how the conditions for implementing learning are up to improving quality and increasing learning quality. The goal of this study's program evaluation was to identify and analyze how the process of implementing hybrid learning was carried out at the two universities. The CIPP model was used to evaluate the program. This model is thought to be appropriate for evaluating programs or program quality in the educational context [55]. In the first stage, the context includes planning evaluation, program needs, and objectives. In this study, context evaluation revealed that lecturers from both universities had carried out the hybrid learning planning process. Learning planning is a critical activity performed by educators. For lecturers, planning becomes a complex stage in the hybrid learning context. This stage will determine how and where hybrid learning will be implemented in the classroom. The lecturer must carefully consider the planning process in hybrid learning. Paying attention to the objectives and lecture material is one of them. In some fields, such as science and engineering, hybrid learning planning must prioritize the use of full face-to-face methods for learning materials that require specific skills or practices. Meanwhile, learning materials that emphasize theory and discussion can be completed in a hybrid or online format.

The availability of educational program resources is one of the aspects related to the input/input on this definition. The findings of this study indicate that educators and education staff are valuable resources for organizing hybrid learning. This can be seen in educators' willingness to adapt to preparing and designing new learning systems with hybrid learning concepts [47]. Furthermore, the readiness of education staff is a critical factor in the success of hybrid learning implementation. Education personnel support the administrative aspects of hybrid learning implementation at universities. However, students' readiness as an input in the learning process must also be considered. Students at both universities had no issues with the hybrid learning adaptation process in this study. This condition is caused by prior experience gained during the learning process. As input, facilities and infrastructure are also evaluated in this study. In order to organize a hybrid-based learning process, the university must also have adequate infrastructure. These facilities and infrastructure can take the form of buildings and classrooms, as well as tools to assist lecturers in the hybrid learning process (offline and online) at the same time. Some of the facilities may include Wi-Fi

internet access, a LMS, a website, or financial assistance to students in the form of quotas. This means that opportunities for transforming higher education institutions are expanding as a result of these conditions, which encourage universities to develop high-quality IT-based facilities to support online and hybrid learning.

In the midst of the COVID 19 pandemic, universities' transformation of learning is unquestionably required. The previously offline learning process must now be completed online. Furthermore, in the new normal era, universities are now enforcing a policy of hybrid learning, which combines offline and online learning at the same time. Face-to-face meetings in class have been combined with technology integration in the form of e-learning, so hybrid learning combines the strengths of face-to-face classes with online classes [56], [57]. As a result, various universities have created e-learning in order to implement hybrid learning in the new normal era.

Yogyakarta State University has an e-learning program called "Besmart" and PGRI Yogyakarta University has an e-learning program called "UPY e-learning". This is, of course, to make hybrid learning, which incorporates technology as a learning medium, effective. Aside from higher education e-learning, online learning can be accomplished through a variety of online platforms such as Google Classroom, Edmodo, Google Meet teleconference media, Zoom Meeting, WhatsApp, and others. The use of media in university online learning corresponds to research findings [58].

According to the findings of the study, 54% are adept at managing classes via other platforms such as Zoom meetings. As a result, Besmart UNY and UPY e-learning must work with Zoom Meeting synchronous learning. As a result, the use of various media and strategies is the key to implementing hybrid learning. The findings of interviews with lecturers and students at UNY and UPY indicate the importance of face-to-face learning in traditional classes when combined with synchronous and asynchronous e-learning. Evaluation of this process is critical in implementing hybrid learning; lecturers should be able to manage both traditional and online classes well, so that the skills of managing lecturer classes, specifically managing online classes, are now developing.

Management of online classes is now required for hybrid learning in order for it to function properly. To carry out the management of virtual classes, regulations were created. Virtual learning can be implemented using a variety of applications that connect students with lecturers. Lecturers can post teaching materials and assignments in the LMS for students to download and study on their own. As a result, digital teaching materials are required to make the hybrid learning process more effective. Before the start of the semester, lecturers should have prepared digital teaching materials. Product evaluation is also linked to hybrid learning implementation.

According to the findings of the research, the majority of lecturers have created online assessment tools using various platforms, such as Google Forms, Quizizz, Menmeter, and Kahoot. Even in e-learning, features for conducting learning evaluations and discussing project assignments that students must complete are available. As a result, lecturers can use this feature to help students develop hybrid learning skills. As a result, lecturers must also create an evaluation that encourages student motivation; lecturers can use gamification techniques to deliver products in hybrid learning. The design of play activities that incorporate game-playing components into non-game contexts is referred to as gamification. To motivate users and students to complete educational tasks, incentives and other forms of reinforcement are used.

In hybrid learning, product evaluation prioritizes students' knowledge or cognitive domain. At the same time, it should be done directly in the realm of attitudes and skills through observation techniques, observations, practice tests, performance tests, and student assignment portfolios. Gamification techniques used on various platforms that attract student motivation make evaluating this domain of knowledge more interesting. Furthermore, through various media and digital learning platforms, students gain more knowledge in developing lecture concepts and content. The study's results of Bennett *et al.* [59] showed that the use of study spaces using hybrid learning supports new understanding for students and develops students' skills in preparing for their professional development.

In addition, hybrid learning spaces can also enhance the democratization of higher education; however, understanding this potential is still in its infancy and requires continued efforts through research and practice [60]. Pedagogy and teaching techniques relevant to the characteristics of the content and subject of learning must, of course, be considered in the implementation of hybrid learning [61], [62]. Therefore, lecturers must create a hybrid learning environment by compiling content, technology, and assessment in an integrated manner through a system that can stimulate students' cognitive, affective, and psychomotor development [63].

Product evaluation in the CIPP evaluation model contains elements of continuous evaluation as one of the requirements for program development [64]. Based on the results of this study, it shows that the development of hybrid learning programs should be carried out at any time, especially for practical courses, which incidentally require special actions to improve student skills, especially in developing skills needed in the world of work. In addition, research results prove that context evaluation affects input, input evaluation

influences process, and process evaluation influences product [65]. Therefore, the evaluation of the hybrid learning program should be carried out thoroughly and continuously so that the implementation of the hybrid learning program can run effectively and efficiently.

4. CONCLUSION

The hybrid learning model at the two universities is carried out with the concept of face-to-face and virtual face-to-face interactions simultaneously. The hybrid learning model starts with the lecturer's planning process. The planning consists of learning contracts, semester learning plan, teaching materials, media, and assessment instruments. Furthermore, the implementation process is carried out in the network (online) and outside the network (offline). The last stage consists of evaluation. The evaluation includes active learning, attitudes and ethics, tests using performance assessment tools, and performance assessments during practice and online reflection. Educators and students are more likely to prefer face-to-face or online learning.

The context evaluation of hybrid learning implementation went well, as did the lecturer's planning of the hybrid learning process. Lecturers are prepared to use hybrid learning while evaluating input. Furthermore, educational personnel are prepared to implement hybrid learning. The findings, however, show that lecturers and students are more likely to participate in fully online or fully offline learning. In the process section, hybrid learning is implemented using video conferencing, which the LMS supports. The lecturer was successful in producing innovative products that support the hybrid learning process in the final section, namely product evaluation.

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