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### Evaluation of the Effectiveness of Bichronous Online Learning in Private Primary Schools in Makassar

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#### Abstract:

This study analyzes the implementation of online learning that involves asynchronous and synchronous activity during the COVID-19 pandemic. While most studies on this online learning model concentrate on typical scenarios, this study examines the effectiveness of bichronous online learning in a particular context: the COVID-19 pandemic in developing countries. The research was conducted in two private elementary schools, namely Pundarika and Zion GKKA-UP Primary School, Makassar, using the context, input, process, and product (CIPP) evaluation model. The findings indicate that implementing bichronous online learning in elementary schools requires management, which includes the planning, organizing, and supervision of the implementation by the school head. It is also necessary to create a program that will improve instructors' proficiency with digital tools and their capacity to create lesson plans and instructional strategies that are suitable for primary school pupils. Finally, enhancing collaboration among the education department, local governments, committees, parents, foundations, and other stakeholders within the school system is imperative.

**Keywords:** bichronous learning, asynchronous activity, synchronous activity, private elementary school, CIPP evaluation.

### 望加錫私立小學雙時在線學習效果評價

#### 摘要:

本研究分析了新冠肺炎大流行期間涉及異步和同步活動的在線學習的實施情況。雖然大多數關於這種在線

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学习模式的研究都集中在典型场景，但本研究探讨了双时在线学习在特定背景下的有效性：发展中国家的新冠肺炎大流行。该研究在两所私立小学（即望加锡的彭达里卡小学和锡安吉卡-向上小学）进行，采用了背景、输入、过程和产品（CIPP）评估模型。研究结果表明，小学实施双时在线学习需要管理，包括校长对实施情况的规划、组织和监督。还有必要创建一个计划，以提高教师对数字工具的熟练程度以及制定适合小学生的课程计划和教学策略的能力。最后，加强教育部门、地方政府、委员会、家长、基金会和学校系统内其他利益相关者之间的合作势在必行。

**关键词：**同步学习、异步活动、同步活动、私立小学、CIPP评估。

## 1. Introduction

In December 2019, COVID-19 started to spread worldwide; by early 2022, it had affected Indonesia. Human activity in many domains, including education, was halted by the virus. Government laws prevented the COVID-19 pandemic from spreading quickly; thus, schooling halted in March 2020. The Ministry of Education and Culture issued directive 36962/MPK.A/HK/2020, advising all staff members to work from home and encouraging all students to complete their coursework online. All students ultimately use online learning or networking technology for distance learning. To keep learning moving, Indonesian schools are attempting to adapt to the current technological landscape. The teaching and learning activities conducted online need to be distinct from those conducted in person in classrooms. In the context of autonomous learning during the pandemic, this study assesses the application of online learning processes in a private elementary school in Makassar using bichronous learning. Two distinct private schools, Pundarika and Zion GKKA-UP Primary School, Makassar, employ evaluation using the CIPP approach (context, input, process, and product).

For bichronous online learning to be effective at the elementary school level, it is essential to establish consistent habits by clearly defining asynchronous and synchronous patterns. Consistency is key to developing the learning habits of elementary school students. This has not been discussed by Tucker (2020). The pattern that emerges from a sense of responsibility in bichronous learning can greatly benefit students in their personal development, even when teachers are not directly observing their progress during asynchronous activities.

Asynchronous and synchronized activities are two activities that need to be designed to relate to each other. In its implementation, this asynchronous and synchronized activity gives freedom to teachers and students, which in the curriculum in Indonesia is known as independent learning. This curriculum stimulates the emergence of resilience, critical thinking, problem-solving, independence, and discipline. However, if the teacher gives irregular feedback, a student's lack of enthusiasm and a parent's absence in their child's learning can result in the student's being indifferent, irresponsible, lazy, mentally reluctant, and unbearable. This has not been addressed by Setiawan (2021) in his review of the application of mixed classes.

In synchronous learning, educators strive to tailor instruction to the unique characteristics of elementary school students. Students who enjoy physical activity are typically engaged in movement-based activities that involve playing songs. Teachers also provide games and tasks in the form of workshops to help students develop their imagination through cartoons.

One of the challenges often faced in synchronous activities is practicing in person and work in groups. In large classes, students frequently take the initiative to engage in group work following synchronous activities. However, in the context of bichronous online education, the most challenging aspect is the lack of real-time interaction between students and teachers as they are only connected through screens. Any connectivity issues can significantly impede the learning process. Furthermore, due to time constraints, the teacher prioritizes asynchronous learning over synchronous instruction. In this regard, the teacher heavily relies on parental involvement. It is imperative that parents follow up at home to maximize the child's understanding. Piaget (Ridwan, 2018) stated that children in the concrete operational stage require assistance in preserving objects and categorizing items. One limitation is that students may not recognize the true shape of objects they encounter on screens. Therefore, parents play a crucial role in presenting real-life examples of the concepts learned at home. By providing tangible objects for children to see, touch, and even taste, such as fruits, parents can enhance their children's understanding and learning experience.

Uzhy (2015) stated that learning is effective when there is consistency in learning outcomes, positive student engagement, teacher proficiency in managing learning, and engaging learning activities. According to Dalyono (2015), developing internal and external factors is crucial for student success. Parents should support students in doing their jobs honestly. Teachers also need to motivate students for integrity. Both are examples of external factors. One of internal factors is the student's awareness of the importance of conducting their work with honesty, while actively participating in both synchronous and asynchronous activities. Students who are motivated in school, even online, are more likely to undertake the learning process than less motivated students.

When learning online, students' social needs are not well met, so they do not enjoy learning online. Social needs can be met at home through positive interactions

between children and their parents and siblings. This need will not be met if the parents are busy with their work and the child is learning independently. In addition, for synchronous learning, the teacher involves the student in the discussion. However, some people do not focus on the classroom because they are distracted by the disturbances at home. As Susanto (2012, p. 14) revealed, three factors influence student learning success: student intelligence, readiness, and talent. To achieve success, it is imperative that a student is fully prepared and committed to their studies. During the pandemic, students' psychological well-being significantly impacted their academic performance. Many individuals struggled to engage in learning due to their mental health challenges during the pandemic. As a result, this sense of disillusionment may hinder the student's participation in synchronous activities, affecting their ability to fully maximize their learning potential. Again, teachers and parents should work together in the online learning process.

The revised edition of Bloom's Taxonomy in Effendi (2017) reports that there are three domains in judgment: cognitive, affective, and psychomotor. In pandemic times, it is very difficult to see whether students are purely doing their duties independently or not. Honesty is essential to see this. However, because of the digitization of education, teachers can use various types of media to evaluate students. The hardest part to measure during pandemic times is attitude (affective).

### **1.1. Bichronous Online Learning**

One learning model adopted by Indonesia is known as blended learning. Tucker (2020) explains that blended learning can help teachers design creative learning while motivating students to become active learners. In terms of this, the teacher functions as a facilitator (Tucker, 2020). Blended learning encompasses a variety of learning models that provide students with the flexibility to manage their time, location, pace of learning, and independent learning approach. According to Tucker (2020), three blended learning models can be applied: the station rotation model, flipped classroom model, and playlist model. The teacher serves as a learning designer, tailoring instructional methods to meet the unique needs of each student through the application of these models. The following is a detailed explanation of the three models of blended learning (Tucker, 2020).

#### **1.1.1. The Station Rotation Model**

The station rotation model is a series of stations or student learning activities that rotate with each other. Typically, the learning station model includes a teacher-led station, an online station, and an offline station. The number of the stations depends on the length of the class and the number of students. This model is flexible and can be adapted for various types of learning, either live, online, or a combination of the two. The station rotation model is a relatively flexible learning model because it allows teachers to split classes into smaller

groups and hold rotations during the learning process. A teacher-led station is a synchronous virtual station. At this station, the teacher specifically guides students in groups. Online and offline stations can be performed simultaneously within meetings by each group through media conference or asynchronously. At these stations, students have control over the time, place, and speed of their work. Within them, each student must carry out their responsibilities according to the instructions given by the teacher in the teacher-led station.

#### **1.1.2. The Flipped Classroom Model**

The flipped classroom model is a learning model that begins with the preparation of material that contains explanations and instructions on how the course of learning by the teacher is synchronized. Teachers and students use an app that connects them to meetings. Here is the interaction between the teacher and student. The teacher gives the material and then the assignment. The teacher also should explain how to perform the task. Then, the student works on the task asynchronously. Students set their own speed in consuming or processing the material given to them. Unlike lessons or real-time explanations (live), in this learning model, students can pause, withdraw, or review the given learning material. The entire student activity in the asynchronous time is determined by the student themselves; therefore, the student needs to develop a high sense of responsibility in performing asynchronous activities. Obstruction could have occurred during asynchronous activity. Teacher intervention is essential for smooth learning because students should understand the instruction and how to apply the material before performing asynchronous activities. The initial explanation given at the time of synchronization should really make the students have a great curiosity so that when they get into the asynchronous activity, they really explore the material with enthusiasm.

#### **1.1.3. The Playlist Model**

According to this model, students can independently determine a set of learning activities. A combination of online and offline activities can be designed using various media. In this case, the teacher observes the abilities of each student. The playlist model can be applied by dividing students into groups according to their skills, interests, or language proficiency. When teachers utilize online platforms such as Zoom, Google Meet, or Microsoft Teams to conduct classes, it presents a unique opportunity for them to engage with students in a virtual setting. Through these platforms, teachers can meet with students face-to-face, facilitate group work, and utilize breakout room features. This allows teachers to assess student progress, tailor lesson plans to individual needs, and ensure that learning continues to progress effectively. By catering to students' interests and providing personalized learning experiences, educators can maximize the educational potential of online classes. Teachers need to prepare data that match the skills, interests, and abilities of their students.

Applying the model directly without considering the individuality of each student would pose a significant challenge. It is important to be mindful of situations where a student may provide excuses for not engaging in their studies due to lack of interest in the lesson. Teachers should anticipate this by providing motivation at the beginning of learning and then explaining the tasks that students should perform.

Among the three blended learning models, the flipped classroom model stands out as an ideal choice for implementation in elementary schools due to its reliance on teacher intervention. It is closely related to the concentration of the students. However, there are exceptions when the teacher has already seen the autonomy of the student. The station and playlist models are excellent for students who are already able to work independently. In a virtual environment, cognitive engagement may include students showing that they are willing and able to take on a task even if it is challenging (Corno & Mandinach, 1983). Students in higher grades can be assigned more complex tasks and responsibilities when working in groups.

Sari (2020) explains that “blended learning is learning that uses web-based technology to achieve learning goals. This learning model combines various web-based technologies, e-learning, multimedia technologies, and online and face-to-face learning” (Driscoll, 2002; Graham, 2006; Thorne, 2003). Furthermore, Sari explained that blended learning encompasses four concepts: a combination of various web-based technologies, a combination of different learning approaches (behaviorism, constructivism, cognitivism), a combined format of technology (video tape, web-based training) with face-to-face learning, and a combination of learning technology with actual task commands to create a good impact on learning and tasks (Driscoll, 2002).

Simply put, the structure of blended learning can be divided into three stages (Triyono, 2020):

1. *Seeking information*: searching for information from various sources available online and offline based on relevance, validity, reliability, and academic clarity.

2. *Information acquisition*: finding, understanding, and confronting information previously acquired with ideas already in mind, and then interpreting information from various sources. The goal at this stage is for students to re-communicate and interpret their ideas online/offline.

3. *Knowledge synthesis*: developing knowledge by assimilating and accommodating the results of analysis, discussion, and formulation of conclusions based on the information gathered.

The government continues to strive to maintain the country’s education system intact. Finally, an adaptation was made in the field of education, i.e., the application of blended learning. However, because live interaction is limited, teaching learning activities are conducted online. Kementerian Pendidikan dan Kebudayaan (2020a) sponsored the Bimtek series aimed

at enhancing teachers’ non-technical skills in adapting to technology for online learning. This initiative was designed to equip educators with the necessary tools and knowledge to navigate the digital landscape effectively. Setiawan (2021) embraced Tucker’s (2020) definition of blended learning as an educational approach that empowers students to engage in a dynamic learning experience. This approach encompasses the following key characteristics:

- Asynchronous learning allowing students to independently manage their time, location, pace, and schedule of learning;

- Synchronous learning providing guidance from teachers in a specific learning environment;

- Integration of various learning modalities to create a cohesive and comprehensive learning experience;

- Cultivation of independent learners who are dedicated to their goals, self-reliant, and reflective in their learning journey.

Setiawan (2021) concluded that asynchronous and synchronized activities must be maximally designed to maximize learning outcomes. These two activities are interrelated and must be continuously focused on the objectives to be achieved. By knowing the advantages and disadvantages of asynchronous and synchronized activities, teachers can maximize their advantages and anticipate their shortcomings. Synchronous and asynchronous learning are components of bichronous learning. In asynchronous learning, educators utilize various tools such as emails, announcements, discussion forums, quizzes, and assignments to facilitate independent learning. Additionally, video recordings are often incorporated to enhance the learning experience. These resources are designed to empower students to engage with course materials autonomously and effectively. In this case, teachers have the opportunity to enhance their classes by incorporating interactive elements such as whiteboard, live polling, live games, video presentations, and audio components. The tools utilized are designed to enhance student engagement and cognitive function in traditional classroom settings, even when conducted virtually. In a nutshell, bichronous learning is part of blended learning. The difference is that blended learning is performed in person and online (Martin et al., 2020).

According to Martin et al. (2020), bichronous online learning offers students a unique blend of online delivery methods. This approach allows students to engage in anytime, anywhere learning during asynchronous portions of the course, while also participating in real-time discussions during synchronous sessions. This dual approach provides students with the flexibility to learn at their own pace, while also offering immediate feedback and interaction opportunities. During asynchronous sessions, instructional materials such as readings and videos can be shared. Synchronous sessions offer more interactive activities such as real-time discussions, student

presentations, exam reviews, Q&A sessions, and office hours. Yamagata-Lynch (2014) emphasizes the importance of finding a balance between the flexibility of online learning environments and the need for structured guidance. Learning designers must navigate this tension by creating deliberate structures that empower students to make the most of the flexible space available to them.

From the explanations given by the experts, it can be concluded that online learning is learning that involves the internet in the learning process of teaching. Effective learning is dependent on three key components: teachers, students, and technology. Each aspect plays a crucial role in the learning process. If one of these components is lacking, the learning experience will suffer. Conversely, when all three aspects are working harmoniously together, the learning process is greatly enhanced.

## 2. Evaluation of Online Learning with the CIPP Model

### 2.1. Context Evaluation

#### 2.1.1. Analysis of the Implementation of Bichronous Learning among Pundarika Elementary School Students during the Pandemic

Based on the results of an interview (November 11, 2022) with the head of the Pundarika elementary school, the initial implementation of online learning in Indonesia is seen as a disaster. He further explained that at that time, there was no online learning framework that could be used as a reference. In 2018, Pundarika implemented online learning and learned how to teach online. The Pundarika elementary school follows the digital learning material provided by the Teacher Room. In March 2020, Pundarika implemented online learning again. It initially lasted for two weeks. Teachers taught from home. Students strived to follow learning with all its limitations. Additional time of learning from home was two weeks.

Additionally, the principal of Pundarika emphasized the importance of taking into account the amount of screen time children are exposed to. As a result, the decision was made to introduce online learning in both asynchronous and synchronous formats. There is a common belief that exposure to blue light can be harmful to the eyes; therefore, it is recommended to limit the amount of time spent in front of screens. Regarding collaboration and supervision, synchronous and asynchronous learning methods require a partnership between the school and parents. In asynchronous learning, parents play a crucial role in monitoring their children as they learn independently from home without direct teacher supervision.

Parents enrolling their children in Pundarika must adhere to the school's learning policies within their households. The parents of the students at Pundarika elementary school come from various economic groups.

School decisions taken from government policies make parents reluctant to adapt to the circumstances. A parent who does not understand pedagogy suddenly must be a teacher during a pandemic while some work as officers. Finally, working parents should play a double role, working while taking care of children and so on. From the interview conducted with the head of Pundarika, it can be concluded that schools have already been supplied with digital learning material. The pandemic that happened suddenly did not shake the school, but immediately took the policy to organize home learning. Online learning is conducted in asynchronous and synchronized forms to maintain student eye health. Because children fully learn from home, schools and parents develop good communication to support each other for student success because, in pandemic times, parents are teachers for students.

#### 2.1.2. Analysis of the Implementation of Bichronous Learning among Zion GKKA-UP Elementary School Students during the Pandemic

During an interview on December 9, 2022, with the principal of Zion GKKA-UP Elementary School in Makassar, it was revealed that the policy of remote learning from home was initiated in March 2020. This decision was made in response to the onset of the pandemic, prompting the government to implement measures for distance learning. The school embraced this policy in solidarity with the government, recognizing the importance of ensuring that education continues uninterrupted even during the pandemic. Schools must keep trying to ensure that children do not miss lessons. When this policy is dissocialized to parents, there are pros and cons. Some parents believe that children are falling behind academically and would benefit from online learning. Nevertheless, some parents are hesitant to embrace online learning due to challenges with navigating the applications. In response, schools have implemented a policy to educate parents on the significance of maintaining academic progress during the pandemic and how to utilize the necessary applications.

According to the head of Zion GKKA-UP Elementary School, Makassar, no teacher in Indonesia is ready for online learning because everything happens suddenly. With limited IT knowledge, about 40-50% of teachers are ready for online learning. However, the school has an IT team consisting of teachers who are skilled in IT to teach other teachers. Learning is conducted through video conferences and provides video learning to students to study independently. In July 2020, the school conducted training to prepare for further learning. Slowly, schools are preparing for online learning. In other words, everyone struggles to adapt to this learning process. From the interview with the head of Zion GKKA-UP Elementary School, Makassar, it can be concluded that the school is not ready to implement online learning but is still working on ensuring that learning is not interrupted during pandemic times.

## 2.2. Input Evaluation

### 2.2.1. Evaluation of the Input of Bichronous Learning among the Pundarika Elementary School Students during the Pandemic

In an interview on November 11, 2022, the head of the Pundarika school expressed unwavering confidence in the preparedness of the teachers for the online learning model. It was noted that the teachers have fully embraced digital learning since 2018, thus ensuring their readiness for the current educational landscape. Therefore, we can implement a digital learning model in which in 2018/2019, Grades 4, 5, and 6 had a chance to spend one semester of digital learning before the pandemic occurred. Children use cell phones as a tool for learning. They are also beginning to familiarize themselves with Google Meet, Google Forms, and other related tools. In the first, second, and third grades, they have not experienced digital learning at all. With the introduction of online learning, schools must devote 100% of their knowledge to transfer to parents. The challenge for us is that what we have learned over the last two years needs to be transferred to parents immediately in a short time. We think parents need to be taught so that they can teach their children. Parents were taught how to login to Google and open Google Meet. One of our tips was to make a video tutorial on YouTube at school. We uploaded video tutorials on how to start Google Meet and other videos to educate parents about how to teach children in times of pandemic. In addition, the school provides socialization to parents through online meetings using the Zoom app. In June 2020, the school will opened a “help desk” service for parents who are confused about Google Meet and other settings. Difficult parents can come directly to school to be assisted by a shift team. Although we have made video tutorials, there are also parents who have difficulty learning through video tutoring. Additionally, there are parents who, for various reasons, are unable to accompany their child to study at home. In these cases, the grandmother or aunt often steps in to fulfill this important role. To support Pundarika online learning, the head of the school actively sent letters asking for help. The letter was addressed to the private agencies that made donations to the schools. During the pandemic, Pundarika received support from Google for Education in the form of Google unlimited emails, so most video conferences held by Pundarika used Google Meet. In addition, Pundarika also received help from Canva in the form of creating Canva accounts for free. Finally, the 1st-3rd-grade students studied Canva for IT lessons.

### 2.2.2. Evaluation of the Input of Bichronous Learning in Zion GKKA-UP, Makassar, during the Pandemic

Based on the results of an interview (December 9, 2022) with the head of Zion GKKA-UP, Makassar, this school uses Google Classroom as its learning

management system. Zoom and Google Meet are used to hold video conferences, and Google Forms is used for school assignments. Some teachers create material on YouTube and then share it with the students. The owner of the school supported the learning process by installing Wi-Fi and purchasing cameras for video conferences in the 2021/2022 academic year. Bichronous learning is utilized to enhance children's educational experiences. The school's administration empowers teachers to tailor their lesson plans to ensure maximum comprehension among students. Asynchronous learning allows students to engage in self-directed learning by accessing assigned tasks on Google Classroom, while synchronous learning occurs through live video conferences on Zoom Cloud Meetings. Here, the teacher explains the material and discusses it with the students.

During the pandemic, schools facilitated socialization for parents through WhatsApp groups. Each student in the class was required to provide a WhatsApp number, which was then used by the homeroom teacher to create a group including all the students and administrative staff. The Zion Foundation, with the support of educational developers, organized training sessions featuring experts in various fields to provide valuable resources for parents and teachers during the pandemic. Competent teachers also provide IT supplies. In addition, the head of the school invites supervisors to provide training, including education management training, school management, and school administration. Schools also encourage teachers to participate in workshops, seminars, or webinars organized by educational agencies and other educational institutions.

## 2.3. Process Evaluation

### 2.3.1. Online Learning Process

Teachers have undergone foundational training in online learning, specifically focusing on the blended synchronous learning approach utilized at Pundarika and Zion GKKA-UP Elementary School. Before and after the training sessions, the teacher instructed the students to pray according to their religions and beliefs. Within a week, lessons were conducted for five days. Following prayer, the teacher typically offered activities that focus on literacy and numeracy. These activities strengthen students' reading interests and counting skills. Subjects taught are not reduced. Subjects taught during pandemic times are thematic, such as Mandarin, English, Religious Education, Physical Education, Mathematics, and Informatics. In these thematic lessons, teachers tailor their instruction to align with a specific theme. Within such themes, there is usually a combination of natural sciences, social sciences, civic education, and social culture education. In addition, students are provided with designated rest periods even while studying from home. A break session is provided as a one-minute respite for both teachers and students

during online learning. The learning process at Pundarika uses the 2013 disaster emergency curriculum. The school also gives each teacher the freedom to plan his or her studies.

Online learning is based on bichronous learning, meaning that teachers and students use exercises for learning processes and systems that are asynchronized and synchronized in teaching learning. Google Classroom is used as a learning management system. A learning management system is software developed for tracking, reporting, evaluating, and managing teaching activities (Agatha, 2021). Based on the results of interviews and documentation obtained from the two classmates interviewed at Pundarika, with the learning management system, teachers are able to observe student activity asynchronously. Furthermore, it is explained that the routine of a homeroom teacher before performing a synchronous activity through Google Meet or Zoom Cloud Meetings is to make an announcement on Google Classroom so that students are ready to follow the day's learning. After learning through video conferencing, students learn independently by working on tasks on Google Classroom. Following the submission of assignments by students, the teacher reviews and assesses them directly on the Google Classroom platform. Students are promptly able to view the feedback and comments provided by the teacher. In instances where students have not completed their homework, the teacher proactively reaches out to them through the WhatsApp group.

In an interview (December 30, 2022) with a student of Zion GKKA-UP, Makassar, he said that during online learning from home, students studied for almost six hours. The schedule was sent by the teacher through the WhatsApp group. Worship served as the introductory activity for the class, and to close the class, the teacher usually chose one child to lead in prayer. He further informed that learning is the same as that before the pandemic. The number of subjects studied by students did not decrease. The subjects taught during the pandemic were thematic: Mandarin, English, Religious Education, Physical Education, Mathematics, and Informatics. Despite the pandemic, Zion GKKA-UP Makassar continues to provide extracurricular activities to his pupils. Based on the results of interviews with both students, there are a variety of options for extracurricular activities provided by the school, including piano, handicrafts, English, and mathematics.

During the pandemic, bichronous online learning was conducted at Zion GKKA-UP Makassar. Google Classroom was chosen as the learning management system because it is functional and quite easy to use. Synchronous activities used Zoom Cloud Meetings more frequently, whereas asynchronous activities always used Google Classroom. At Zion GKKA-UP Makassar, teachers were granted the autonomy to develop and customize the curriculum to best suit the needs of their students. The school hoped that learning

was not interrupted even in pandemic times. This bichronous online learning process is intricately interconnected. If one component is not fully implemented, the desired learning outcomes cannot be achieved to their fullest potential.

### 2.3.2. *Teacher Activities in Online Learning*

According to the Decree of the Minister of Education and Culture of the Republic of Indonesia No. 719/P/2020 on the Guidelines for the Implementation of the Curriculum on Educational Units in Special Conditions (Kementerian Pendidikan dan Kebudayaan, 2020b), educational units in special conditions may use curricula that correspond to the learning needs of pupils. Furthermore, it is stated that the implementation of the curriculum in special circumstances is intended to provide flexibility for educational entities to determine curricula that are in accordance with students' learning needs. On this basis, Pundarika and Zion GKKA-UP Elementary School have decided to maintain the 2013 curriculum while teaching solely the essential basic competences.

#### 1. *Teacher Activities in Online Learning at Pundarika Elementary School*

According to an interview conducted on November 11, 2022, with the principal of Pundarika Elementary School, digital learning has been integrated into the school curriculum since 2018. Despite this, Pundarika Elementary School recognizes the crucial role parents play in guiding their children's learning from home, replacing teachers. The number of students in the classroom doubled because during the pandemic, the parents were also students. Additionally, the school principal outlined three strategies that the teachers at Pundarika Elementary School employ to educate the elderly population. First, they facilitate socialization around the adoption of online learning through Zoom meetings and develop video tutorials that provide step-by-step instructions on how to install the necessary applications for online learning. Second, they utilize WhatsApp groups to foster active communication. By engaging with parents through these groups, teachers are able to promptly address any questions that may arise. It is worth noting that before the pandemic, Pundarika created WhatsApp groups for each classroom. Such groups are used as a means of interaction between teachers and students regarding school affairs. The third is to open a help desk service in the school to educate parents in person. The school acknowledges that some parents may have difficulty understanding the content presented in video tutorials. To address this issue, a help desk service is established to allow teachers to provide direct explanations to parents. The homeroom teacher is available to assist parents as needed.

Based on the results of interviews with low- (November 12, 2022) and high-grade teachers (October 6, 2022) of Pundarika, it can be concluded that during a pandemic, teachers need to prepare lessons and materials to be presented and laptops whose batteries

are fully charged. Pundarika teaches online in both asynchronous and synchronized forms. Asynchronous activity is learning that is done independently but through directed tasks, while synchronized activity is learning that occurs face-to-face but using an application. Pundarika Elementary School uses Google Classroom as its learning management system. According to Pundarika Elementary School's low-grade teacher, a junior student would be more enthusiastic to engage in an asynchronous activity if he or his friend were involved in video learning. Videos showing the teacher's face are more enthusiastic for children than videos taken from YouTube. Teachers are given full freedom to design learning. Even so, teachers must allocate time during pandemic times because of the high workload. Pundarika Elementary School uses Google Meet to conduct synchronous activities. Engaging in discussions as a method of learning is frequently facilitated by the teacher in a synchronized manner for real-time observation of student participation. When learning becomes a full-time endeavor, students may become disengaged and choose to turn off their cameras. Here teachers need to find strategies to revive the atmosphere. Guessing games and quizzes can also be conducted when students are attentive and engaged. Teachers must consistently offer support and guidance to ensure that students remain engaged and committed to their learning until completion.

## 2. Teacher Activities in Online Learning at Zion Elementary School

Based on the results of interviews (December 8, 2022) with the low- and high-grade teachers in Zion GKKA-UP Makassar, it can be concluded that the teachers of Zion Makassar have been struggling to adapt to teaching in the pandemic. The way to build children's activity in the pandemic is by performing opening activities to build students' interests. Opening activities for lower-class children are usually performed by inviting students to sing. When a student is struggling to maintain focus, a teacher can use a technique known as focus applause. This involves waving applause while incorporating movement and rhythm to regain the student's attention. Furthermore, it is imperative that we establish a set of class rules. Even though learning is happening online, rules are still needed to ensure students' success.

The learning management system used by Zion GKKA-UP Makassar is Google Classroom. Usually, students follow classes synchronously according to the scheduled lessons until 12.50 p.m. unless there are extracurricular activities. Students then perform a well-organized asynchronous activity through Google Classroom in the form of a task invoice. In this case, it is imperative for parents to observe how their children are completing tasks. The majority of schools in Indonesia are grappling with the challenge of external interference in their responsibilities. Consequently, the child's duties are often not carried out solely by themselves. Additionally, the teacher stresses the

importance of parents' guiding their child in understanding how to complete tasks rather than completing the work for them. This approach allows the child to develop their knowledge, leading to a stronger academic performance. However, it is worth noting that the children do not enjoy online learning.

### 2.3.3. Teacher Work Cycle during the Pandemic

In bichronous online learning, teachers need to adapt quickly and prepare for asynchronous and synchronous activities every time they teach. For teachers who act as homeroom teachers, it is necessary to teach more than one subject. For asynchronous activities, teachers need to prepare things that students can work on or learn independently, even if the teacher is not there at the time. Teachers need to prepare videos, questions, or games using an existing app. The result of the student working on the asynchronous activity is what the teacher discusses during synchronization. During synchronous sessions, teachers often enhance the appeal of their classes by creating engaging PowerPoint presentations that include relevant material and captivating images. Following the presentation, students are assigned asynchronous tasks.

### 2.3.4. Student Activity in Online Learning

Based on interviews conducted on November 11, 2022, with two Pundarika students, Jeslyn (low class) and Mozza (high class), the term "bichronous learning" is strange to them. However, they performed both synchronous and asynchronous activities during the pandemic. Both students agreed that synchronous activity is more enjoyable than asynchronous activity. According to them, the tools that should be ready for online learning are mobile phones or laptops, a mouse (when using laptops), earbuds, textbooks, and scripts. Based on interviews with Aryani (Jeslyn's mother) and Yulia (Mozza's mother) on November 11, 2022, when a pandemic occurs, parents understand why schools adopt online learning policies. In this case, parents are encouraged to play an active role in their child's education as the transition from school-based learning to home-based learning takes place. However, with the presence of learning in asynchronous and synchronized forms, parents see children trained to be responsible and independent. Children also learn to tolerate the environment because they study where all the families gather.

Based on interviews conducted on December 19, 2022, with junior and senior students at Zion GKKA-UP, the term "bichronous learning" is strange to them. However, in practice, they perform both synchronous and asynchronous activities. They agreed that online learning was less interesting. They prefer offline learning because they can meet friends and it is more exciting. However, when asked to choose between synchronous and asynchronous activities, they preferred synchronic activities. In the case of students already enrolled in a higher class, if they do not grasp the

teacher's input, they will schedule extra meetings with their peers to review previously submitted material. Jason, who has a younger brother, faces challenges in his learning due to interruptions from his sibling. Effective networking is crucial in online learning, as both asynchronous and synchronous activities rely on strong connections. A reliable network enhances the learning experience, especially during the pandemic. During synchronous activities at Zion GKKA-UP Makassar, students are required to adhere to a dress code by wearing school uniforms and come prepared with necessary school supplies such as textbooks, writing tools, mobile devices or laptops, and access to the internet. At Zion GKKA-UP Makassar, there are instances where a student neglects personal hygiene by skipping showers before school. Additionally, this student often arrives wearing only a school shirt and brings food and drinks to consume during school hours. The school requires students to attend the Zoom meeting before 7:30. Students need to activate the cameras while learning is ongoing. When someone breaks the rules, they usually receive extra duties as a consequence.

### 2.3.5. *Facilities and Infrastructure*

Online learning carried out by Pundarika and Zion GKKA-UP Elementary School Makassar in the academic year 2020/2021 occurred from home based on Circular letter No. 36962/MPK.A/HK/2020 on Online Learning and Working from Home in the Framework of Prevention of the Spread of Coronavirus Disease (Covid-19) issued by the Ministry of Culture and Education (Kementerian Pendidikan dan Kebudayaan, 2020c). During the 2021/2022 academic year, learning took place both remotely and in-person at school, with only a limited number of students attending in-person classes. During online learning, Pundarika and Zion GKKA-UP Makassar received internet quota assistance from the government. In addition, teachers in Pundarika do not have laptops borrowed from the school foundation. In contrast, Zion does not have such a program because the teachers have laptops. Another assistance and resource obtained is a free account on one of the education websites called belajar.id, which is provided by the government. Specifically for Pundarika, the teacher already has a free Google account because they have previously communicated with Google Corporation. This is also true for Canva, which supports the teachers by providing free accounts.

The infrastructure and facilities in Pundarika and Zion GKKA-UP Makassar were fulfilled during the pandemic in terms of tools needed for online learning, such as applications, internet access, laptops, and handphones. The obstacles came only from different speeds of teachers, students, and parents in learning technology. Patience and a willingness to learn new skills are essential in overcoming these obstacles and fostering a collaborative spirit in adapting to the new learning environment.

### 2.3.6. *Giving Assignments*

Based on interviews conducted on November 12, 2022, with teachers in low grades, during the pandemic, Pundarika conducted assessments using various applications. PH (day assessment) was done through Google Forms, and PAS (end-of-semester assessment) and PAT (year-end assessment) were carried out through Google Meet. On the basis of interviews (November 11, 2022) with junior and senior students of Pundarika, the school utilizes Google Classroom as its learning management system, through which all assignments are distributed. Teachers receive notifications when students complete their tasks. Teachers assign tasks using Google Forms because it is integrated into the Google platform. In addition, students are also assigned to be leaders. Some students were given the task by their homeroom teacher as a class leader. The class leader is tasked with opening a meeting on Google Meet and inviting friends who are not present to join the class promptly. After opening the meeting, the leader will contact friends who have not logged in via private WhatsApp.

Based on interviews conducted on December 19, 2022, with Zion GKKA-UP Makassar junior students and December 30, 2022, with senior students, it was found that schools use Google Classroom as a learning management system. Tasks are typically assigned on the day of the course, with the deadline for submission set no later than one week after the assignment is given. The advantage of using Google Classroom is that there is a fixed time recording when the assignments are collected, making it easy for teachers to identify those who have collected the tasks and those who have not. After the adoption of the curriculum in 2013, Zion Elementary School still performed four assessments: assessment of spiritual attitudes, social attitudes, cognitive, and psychomotor. However, because of the lack of direct contact with the students, teachers are less objective in conducting attitude assessments; therefore, at a time of pandemic, parents are involved in the assessment of attitude. Problems occur when parents give scores subjectively because no parents want their children to have bad scores. Here, the honesty of each parent is tested.

## 2.4. *Outcome Evaluation*

Outcome evaluation is conducted to assess the effectiveness of the program. The report includes student outcomes from ongoing bichronous online learning during the pandemic. It is evident that students have a limited understanding of online learning through bichronous methods, although the material being taught is comprehensible. It can be concluded that students followed the learning well, even though they did not understand the term "bichronous learning," but they already understood the material given by the teacher online. The assessment of learning outcomes at Pundarika and Zion GKKA-UP Elementary School in Makassar during the Covid-19 pandemic revealed a successful implementation of bichronous learning in the

context of independent learning because of the supporting aspects, such as qualified teachers, planning the implementation of online learning, the use of appropriate learning media, and teachers' daily reports showing commendable student progress. However, the results of interviews and elevations of students, teachers, and parents show that there are doubts about students' learning outcomes. Teachers cannot figure out how students behaved during pandemic times. Parents believe that sending their children to school will lead to improved academic outcomes and a more enjoyable learning experience. This belief is supported by consistent feedback from both parents and students across various circumstances. Teacher also shows the same that is reflected in daily live input report that although given online, such as Google Classroom, half-term assessments, and semester-end assessments still run smoothly. The only difference lies in the media used by the teacher.

### 3. Conclusion

The results indicate that implementing bichronous learning within the framework of independent learning, utilizing the CIPP evaluation model at Pundarika and Zion GKKA-UP Elementary School, is a measure to ensure uninterrupted learning during the pandemic. Pundarika was assessed to have a greater readiness to implement online learning than Zion GKKA-UP Makassar. This is attributed to Pundarika's prior experience and knowledge in digital learning. The effectiveness of bichronous learning was assessed across various dimensions, including human resources, facilities and infrastructure, teacher collaboration, parental involvement, student engagement, and support from internal and external assistance. The comparison of human resources between Pundarika and Zion GKKA-UP reveals that teachers in Pundarika are more adept at online learning, while those in Zion GKKA-UP require additional training to familiarize themselves with new applications and technology. In terms of facilities and infrastructure, both Pundarika and Zion GKKA-UP Makassar offer a range of amenities to support online learning, such as internet access and practical resources. However, it is not fulfilled for some students from different family economic backgrounds. Both schools are supported by the owner or the school foundation by reducing tuition fees during the pandemic. The two schools build good cooperation between parents and teachers in the pandemic, although some parents are experiencing obstacles because their children do not have facilities, so they are lagging in the learning process. Both schools use learning management systems to maximize bichronous learning. Teaching learning activities are designed independently and refer to essential basic competencies. The outcomes of cognitive skills assessment from bichronous learning were satisfactory. However, it is difficult for teachers to determine the output of a student's attitude during a pandemic. Furthermore, a reverse correlation was

discovered between the students' cognitive and psychomotor learning outcomes and their emotional responses. The academic achievements of high-performing students are evident as their scores exceed the minimum standards, although the feelings of some students during online learning are similar to those during offline learning.

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