Children's Online Cognitive Learning Through Integrated Technology and Hybrid Learning

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ABSTRACT: Cognitive learning during the COVID-19 pandemic encountered many obstacles, but the use of various gadgets could be an effective solution in early childhood learning, especially to prepare them to enter the elementary school level. This study aims to describe the online cognitive learning process (OCL) in early childhood during the COVID-19 and new era of the pandemic through integrated technology and hybrid learning. This study uses a qualitative approach with a case study involving two ECE teachers and one principal. Data analysis using Miles and Huberman models. The findings of this study explain the importance of the teacher's role in OCL and its constraints, how parent-teacher collaboration is the key to successful cognitive improvement through online learning, and the implementation of OCL through effective learning to prevent learning loss. Further research in distance and hybrid learning, especially for early childhood, is expected to give birth to various new learning models and methods that are integrated with technology towards online teaching-learning when needed.

Keywords: early childhood, cognitive online learning, integrated technology, hybrid learning

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1 INTRODUCTION

On the other hand, it is said that online classes allow children to learn remotely. A pandemic can have an impact in several contexts, but education is one of them. Learning Loss are defined as specific or general information that affects academic performance and extracurricular activities (loss of learning in the summer, senior year, re-dropping out of school). Long gaps in student education or other educational discontinuities are the common cause of learning loss. This problem affects 95% of the student body (Engzell et al., 2021). One of the Most challenging aspects of cognitive development in early childhood is the need to be assessed for different age groups over time (Neumann et al., 2021). Online learning necessitates the use of technology, such as electronic devices and an Internet connection. In actuality, the problem exists in those marginal areas (isolated islands, villages, and marginal districts) (Ranjitkar et al., 2019). Although there are many aspects of cognitive development that are linked to academic achievement, the family was unable to provide enough internet access and technology for members of the household who were still in school due to financial restrictions (Kuhfeld et al., 2020). Academic achievement may be impacted by several factors, including social and economic standing, student mood, motivation, peer interactions, and parental support (Simon et al., 2017).

In a pandemic, children's academic performance is significantly impacted by their lack of social interaction. Academic achievement, which is determined by students' cognitive growth and is linked to point average, may be enhanced by positive peer interactions (Peng & Kievit, 2020). Environmental factors can also affect students' motivation, which has a bearing on their academic achievement. Despite this, students may not have fully developed cognitive abilities (Reuben et al., 2019). Some students in higher-poverty households may be able to attend private classes that could damage academic performance due to learning loss. (Pérez-Pereira et al., 2020), but it does not significantly harm them are gaps in certain fundamental skills that affect how well pre-schoolers are prepared school? These gaps often persist and have an impact on children's later academic success, employment prospects, and offers Play offers a range of developmental advantages, such as social, emotional, cognitive, and physical ones.

Cognitive learning among early aged children is one of the stimulations that need to get the teachers' and parents 'attention because it became a reference in preparing the children to enter education in elementary School. Learning for early aged children includes the processing of information, conceptual resource and perceptual skills that are in line with the brain development (Joubert & Harrison, 2021). The children's brain development will be optimum with continuous stimulation in a learning while playing activity. Cross-cultural studies have found that education plays a significant role in predicting how well people perform on cognitive tasks. This stage is known as concrete because it allows kids to manipulate actual (concrete) objects or images of them, which helps them think logically much more successfully.

Many children and adolescents incur and suffer from learning loss based on the phenomenon during the pandemic. It has an impact on their cognitive functioning and

achievement (Saeed et al., 2020). The pace of learning loss, however, has a significant impact on cognitive development (Davis et al., 2019). Technology, social status, and environmental aspects could all play a role (teacher-student relationship, and peer relation). Therefore, based on the problems of early childhood cognitive learning during and after the pandemic, this study aims to find out how the OCL process, especially children who are preparing to enter elementary school. The results of this study are expected to provide an overview for teachers and parents on how to manage effective, efficient, and fun OCL in early childhood to continue to develop their potential.

2 THEORITICAL STUDY

2.1 *Cognitive Development Through Online Learning*

Important questions regarding the impact of exposure and use of internet-based devices on children's cognitive development are raised by the rise in early and sustained access of children to internet-based devices. The consequences on social and emotional development also raise significant issues that are outside the purview of the current paper. Long-term Internet use, according to some observers, lowers cognitive function and IQ (Davies, 2016). Internet users who claim that using the Internet has affected their memory and concentration and who feel pressured by the amount of information available online reaffirm these widely held anxieties. However, empirical studies on the cognitive effects of Internet-based device and Internet use have been mixed and have produced contradictory results (Orben & Przybylski, 2019), and studies involving young children have hardly ever been carried out.

Children can certainly learn via Internet-connected devices, just like they can learn from books or television (Troseth & Strouse, 2017). The question is whether or whether using Internet-connected gadget's benefits or hurts children's learning when compared to other forms of media, such as in-person interactions. This section discusses the consequences of Internet-based gadget use on memory, metacognition, and exploration—three essentials, connected aspects of children's cognitive learning. They might therefore have fewer chances to pick up and use techniques like rehearsing or clustering. Alternatively, it's possible that children will be able to focus more cognitive resources on remembering or understanding more complex information that cannot be easily retrieved from the Internet, such as procedures or relationships between concepts, because access to internet-based devices makes remembering some information unnecessary. Cross-sectional and longitudinal research are required to examine how children develop their memory for material that can and cannot be accessed online given that children's access to internet-based gadgets is projected to increase over the next years.

Children are more likely to connect with and use Internet-based gadgets such as computers, tablets, and smartphones as they become more accessible and user-friendly, this is an opportunity to develop many aspects of their development. Therefore, a child's ability to use the device or perform Internet searches should not be taken as an indication that they understand how the device operates, or that they have successfully analysed the

information it offers. Parents play an important role in facilitating their children's access to technology, especially when it comes to online learning for cognitive development. It is important to remember that children's understanding of Internet-based devices develops along with other cognitive abilities. Children's use and understanding of devices is affected by their cognitive development, and their experience of using devices can also have an impact on this development (Danovitch, 2019). Therefore, in addition to online learning materials that contain things related to cognitive development, the use of technology and the process of implementing learning has also become a means of developing children cognitive. Cognitive learning can also introduce simple graphs, assembling blocks and geometry that can develop cognitive flexibility and reasoning of early aged (Kesäläinen et al., 2022). Teachers cannot directly introduce cognitive learning during covid-19 pandemic, but they can assign the children to have to experiment at home with their parents.

2.2 *Integrated Technology and Hybrid Learning*

The best pedagogical strategies and technological advancements for meeting children's learning demands have been considered by several online learning models. Pre-schoolers often participate in more play-based activities and fewer independent computer activities than students in upper grades (Huber et al., 2016). Therefore, to create assignments that enhance children' learning, successful online preschool education must consider the age of the pupils. Graham et al., (2019) distinguished four sorts of interactions that take place during online teaching: online human, digital content, in-person, and non-digital. Rarely did educators engage in face-to-face interaction during COVID-19 (Trikoilis & Papanastasiou, 2020). Without routine face-to-face instruction, educators set up scenarios in which parents may engage their kids in learning activities at home through a variety of interactions.

Teachers can engage with children's online and foster meaningful interactions between/among children (Graham et al., 2019). Additionally, Internet platforms can provide learning possibilities with less time or place restrictions. Specifically, they can use video conferencing systems to engage with their children in real time (Mirau, 2017). When conducting online instruction in early childhood (EC) education, teachers frequently used Zoom to communicate with their students. ZOOM learning in EC education was frequently restricted to 20 or 30 minutes every session due to children's short attention spans (Kim, 2020) and the aim to preserve their health (Szente, 2020). Indeed, many educators think that to promote children's cognitive growth, they need to immerse them in practical, hands-on learning activities (Rushton, 2011).

For instance, in one research, a teacher described asking her online pupils to use everyday objects (such as plastic bowls and boxes) to make noises, then playing them like instruments (Kim, 2020). Szente (2020) also saw a teacher utilizing Zoom to set up a virtual classroom where students could share their knowledge by talking of the days of the week, the weather, and the activities they liked to perform throughout the day or the week. Teachers made their online lessons more interactive by including music time,

singing, and dancing with the kids, and story time to improve children's positive engagement in online learning (Borup et al., 2020) and preserve their physical development. These kids' participation in these activities improved their online cognitive learning (Szente, 2020).

Teachers can create learning scenarios for their pupils using digital tools and content. Uploading films, pictures, or resources for learning activities to share with parents or teacher's counts as digital content. Teachers frequently created learning resources on an online learning platform and mandated that students access the digital materials pertinent to their course material. Prior to or following each online lesson, Taylor and Boyer (2020) demonstrated how ECE teachers uploaded and shared learning resources, such as images, videos, and shareable links, to online platforms. Children then used the resources, accessed them, and shared and commented on them on the platforms by posing queries and offering justifications. These exercises strengthen the relationship between the family and the school.

A location or portal that offers educational materials and/or real-time instruction for online learning experiences is known as an online learning platform. Google Classroom, ClassDojo, and Seesaw are examples of this kind of learning platform (Bacher-Hicks et al., 2021). A different kind of online learning platform gathers instructional (digital) resources, including cartoons, TV shows, instructive videos, e-books, and songs. Teachers can also upload their own lesson plans to these systems. These online learning platforms offer parents and kid's access to Internet resources outside of the classroom. As a result, online learning platforms provide a wealth of curricular resources and can assist educators in creating learning communities (Thai & Ponciano, 2016).

Furthermore, it may be challenging for ECE teachers to engage their young children online due to a lack of suitable online teaching skills (Hrastinski et al., 2018). Many preschool teachers were reluctant to use computers because they believed they needed proper online training (Hu & Yelland, 2017). Unlike guidelines for education at higher-grade levels, ECE guidelines don't offer suggestions for integrating technologies into the curriculum or suggestions for online pedagogical activities (Hu & Yelland, 2019). Additionally, prior to COVID-19, preschools had few opportunities to incorporate online learning into their routine practices (Dong et al., 2020). Preschool teachers could struggle to engage young kids online. Online instruction, in contrast to traditional classrooms, lowers a teacher's social presence and interaction potential, which makes it more difficult to manage the classroom (Richardson et al., 2017). Therefore, online classroom management was the area that worried online teachers the most (Jong, 2016).

3 METHOD

This research is qualitative research of the type of case study. The research subjects were 22 children aged 5-7 years, while the informants were two teachers and one principal of the Syuhada Mosque Kindergarten in Yogyakarta. The main instrument of this research

is the researcher himself. The distribution of the characteristics of informants and research subjects can be seen in table 1.

Table 1. Participants Distribution

Characteristics	Sulaiman Group	Ayub Group
Number of Teacher	1	1
Age	59	45
Teaching Experience	32	25
Educational Qualification	ECE Graduate	ECE Graduate
Number of Students	14	8
Interval of The Students' Age	5-6 years' old	6-7 years' old

3.1 *Data Analysis*

The techniques of data collection are observation, interview, and documentation. The observation is carried out to observe the process of OCL. The interview is done with the teachers, headmaster, and parents who know the process of the administration of online and blended cognitive learning. The research questions are: (1) How is the administration of OCL during the pandemic of Covid 19 in Masjid Syuhada Kindergarten? (2) Who are involved in the online and off-line cognitive learning? ; (3) what media are utilized to support online cognitive learning? ; (4) how is the children's cognitive skill? ; (5) What are the supporting and hindering factors of the cognitive learning in Masjid Syuhada Kindergarten? Documentation is done by collecting the pictures of OCL activities that are administered through online media and limited offline meetings. The data is then analyzed using the model of Miles, Huberman, and Saldana (2014) interactive analysis. The three stages of data analysis were: 1) data condensing, 2) data presentation, and 3) conclusion drawing. By comparing the data from the four different data collection methods, field observation, interview transcripts, and information from reflective journal, method triangulation confirmed the reliability of the data.

4 RESULT AND DISCUSSION

4.1 *Result*

The results of this study indicate that the stages of implementing OCL teaching are by providing cognitive material in accordance with the Semester Program. OCL that has been made has been adapted to the age of development of the child's OCL. Most of the abilities of Ayub and Sulaiman Groups B of Masjid Syuhada Kindergarten children have not met the standards for entering elementary school and still need stimulation from the teacher to support their cognitive development. The Process and stage of the administration of OCL in Masjid Syuhada Kindergarten is presented in table 2.

Table 2. the Table of Online Cognitive Learning Administration.

The Process of Online Cognitive Learning Activities	Description of the Teachers' and Parents' Responses
Stages of Online Learning	Teachers prepare Semester Program that is adjusted to the development of the children's cognitive ability, then they make lesson Plan.

Strategy of Online Cognitive Learning	Teachers prepare introduction material in the form of power point, then present the material through *zoom meeting*, *WhatsApp* platforms either through chat or voice note, video call and YouTube. If the children are hindered in doing online learning, the teachers use home visit strategy to give educational services in turns.
Who are involved in the online cognitive learning?	The headmaster, Teachers, staff members, the children, and parents
Cognitive Ability of the children of Masjid Syuhada Kindergarten	The cognitive ability of the children who belong to Sulaiman Group are mostly in the criteria of Developed as expected, while the children who belong to Ayub Group are in the criteria of very good and are more ready for elementary school education stage. The children recognize classification, comparing, acknowledging shape and space, patterns, serials, graphs, length, weight, time, numbers, counting, knowing plants, animals, physics, and geography.
The Supports of Cognitive Learning in Masjid Syuhada Kindergarten	The existence of good communication between the teachers and parents, parental accompaniment, the provision of cognitive stimulation of stating, ordering, comparing and so on through various media. The existence of job distribution for the teaches of Masjid Syuhada Kindergarten that make the online learning runs well. Blended learning is also implemented by the teachers to facilitate children who have learning difficulties in online learning and some parents also feel worried about offline learning during the pandemic.
The Hindrances of Cognitive Learning in Masjid Syuhada Kindergarten	When the online learning is on progress, the children like to switch off the camera, the microphone, or even leave the zoom platform (they eat, go somewhere, and even sleep). Sometimes the children are busy playing the background of the zoom. Some children do not do the assignment from the teachers, they do not have cellphone, or the cellphone is out of order and the children feel confused in operating the laptop, lack of internet signal or lagged signal.

Teachers use the Zoom Meeting platform for online teaching-learning activities. According to the teacher, the Zoom Meeting platform will make it easier for teachers to communicate or converse with children, to explain the material, and easier for children to learn from home. Besides, teachers can also use the WhatsApp platform as learning support. By utilizing the WhatsApp platform, children can communicate with teachers through the voice note feature. However, other conditions indicate that there are some children who are bored and less enthusiastic about participating in zoom meetings, one of the reasons being that they want to play at home. The Media used by teachers to stimulate the OCL of Group B children of Masjid Syuhada Kindergarten during OCL is by using picture media and illustrated worksheets that can be taken at school. When OCL, the teacher suggests that parents use objects around the house that can stimulate children's OCL.

The strategies implemented to keep students active in cognitive learning at Masjid Syuhada Kindergarten includes (see table 3): 1) improving communication with children via Zoom or WhatsApp. 2) providing children with enthusiasm for learning, and 3) providing interesting learning, for example, with stories. 4) The teacher inviting the children by clapping, and the teacher inviting the children to perform the song movements so that the children remain enthusiastic. In addition, the teacher provides motivation and appealing teaching-learning activities to increase student interest in learning.

Table 3. Table of Children, Teachers, and Parents" Activity in Online Cognitive Learning

Online Cognitive Learning (OCL) Activities	Description
Teachers' Activities in Online Cognitive Learning	Teachers presents the learning material in online and offline ways. Online learning activities are done to decrease the spread of covid-19 virus whereas offline learning activities are done at school and home visit are administered only for children who are not ready for learning at school.
Children's Activity in Online Cognitive Learning	The children follow the learning process by watching learning video from the teachers, listening to the voice note and doing the task of number sense, matching, comparing, compiling puzzle, and making maze at home accompanied by their parents.
Efforts done by Parents during the online cognitive learning	Parents provide the learning materials like folding paper, Lego, blocks, used things, or loose part. Parents also record the children's activities, send the video, photos, and voice note to the teachers. Parents also motivate the children to be eager in learning despite their limitation.
The Result of Online Cognitive Learning	The Children learn to classify by stating the kinds of vehicles, parts of vehicle, place for stopping the vehicles, and counting. Children know the shape and space by constructing building from used things, compiling puzzle and other kinds of activity. Children recognize numbers through whiteboard feature in zoom.

People who are involved in OCL in Masjid Syuhada Kindergartens are surely the big family of Masjid Syuhada Kindergarten themselves, that comprise the headmaster, the educators, and the staff of Information and Technology. The teachers play an important role in the success of teaching and learning, especially in this online cognitive teaching and learning (OCTL). Parents are also an important factor that is actively involved in this online teaching and learning. Parents have a big role as second teachers after teachers at school. Besides, children are also a very important factor as the main actors in the success of OCL.

Masjid Syuhada Kindergarten has been learning kits that support, namely Zoom Meeting Premium, which does not have a time limit for conducting video conferences (see table 4). According to the class teacher, this Zoom Meeting was sponsored by the parents who were willing to provide learning facilities. Masjid Syuhada Kindergarten also holds Hybrid learning, which is a combination of face-to-face and online learning. Face-to-face learning held by Masjid Syuhada Kindergarten has been adapted to health protocols and is only filled by a few students. The implementation of Hybrid learning (HL) also makes Masjid Syuhada Kindergarten have advantages compared to other kindergartens. Because of the application of HL, children have a high enthusiasm for learning.

Table 4. Table of Supporting Equipment of Online Learning

Learning supports	Description
Through YouTube Video	Teachers use YouTube to provide material according to the theme to Masjid Syuhada Kindergarten students, especially Group B Ayub.
Voice Note	Teachers also take advantage of the voice note feature in the WhatsApp application to facilitate communication among teachers and children and parents.
Distributing Job desk of teachers of Masjid Shahada Kindergarten	Some of the Masjid Syuhada Kindergarten support teaching and learning during the pandemic, by dividing the job desks of good teams. For example, teachers who record voices, teach the Koran prayers, look for PowerPoint materials, make worksheets, edit, and improve video tutorials, and make PowerPoint materials

Based on the results of interviews with the parents of Group B students, Sulaiman, the advantage of online learning is that during this, pandemic parents can assist their children's learning in a structural way through the assignment of worksheets given by the teacher at school. Parents also accompany their children during zoom meetings. The results of observations, children learn to count through zoom meetings by dividing into four boxes. Four squares were counted by Ananda KRSN and four squares were counted by Ananda RHN. Children recognize odd and even numbers. They learn to circle odd and even numbers according to the explanation that the teacher explained earlier. The children circled using the "pen" feature on the Zoom whiteboard. The activity introduced by Masjid Syuhada Kindergarten teacher is new and very challenging for children to be active, and it makes them enjoy studying with the teacher and even at home (see figure 1).
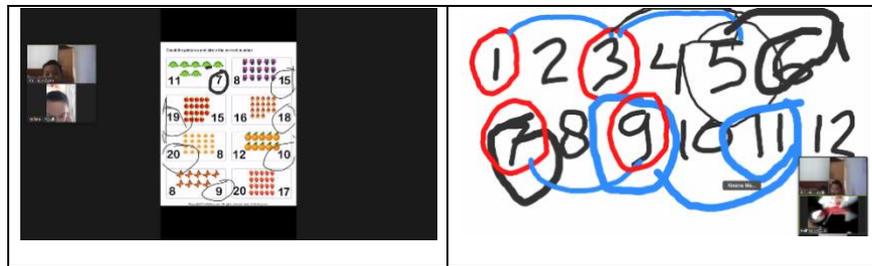

Figure 1. Cognitive learning activities of group Masjid Syuhada Kindergarten

The results of interviews with the homeroom teacher of Group B Ayub, the obstacles to implementing online cognitive learning in the Syuhada Mosque Kindergarten in Yogyakarta, among others, 1) child like to turn off the camera, turn off the microphone, or even leave the online Zoom platform (left out eating, going, even sleeping). 2) Some children are sometimes just busy playing background/zoom background. 3) There are children who do not want to take lessons, for example, when we ask them to memorize, they do not feel like doing it. 4) There are children who do not have mobile phones, or their cell phones are damaged; 5) Sometimes children feel confused to operate their computer, and 6) Internet connection problems. 7) Some children are not motivated to participate in online learning. Online cognitive learning (OCL) research can be managed well through various adaptations made by teachers, children, and parents. OCL activities are one of the stimuli carried out by teachers in improving the abilities and skills of early childhood. Educational services provided by teachers and schools can lead early childhood to grow and develop according to their age stages even though there are some limitations due to the Covid-19 pandemic.

4.2 *Discussion*

4.2.1 *The Importance Teacher's Roles on OCL*

OCL teaching given to kindergarten children is intended to stimulate their cognitive development in early childhood. The success of the online teaching and learning process during the pandemic cannot be separated from the active role of parents and their

collaboration with teachers to assist and stimulate children (Lau & Ng, 2019). Learning activities during the pandemic are sought by ECE teachers to run so that children still have the right to education as they do during the normal time. OCL activities at home are also proof that learning activities continue even though they are not as ideal as face-to-face learning. Learning activities in the current Covid-19 pandemic era needs to be designed to make it easier for parents to accompany their children to study at home (Lau & Lee, 2020).

According to a teacher of Masjid Syuhada Kindergarten, online learning activities have many advantages and disadvantages. In cognitive learning, most children do not experience too many difficulties because group B children of Masjid Syuhada Kindergarten easily access OCL through WhatsApp, video calls, and zoom meetings or G-meet. OCL activities which initially required a lot of adjustments both from the teacher, and the children have slowly been able to use various online facilities that make it easier for teachers to explain learning materials (Dias et al., 2020). The condition of the spread of the Covid-19 virus so far after two years has been up and down, so the implementation of learning activities in schools cannot be carried out normally as it was before the pandemic. Parents who want their children to take full online learning are still facilitated by the teacher. However, the performance of teachers is extra because they must spend their time at school and on home visits. Teachers and educational institutions strive in such a way as to optimize educational services so that early childhood children continue to get optimal stimulation (Ford et al., 2021). The home visit strategy is an advantage carried out by Masjid Syuhada Kindergarten in Yogyakarta, because not all schools are able to provide these services due to limited personnel and budget.

Cognitive learning stimulation as far as possible can be given optimally so that group B students of kindergarten are ready for education in elementary schools. The pattern of offline or face-to-face teaching and learning in schools in the era of the Covid-19 pandemic is one of the teaching-learning strategies that is expected by all parties, even though it cannot be implemented 100%. Teachers can interact directly with children when children study at school. Teachers can know the individual child's development directly so that they can provide stimulation according to the child's needs even though it is only carried out within 2-3 hours. Teachers can also communicate directly with parents while they are at school to explain various learning materials and activities so that they can be continued at home. Thus, all the limitations faced in the teaching and learning process make the collaboration between parents and teachers increase.

4.2.2 *Parent-Teacher Collaborations*

Parents attempt to accompany their children to learn cognition at home because the children's cognitive ability during the pandemic time is not optimum. Cognitive learning is very essential because cognitive ability like counting, recognizing shape and reasoning can support the students' academic success and their future life (Schoon et al., 2021). OCL in Masjid Syuhada Kindergarten is occasionally done by the teachers by giving quiz with counting question and checking the answer through zoom, to draw the children's

attention to join online learning. In line with Watanabe's opinion that mathematic stimuli through quiz method and simple game can improve the children's cognitive ability that in turns, it can also support non cognitive ability (Watanabe, 2019). OCL in this research is introducing numbers, counting, comparing, and checking that is suitable with the vehicles as the topic. Introducing mathematics for children can be started by introducing the concepts of numbers, the concept of counting, the concept of money, the concept of time, shape, and space (Hassan et al., 2018). Simple early introduction to mathematic can train the children's thinking ability that is getting more developed every day.

Various activities and media are designed to stimulate children's cognitive development by learning accompanied by online teachers or accompanied by parents at home (Ansari & Purtell, 2017). The priority of paying attention to cognitive stimulation of early childhood children can prepare children to face schooling in elementary school (Zauche et al., 2016). Teachers and parents are expected to collaborate to assist in learning and teaching activities so that children can have fun learning. Various strategies are carried out by parents to increase children's creativity. The fact that children often do passive activities for a long time greatly affects their development, so they need to be diverted to educational activities, and thus they are not addicted to gadgets and watching television. Activities that are interesting and challenge children's creativity should always be programmed by parents and teachers so that learning during the Covid-19 pandemic can be more meaningful. Learning activities carried out at Masjid Syuhada Kindergarten with a Zoom meeting platform were delivered very pleasantly where children were given the opportunity to take turns doing assignments through the whiteboard menu so that the children did not get bored easily listening to the teacher's explanations even though they were through cyberspace.

4.2.3 *OCL through Integrated Technology and Hybrid Learning as Solution of the Obstacles*

In this study, the findings showed that the devices used for OCL activities at Masjid Syuhada Kindergarten were a zoom meeting platform, wag, face-to-face meetings twice a week, and home visits given to students who were not willing to take part in face-to-face learning at school. Various efforts were made by the teacher to facilitate teaching and learning activities. Learning in the era of the Covid-19 pandemic was held by paying attention to convenience for all parties, and for various constraints such as the lack of ability of parents to use technology, economic capabilities, and other constraints the solution to which was tried to be found for the delivery of the right to education for children. The existence of good cooperation between parents and teachers can maximize the teaching and learning process of early childhood children.

The constraints on online cognitive teaching and learning during the Covid-19 pandemic at Masjid Syuhada Kindergarten in Yogyakarta are slowly overcome through communication among teachers, parents, and students. Most of the explanations given by the teacher through the zoom meeting facility can be understood by children, so that they are able to count, sequence patterns, and solve problems from a simple event even though

it is very limited. The teachers of Masjid Syuhada Kindergarten in Yogyakarta provide several direct cognitive stimulation activities when children are studying at school, such as looking for objects in the maze, playing with puzzles, and experimenting with natural phenomena and natural disasters. Then the teachers give assignments such as comparing, grouping objects, and matching to be completed at home with parents. Various educational service efforts at Masjid Syuhada Kindergarten in Yogyakarta aim to prepare early childhood children to develop according to their age level and to be ready to enter the next level of education. To demonstrate how teachers used online learning materials for young children during COVID-19, technology integration was incorporated (Hu et al., 2021). Teachers frequently used digitally mediated learning platforms to offer instructional materials during closures, but they were less likely than other educators to anticipate online teaching in the future. Teachers were more inclined to anticipate online teaching in the future if they thought that students were more engaged or that parents were supporting them.

The class teacher reported that the parents who were willing to give learning facilities sponsored this Zoom Meeting. Hybrid learning, which combines in-person and online learning, is also offered at Masjid Syuhada Kindergarten. Few pupils attend the Masjid Syuhada Kindergarten's face-to-face instruction, which has been modified to comply with health regulations. Masjid Syuhada Kindergarten has advantages over other kindergartens because of the adoption of hybrid learning (HL). It is necessary to build a teaching presence before the start of the hybrid, blended, and online classes as well as throughout the semester (Singh et al., 2021). This is divided into two main areas in the online world: Based on the premise that students already know and comprehend certain concepts, the first category of teaching presence makes it very evident that the entirety of the course preparation should take place before online sessions. Choosing readings, tasks, and debates falls within this category. As the course advances, the second category of teaching presence caters to the specific group of children and supports their learning and cognitive development. Various attempts of educational services in Masjid Syuhada Kindergarten Yogyakarta have the objective to bring the early aged children to be developed in line with their age stage and to be ready to enter the next education level.

5 CONCLUSION

The implementation of OCL in Masjid Syuhada Kindergarten is years in order that they have readiness in entering the elementary school education level. Then the presentation of the material of OCL is executed through three ways, that is, through online learning, face to face learning, and home visit for the children who are not willing to go to school. Online Cognitive learning (OCL) has a specific challenge because the teachers must learn to make OCL materials that they have not learned before. Teachers must also have intensive communication and cooperation with parents because learning process is mostly accompanied by the parents at home. Teachers at school must cooperate to distribute their job for the effectiveness of the OCL. The pattern of communication and

cooperation of all parties involved in the learning process is the main key of the success of online learning during the covid-19 pandemic.

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