Adaptive Learning for Early Childhood Education during the COVID-19 Pandemic in Aceh Jaya District: Online vs Offline

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Abstract

Purpose – The issues of teacher facilities and abilities are still a learning obstacle in the pandemic era. Moreover, these issues lead to the non-uniformity of the learning process implementation in early childhood education in Aceh Jaya District. This study analyzes in-depth the reality of the learning process in early childhood education in the pandemic era.

Design/methods/approach – This study was conducted using a descriptive qualitative method. The site for the study is in Ceudah Mulia Kindergarten, Teunom District, and Al-Hidayah Kindergarten, Pasie Raya District. Data collection methods were through observation, interviews, and documentation. Analysis of research data was using Miles and Huberman model. The validity tests for the data we are using triangulation of sources and techniques.

Findings – The results showed that there was a difference between Ceudah Mulia Kindergarten and Al-Hidayah Kindergarten. Ceudah Mulia Kindergarten conducts online learning via WhatsApp by giving assignments and exciting games with parental guidance. Meanwhile, Al-Hidayah Kindergarten does not use social media platforms or other online learning methods due to various limitations, such as common understanding of technology, the availability of inadequate technology facilities owned by schools and parents of students. Al-Hidayah Kindergarten conducts learning by inviting parents and assigning assignments to students, and the children's work is returned to the school for assessment. However, the role of parents in synergizing with teachers during the learning process of early childhood students in the COVID-19 pandemic has become key.

Research implications/limitations – This case study focuses on learning in early childhood education during the pandemic in two early childhood education institutions. The comparison of forms of early childhood learning during the pandemic is illustrated in early childhood education institutions.

Practical implications – This case study demonstrated how the application of learning in early childhood education in early childhood education institutions is affected by the COVID-19 pandemic.

Originality/value – This paper contributes to knowledge and understanding of learning in early childhood education institutions affected by the COVID-19 pandemic so that stakeholders can formulate policies according to community needs.

Keywords Adaptive learning, Early childhood education, Online learning, Offline learning

Paper type Case study

1. Introduction

The current coronavirus outbreak has hit various countries and has become a warm and phenomenal conversation. Indonesia is one of the countries that are currently facing the impact of the coronavirus outbreak. This virus is a new type that is very disturbing to everyone because so far experts in this field have not found the right vaccine to ward it off. The initial appearance of this virus came from Wuhan, China, at the end of 2019 (Daroedono et al., 2020) In Indonesia, it first appeared on March 2, 2020, with the identification of the first two female patients in Depok, West Java (Churiyah, Madziatul, Sholikhan Sholikhan, Filianti, 2020). According to dr. Rizal Fadli on June 11, 2020, he stated that the coronavirus is part of a large family of viruses that cause mild to moderate upper respiratory tract infections, such as flu (Fadli, 2020). This virus can be transmitted quickly to anyone regardless of age, race, or gender. Recorded in a relatively short period of time, the virus has spread in various parts of the world. As a result, various multidimensional negative impacts arise. Therefore, the government as the authorized party responds through various policies to tackle the spread and negative impacts resulting from this virus.

The new sets of policies also have an impact on the world of education (Nahdi et al., 2021; Nasir, Ishaq, Sumarni, Herlina, 2021), one of which is the distance learning policy based on the Circular issued by the Ministry of Education and Culture, 24 March 2020 No 4/2020 (Dewi, 2020). This policy has implications for the learning process directly at every level of education, i.e. changes in the pattern of learning activities (Agustin, Mubiar, Puspita, Nurinten, 2021). Face-to-face learning patterns as in the era before the emergence of the pandemic have now been replaced with online learning activities (Nurkolis & Muhdi, 2021). Online learning is a distance learning activity that uses the internet as its main learning tool (Kim, 2020). This is done to comply with and support the government's advice, which requires the public to stay at home (Satrianingrum & Prasetyo, 2021) and not to leave the house if they do not have a meaningful interest, and they must maintain physical and social distancing (Khasanah & Pramudibyanto, 2020). Of course, the policies taken have gone through an in-depth study of the dangers of global transmission from this epidemic virus (Amadasun, 2020). The policies issued also apply to the educational process in Early Childhood Education institutions. The education process for early childhood must adapt and make changes as mentioned earlier, although it is felt that these changes are not appropriate to do (Supriadi, 2021).

Changes that occur as mentioned above certainly also bring their own multidimensional problems (Karalis, 2020). including for Early Childhood Education institutions. For example, there are issues on the readiness of teachers and parents and the children themselves (Qadafi, 2021). Children in early childhood in this case requires the role of teachers and parents to help and guide them during the learning process (Iswidharmanjaya, 2008). At this time, the learning process in schools can no longer be carried out in the classroom, so the obstacles to learning or the instructional process between teachers and children are very prominent. When the teacher is constrained by various things in the context of changing the learning process as an adaptation to the pandemic, then learning will be difficult to carry out properly. For example, when there is no internet availability and supporting tools. Of course, it will be difficult for schools to provide an online learning process. Therefore, schools then deal with it in various ways including designing offline learning but by paying attention to various aspects. This includes optimizing the role of parents. The intensive role of parents is needed to accompany their children to improve children's learning outcomes in the midst of this epidemic. However, parents as mentors at home who are expected to guide and to teach do not always meet expectations (Wiresti, 2021).

There are several previous studies that highlight learning during this pandemic. There is a lot of research that focuses on distance learning tips with technology and its impact on children's development only. However, research that highlights the reality of the learning process during the pandemic in areas with limited human and technological resources has not been widely studied. For example, the first research was conducted by Jinyoung Kim with the title "Learning and Teaching Online During COVID-19: Experiences of Student Teachers in an Early Childhood

Education Practicum" (Kim, 2020). Their research focuses on online learning for students of early childhood education. The research was conducted in countries that are culturally familiar with technology. This study, however, was about distance learning which was carried out in areas that were not evenly distributed in understanding technology. Therefore, this study can complete the range of distance learning that can be done with technology or without technology.

The second is a study conducted by Shirley Van Nuland et al., entitled "COVID-19 and Its Effects on Teacher Education in Ontario: A Complex Systems Perspective" (Van Nuland et al., 2020). Their research explains about changes in adaptive learning methods during this pandemic, so that some ideas are obtained to ensure online learning goes well. In their study, it emphasizes the existence of effective access to connected online learning, professional development of teachers for online learning, and recognition of internet-based learning experiences. The whole idea still has ambiguity if it is applied to areas that are still lacking in technological infrastructure and the ability of teachers and students. Therefore, through this study, the authors propose to provide a more realistic picture of the reality of learning practices during this pandemic.

The third study was conducted by Chuanmei Dong, Simin Cao, and Hui Li with the title "Young Children's Online Learning during COVID-19 Pandemic: Chinese Parents' Beliefs and Attitudes" (Dong et al., 2020). Their research shows that parents have negative beliefs about the results and benefits of online learning. In the end, online learning poses its own problems and challenges for families. Their research is in line with this current study which also touches on the realm of parents as learning guides for students at home.

The fourth study was conducted by Ismaniar and Utoyo, entitled "Mirror of Effect" in the Development of Early Childhood Behavior during the COVID-19 Pandemic Period" (Ismaniar, 2020). The study describes how the Mirror of Effect theory may have a negative impact on children from their parents during the online learning process from home. The focus of the research is on processes that exist at home that examine the process of interaction between children and parents as a result of the pandemic.

Overall, the previous studies show a desire to change education in accordance with technological developments during this pandemic. However, in practice, the ideals as described in each of these studies still need more adjustment and attention. These studies still leave an unexplored space, i.e. the reality of Early Childhood Education institutions in society where human resource entities and technology are still considerably low. Therefore, this study examines how the distance learning process is, either online or offline, in Early Childhood Education during the pandemic in Aceh Jaya District, Aceh Province.

2. Methods

This study used descriptive qualitative methodology. The research sites were Ceudah Mulia Kindergarten, Teunom District, and Al-Hidayah Kindergarten, Pasie Raya District. The research subjects consisted of: principals, teachers, and parents of the two institutions. Data were obtained by means of observation, interviews, and documentation. The data analysis process was carried out by taking the views of Miles, Huberman, and Saldaña, i.e. data condensation, data presentation, then drawing conclusions/verification (Miles, Huberman, & Saldaña, 2014). Then, the validity tests for the data were using triangulation of sources and techniques.

3. Result

Based on the obtained research data, the adaptive learning process during the COVID-19 pandemic at Early Childhood Education institutions in Aceh Jaya Regency is divided into two. The first is the online learning process. The second is offline learning.

3.1. Online Learning Activities
Based on the interview results with several teachers and parents of students in one of the schools located in Aceh Jaya Regency, the researcher found answers regarding the learning activities carried out during the pandemic at Ceudah Mulia Kindergarten with an online system and did not

apply face-to-face system during the pandemic. In Ceudah Mulia Kindergarten, teaching and learning activities were previously carried out by teachers and children by going to school every day except on holidays (face to face), but now the time and learning space are limited. Before the pandemic came, generally schools were active from Monday to Saturday if there were no holidays. During one week, teaching and learning activities are carried out in full by teachers and children in the school. However, since the case of the coronavirus outbreak, teaching and learning activities have turned into online learning activities that are carried out in teachers and students' respective homes. Currently, teaching and learning activities during the coronavirus outbreak are only carried out 3 times a week, i.e. Monday, Wednesday, and Friday (Marlina, Interview, 2020). Reducing study time and changing the learning space from classroom to virtual classroom are logical implications for maintaining continuity of learning and the health of students and teachers.

The form of online learning activities carried out by students and teachers is through a platform as a tool to convey learning. The platforms used by teachers in Aceh Jaya are WhatsApp Group media and through telephone media (Observation, 2020). Freely, teachers and students can choose any media as long as it is equally easy for both parties. The choice of WhatsApp Group media has become a commonplace because the Indonesian people in general have mastered this media. The design of online learning during study at home is that the teacher first prepares various interesting activities that students can do at home with the guidance of their parents. After that, the teacher created a WhatsApp Group as a medium of communication between teachers and parents regarding various learning and administrative activities that the teacher had prepared beforehand (Salwati, Interview, 2020). The most important thing is to use a platform that is as easy as possible to understand (Albashtawi & Al Bataineh, 2020) and used so that the learning process can still run and be improved (Assunção Flores & Gago, 2020).

The learning process is carried out based on a predetermined schedule. For example, students are asked to draw and color the pictures they make. First, the teacher shares the shape of the image that must be made by the child. This shape has been prepared and distributed by the teacher through the WhatsApp Group media. After that the teacher gives direction to parents that students learn to draw and color according to the prepared instructions. As feedback from the learning process, after students have finished doing their work, the results of their work are sent by the students' parents to their teachers through the WhatsApp Group media as a form of documentation which will then be assessed by the class teacher (Salwati, Interview, 2020). Online learning activities carried out by teachers and children are not only in the form of coloring pictures, but also many other interesting and fun activities and games. These activities have been prepared by teachers as tasks that must be done by children with the assistance of each parent during the time of the coronavirus outbreak. The various activities such as crocheting, drawing lines following patterns, compiling puzzles, singing, guessing colors, even experimenting activities have been prepared by teachers for the sake of continuing education (Observation, 2020).

During the visit, the teacher conducted interviews with the parents of the students and asked the child to show the results of the works they had done while at home under the supervision of their parents. These works are the result of the teacher's instructions that have been previously given to each parent to be carried out by the children at home. Through this visit process, the teacher will then be able to get an overview of how the progress of the development of children's learning outcomes during online learning is carried out. The results are then entered by the teacher into a previously prepared rating scale (Marliana, Interview, 2020). Thus, the teacher can understand the extent to which the development of the achievement of children's learning outcomes and evaluate what is not suitable for improvement in the future.

Therefore, the distance learning design made by the teacher is to conduct online learning as well as visits to students' homes. The initiation carried out by the teacher by continuing to do online learning accompanied by a home visit process indirectly guarantees the quality of the learning process. However, the tasks of teachers and parents will become more complex, i.e. if normally teachers only need to pay attention to children in the classroom, during a pandemic, teachers must pay attention to children both during online learning and by visiting each student's

home. The learning outcomes will still be of high quality. On the one hand, this kind of distance learning design takes up more time and focus on the side of teachers and parents.

Meanwhile, for Al-Hidayah Kindergarten, learning activities are carried out differently compared with Ceudah Mulia Kindergarten. Al-Hidayah Kindergarten during the pandemic period carried out learning activities using the face-to-face method and did not apply an online system, due to various limitations faced by Al-Hidayah Kindergarten.

3.2. Offline Learning Activities

Based on the results of the coordination carried out by teachers who became informants of this study with teachers of other institutions, the researcher received information that most Early Childhood Education institutions in Aceh province are located in remote rural areas. Therefore, online distance learning activities as announced by the government apparently could not be implemented properly. This is also occurred in Al Hidayah Kindergarten (Husna, Interview, 2020). This is due to several factors: (1) The ability to access the internet is quite limited; (2) Coupled with the lifestyle of rural people, most of whom come from ordinary families or whose economic income is middle to lower. The implication is that the community prioritizes economic interests so that their basic needs can be met rather than the learning interests of their children. Therefore, parents cannot facilitate their children by buying android mobile phones or buying internet quota. There are some parents of students who already have an android mobile phone, but there are also some others who do not have it; (3) Most of the parents of students have a low educational background and are a little older. This makes them not understand how to access the internet and do not understand how to use an android mobile phone. Their very limited abilities and still very new to technology and internet use make it difficult for them to provide online distance learning at home (Maghfirah, Interview, 2020).

Apart from the reality factor of parents, there are other factors that come from the teachers who teach at the Early Childhood Education institution concerned. For example, teachers also do not understand the systematics of online learning activities because they are not familiar with the use of technology for learning. Another factor is the educational background and age of the teacher. The education of teachers, who on average are high school graduates, also has an effect on changes in these learning activities. Meanwhile, the teacher's age factor in the 50s which has been categorized as senior age group makes the teachers confused with the online learning activities. Some of these factors ultimately make teachers unable to implement distance learning activities online properly. The reality in the end makes teachers and parents have to find other solutions so that distance learning activities can still take place even though they are not carried out online or are not carried out as usual in the classroom (Husna, Interview, 2020).

One of the solutions chosen is to redesign the distance learning process with an offline system that is mutually agreed upon, by asking parents to come in turns to school to pick up books or learning materials that have been prepared by the teachers so that their students can still study at home with the help and assistance of their parents (Husna, Interview, 2020). When taking learning materials, the teacher also provides direction to parents regarding the learning process at home (Observation, 2020). The teacher guides and directs parents about how learning can be done at home, as well as providing direction regarding the form of the task given. Through this kind of guidance process, children will still be able to achieve appropriate development (Wulandari & Purwanta, 2021). The forms of assignments given by the teacher to children are simple things, such as writing their own names, coloring, free drawing, making collages of their own names, animal names, fruit names, plant names, vegetable names, and any activities that are fun and not burdensome for children. Then the children's work is stored by their parents, then later when the teacher visits the house to see the progress of their students, the parents will submit their children's work which has been stored for one week. In addition to checking the work of students, teachers also provide academic guidance and direction to students so that their enthusiasm and motivation to learn is maintained. These things are done in turns by each teacher in each school, according to a predetermined schedule (Maghfirah, Interview, 2020).

Similar to the online distance learning process that the researcher explained earlier, both teachers and parents have extra roles in this learning design. Teachers and parents work together

to create a quality learning process even though it is limited by various things. The learning outcomes are also maintained, this can be seen from the process of visits to students' homes conducted by the teacher. The spirit of learning and teaching that is continuously fostered gives a good impression even though it is still being carried out during a prolonged pandemic.

The learning process that is not possible to do online can be circumvented by a face-to-face coordination process with parents taking turns to school. The built coordination is the coordination related to the technical learning that must be done by students at home. After the learning process is carried out at home by students and their parents, the teacher will make home visits to provide explanations as well as make observations on the child's development process. This process actually emphasizes the readiness of parents, because when parents are not ready or do not understand the learning process that they should do at home to their children, the results will fall far from the learning objectives. In addition, teacher visits to students' homes will also run more extra, because teachers do not yet know the results of the learning process that students do at home. In the end, the teacher will explain back to the child whose learning process is possibly not carried out with their parents according to the teacher's instructions.

4. Discussion

The current condition requires the government to issue a new policy to urge people not to leave their house if it is not urgently necessary. The supporting policy is by recommending physical and social distancing or keeping a distance to prevent the spread of the coronavirus outbreak so that it does not spread widely. This policy has an impact on changes in learning activities that have been carried out so far, i.e. face-to-face learning in classrooms or in school buildings. Currently the learning process must be replaced with distance learning activities (Kim, 2020). Teachers, students, and even parents must be able to adapt to these distance learning activities. Distance learning activities are the government's way of preventing transmission from the coronavirus outbreak so that it does not spread, one form of which is learning via the internet or in general terms known as online learning. This learning activity is interpreted as a learning activity carried out through the internet (Dong et al., 2020).

Online learning activities can be said as the organization of learning classes with a network and can reach widely and massively, without being limited by space (Ayuni et al., 2021). This learning model uses sophisticated technology which is expected not only to improve children's abilities, but the most important thing is the improvement in the perception of the teacher, their ethics, and readiness in carrying out this learning process. This learning model is the most possible alternative to be implemented in a pandemic outbreak that continues to spread (Donitsa-Schmidt & Ramot, 2020; Radha et al., 2020). This alternative is adopted by almost every school in Indonesia at every level of education, including early childhood education in Aceh Jaya.

This online learning is carried out suddenly, as a result of the change in the learning system from face-to-face methods to online learning or distance learning (Nisa', 2020). It turns out that this online learning requires improving the quality of educators (teachers). There are several studies noting that the information, communication, and technology (ICT) capabilities of Indonesian educators are not evenly distributed in every region of Indonesia (Widodo, 2013). Moreover, there are differences in education in Indonesia between Java and outside Java (Azzizah, 2015) and there are also socio-economic differences (Nuraini et al., 2020). On the other hand, access to the internet network and support from adequate infrastructure is very much needed for the distance education process via the internet or online learning (Van Nuland et al., 2020). This happens evenly at every level of education in this country, including affecting the educational process in early childhood education institutions. Similarly, what happened in Aceh, the factor of educators who are not familiar with the learning conditions they currently face, and the lack of understanding of technology for some people in Aceh are serious obstacles. Meanwhile, the demands of education for children must still be fulfilled, i.e. the learning process must run even with severe obstacles. In addition, the lack of supporting facilities both for teachers and for the families of students is also a serious obstacle.

The reasons above then make it difficult for some schools to carry out online learning. This obstacle then makes some of them choose to do distance learning, but it is carried out offline. sDistance learning with this offline system is also designed with a more secure system. Thus, practically there is a contradiction in the implementation of the educational process during this pandemic. For schools, or in this case teachers and students who are ready and able to carry out distance learning with technology, they follow government directives to conduct online learning. This learning can be done using any platform as long as it is an easily accessible learning medium, for example using the WhatsApp application with the features available in it (Amal, 2019; Hutami & Nugraheni, 2020; Satrianingrum & Prasetyo, 2021). However, for those who have difficulty accessing technology, they will conduct offline distance learning with a safe design, but the learning objectives can be achieved.

The educational process in which it is carried out through distance learning, whether using technology or not, still requires the participation and support of parents (Iswidharmanjaya, 2008). Sinergy between teachers and parents are required so that students' receive quality learning process and learning outcomes (Palsdottir, 2020). During this pandemic period, the demands for synergy between teachers and parents run more extra than before the pandemic. This means that both online and offline learning still requires a more real and extra role from parents so that their children can still learn well. For example, online learning that adapts technology also has an impact on the intensity of gadget use for children. Ideally, the use of gadgets for early childhood should be limited in time (Setiawati et al., 2019). This time restriction must also be followed by providing understanding so that children can access positive things from the gadgets they hold, either for entertainment purposes (Pramudyani, 2021), such as games, watching videos, accessing various sites, and using social media in cyberspace or for educational matters. Giving these treatments to children will reduce the bad impact of using gadgets for children (Sudrajat et al., 2021). However, it all depends on the awareness of parents to be wise, firm, and considerate of their children (Pratiwi, 2021). When at a time like this parents tend to neglect, then negative things are very likely to happen to the child, because parents are important actors in shaping the child's personality (Kurniati et al., 2021; Rohita, 2021).

Based on the explanation above, it is clear that the role of parents in synergizing with teachers is for the continuity of the learning process of these early childhood students. Parents become liaisons between teachers and students to convey learning messages from teachers. However, the role of parents does not stop there. The role of parents not only guides children's attitudes, but also now becomes a companion for academic education (Kurniati et al., 2020; Lilawati, 2021). Parents must participate in explaining the instructions given by the teacher and sometimes participate in teaching the material presented by the teacher. Parents are well aware of this, because they still want their children to get quality learning even though it is full of limitations. This kind of awareness is an important point for the success of online distance learning which, according to a study by Dong et al., lacks a learning atmosphere (Dong et al., 2020). Distance learning requires technology and these early age children are not yet able to be independent in using technology. Moreover, early childhood still needs verbal and direct guidance so that the learning process runs more smoothly.

For the sake of the quality of the distance learning process carried out by teachers and students, the teacher continues to follow up on the learning process. As a follow-up to the learning process, the teacher occasionally visits students' homes to check the progress of their learning outcomes during this pandemic. This process presents interactions that have been critical for online learning (Alqurashi, 2019). Moreover, this is necessary for the distance learning process that does not allow online learning as a result of existing limitations. The direct interactions presented in this activity will be vital in the learning process (Law & Shuang, 2019) although not as good as in normal times. Through this interaction, the learning spirit of the child will be maintained even though they have to learn without face to face in class.

5. Conclusion

From the discussion above, it can be concluded that the era of the COVID-19 pandemic adaptive learning at early childhood education institutions in Aceh Jaya district is carried out in two ways, i.e. online and offline. This means that not all early childhood education institutions in the Aceh Jaya area have the same capacity to conduct online learning. For example, Ceudah Mulia Kindergarten conducts online learning via WhatsApp by giving assignments and interesting games with parental guidance. Meanwhile, Al-Hidayah Kindergarten does not use social media or other platforms due to various limitations. This means that learning is done offline. Al-Hidayah Kindergarten conducts learning by inviting parents and then assigning assignments to students and the children's work is then returned to the school for assessment.

Declarations

Author contribution statement

Mardi Fitri of the presented idea. Muhammad Abdul Latif developed the theory of online and offline learning on early childhood education. Miss Komareeyah Sulong verified the analytical methods. All authors discussed the results and contributed to the final manuscript.

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Data availability statement

The datasets generated during and/or analysed during the current study are available from the corresponding author on reasonable request.

Declaration of interests statement

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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