# Investigating Online Learning Implementation in Indonesia; Challenges and Possible Solution

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**Abstract**
*Online learning has been become a trend as media in teaching and learning. This digital learning media used in various levels of education, from basic to tertiary levels. This fact is not only because of Covid-19 has been taking place for some years ago, but it has been becoming innevatable teaching and learning modes nowadays. Nevetheless, for some developing countries, including Indonesia, online learning implementation still challenges. This reserach investigated teachers readiness to use those technologies devices to run classroom by using online learning. Research sample of primary school teachers were 55 Indonesian teachers.The data were analyzed using the simple percentage method. The results shows there are teachers face challeges in using online learing. I related to teachers competencies and limited online infrastructure available. These two situation need to be paid attention by schools as well the government particularly telecommunication department. Training and mentoring as well as expanded access to fast internet connection required for online teaching would be the suggestion of the study.*

Keywords: *Online Teaching, Online Learning, Technology Education*

## 1. Intruduction

Nowadays, online learning and sometimes also called electronic learning (e-learning) and digital learning, has been becaming an inevatable media for learning Assidiqi and Sumarni (2020). In addition to that, Covid-19 has push Indonesia education stakeholders of students and educator from different level education to use online learning.

Effective use for this mode of learning studied by reasearcher and scolars. Many of them found a lot of advantages that online learning where it provides various learning resources onlined, can be used to achive learning outcomes. The media also ease teachers in run teaching as well cheaper parice, even free of charge.

With online learning, Rawashdeh, Mohammed, Al Arab, Alara & Al-Rawashdeh (2021) states that e-learning has been viewed as the ability to focus on the requirements of individual learners. Then, teachers can access different materials from online resources that make their students coup with learning objective quicker. Learning materials stored in different search engine also most of them are free. This is make online learning distictive with hard copy of teks books sold with various prices at book stores. Individual learners also can access the metarial again and again and even from different writers accordingly. While Huang and Chiu (2015) viwed that it provide opportunity for

individual to learn independently and some times the objectives of learning can be achieved in the shortest time.

Rawashdeh et al. (2021) added that e-learning environment provides equal access to the information regardless of the users' locations, their ethnic origins, races, and ages. E-learning also help students or learners to rely on themselves so that instructors are no longer the solitary knowledge source rather they serve as guides and advisors (Joshua et al., 2016).

While, Rahma & Nugraheni (2020) suggest teachers to have adequate Information Technology skills. Nevrtheless, they would fail to run online learning. If this condition take place, then teachers need training and assistance first.

Since the above advantages of online learning very obvios, this study was intended to investigate online learning implementation in Banda Aceh, Indonesia.

## 2. Literature Review

### Online learning advantages and Covid-19

As it has been discussed earlier, online learning has numerous advantages because it provides more material to learn, offer wider opportunity for teachers, and learners can return to materials to learn a particular material stidied individually.

As matter of fact, learning during the Covid-19 period was adjusted to the conditions where classroom meeting limited to avoid the spread of the diseas. The Government of Indonesia, through the Ministry of Education and Culture issued an instruction No. 15 of 2020 as guidelines for the implementation of learning from home in an emergency period for the spread of corona virus disease (Covid-19).

The regulation manage teaching and learning during the emergency of the spread of Corona Virus Disease (COVID-19) where learning can be run from home:

• Learning from Home during the emergency spread of Corona Virus Disease (COVID- 19) is carried out while still observing the protocol for handling COVID-19; and

• Learning from Home through online and/or offline distance learning is carried out in accordance with the guidelines for organizing Learning from Home as stated in the Attachment to this Circular (SE Kemendikbud, 2020).

This regulation to anticipate Covid-19 speading has fostering the use of online education more intensive in some schools. Teachers may want to sit at home or schools, access one of favourable online media, upload teaching learning materials prepared by teacher or access suitable meterials on the net, and then run learning. On the side of students, they may want to reaccess the particular materials to learn it deeper. Without direct meeting with teachers, students can ask question to their teachers typing on comment box, or question column in any classroom learned. This mode of learning motivated students to learn more and more Rawashdeh et al. (2021).

This implementation of online learning for sure depending on teachers and school readiness as well as online learning infracstructure availabe.

### Materials for Online Learning

Daud (2022), Assidiqi & Sumarni (2020) states that there are several digital platforms which is widely available for online learing, including Whatsapp groups, Google Facilities (Google Classroom, Google Forms, and Google meet) and Zoom Cloud Meetings.

Based on the research, materials and online learning applications available, including:

1. Rumah Belajar oleh Pusdatin Kemendikbud. https://belajar.kemdikbud.go.id
2. TV edukasi Kemendikbud. https://tve.kemdikbud.go.id/live
3. Pembelajaran Digital oleh  http://rumahbelajar.id
4. Pusdatin dan SEAMOLEC.Kemendikbud.
5. Face-to-face online greeting program for learning house ambassadors
6. Pusdatin Kemendikbud. pusdatin.webex.com
7. LMS SIAJAR oleh SEAMOLEC, Kemendikbud. http://lms.seamolec.org
8. Aplikasi daring untuk paket A,B,C.  http://setara.kemdikbud.go.id/
9. Guru berbagi http://guruberbagi.kemdikbud.go.id
10. Membaca digital  http://aksi.puspendik.kemdikbud .go.id/membacadigital/
11. Video pembelajaran http://video.kemdikbud.go.id/
12. Suara edukasi Kemendikbud   https://suaraedukasi.kemdikbud.go.id/
13. Radio edukasi Kemendikbud https://radioedukasi.kemdikbud.go.id/

## Teacher Competency on online learning

Having understood the applicability of online learningis which not only support teachers and students motivation to implement this mode of learning. The next question is can all teachers this kind of learning? Since running digital media as a mode for learning, techers in need to have competency to used these technology devices.

Unfortunetly, as it has been reported in Unicef findings (2020) that many teachers do not have the digital skills required for online education and have received limited training. This woul be challenges for schools.

The report (Unicef: 2020), also stated that most private sector education technology initiatives prioritize building the digital capacities and skills of students, not teachers. Then, schools have provided limited support to customize online learning plans, or create a curriculum that includes content across multiple platforms, resulting in challenging teacher workloads.

These challnges face by schools to train teacher to learn how to use computer devices, operate online connection, preparing soft materials, uploading materials, run sessions by sessions, familiarity with different online application, and so fort.

## Infrastructure for online learning

The implementation of online learning in various level of education has been shifting mode of learning form paper based onto digital ways of learning. Teachers and students in form of class group or in individual peer mentored can access learning material and learn together by using single output monitor through infocus or using students mobile phone or taps.
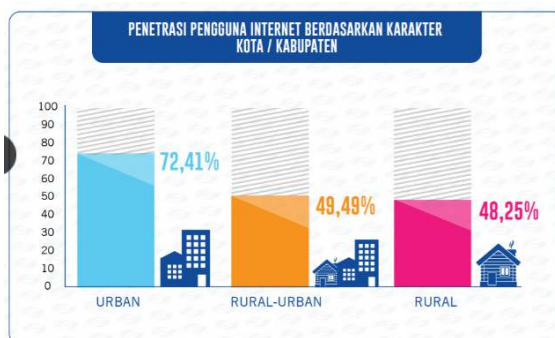
Research conducted by Prandika & Amrullah (2021) suggest that various kinds of problems were encountered in implementing online learning process. This is related to the availability of inadequate facilities and infrastructure, the difference in the atmosphere when studying in class and learning from a distance/home, for example, which affects the quality of the learning process.

Marpaung (2022) also found that the learning process with online media is highly dependent on the availability of an internet connection, so that when internet network facilities are disrupted, the learning process can be disrupted. Marpaung (2022) added that schools should pay more attention to online learning activities, by changing strategies to be more effective and efficient so that the facilities used in online learning are useful for students.

While Wulandari, Suastra & Arnyana (2022) found that students who experience obstacles regarding facilities and infrastructure in participating in online learning, efforts are made to establish cooperation with students who have adequate and sufficient facilities and infrastructure in participating in online learning.

The data shows that, big Indonesia cities enjoy this technology advantage where their students get into nostop access to online resources. One of reasons is big cities mostly already have adequate internet infrastructure that used to live online learning resources.
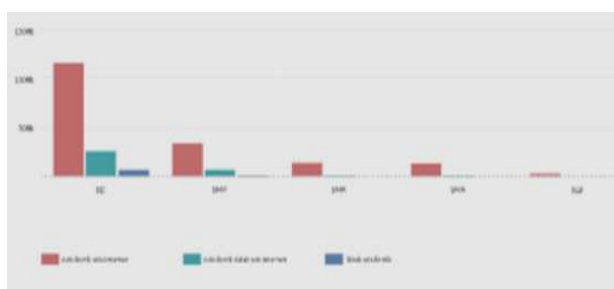
Diagraph The Use Of Internet In Urban, Rural And Rural Area



The figure above shows that internet in urban area has been connected 72,41%, rural urban (49,49%), dan rural (48,25%). Accoding to APJII *(Asosiasi Penyelenggara Jasa Internet Indonesia),* internet limitation in rural still shortage because fiber optic lines and other devices to support internet connection not available all (https://dailysocial.id/post/apjii-survei-internet-indonesia-2017).

Other infrastucture to support internet access including electricity. According to data from Indonesian Education Ministry, the are numbers of schools without electricity untill 2020.
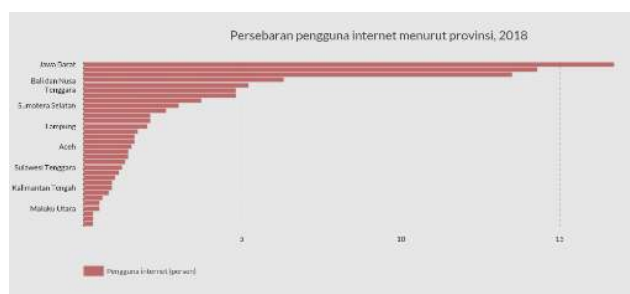
**Diagraph of Electricity available at Schools**



The graph shows that until 2020 there are 179.097 schools still do not has electricity. Almost 2/3 of the number (116.783) is primary schools (https://lokadata.beritagar.id/topic/pendidikan?page=2)

While, internet usage accrose provinces allover Indonesia still imbalance whre some area are fully acced while some other still limited.

**Graph on Internet Network Access all Provincies**

Graph above shows that most internet accessed in Java, Bali, and North Sumatera. Aceh is shown on lower than the mean internet access on overall users. While the rest provinces are below Aceh, including Maluku and Papua.

## 3. Research Methods

This study involved 55 primary school teachers from 11 schools from 102 elementary schools in Banda Aceh (BPS Aceh: 2020)..

Table 1: **Number of Population and Sample**

| No | Schools | Sample |
|---|---|---|
| | 100% | 10% |
| SD/MI | 102 | 11 |
| Teacher | 303 | 55 |

Source: 2021 Research Results

The data for this research was collected involving 55 teachers. They are from different schools in Banda Aceh. Later, the data are talled before claculating it using precentation formula:

$$p = \frac{x \cdot 100}{y}$$

All respondents' (p) answers using this percentage formula would be sum to 100% before divided with selected answers comprising to choice a, b, and c available answers.

Some interview result also counted as the information gathered during the research but not affect the percentage result of the statements.

## 4. Results and Discussion
### Result
The result of research regarding Investigating Online Learning Implementation In Banda Aceh; Challenges and Possible Solution as presented in the following table:

Table 2: Experience in running Online Learning

| Choices | Percentage |
|---|---|
| Experience in running online learning before Covid-19 periode: | |
| a. Never | 75% |
| b. Yes, almost similar to online learning | 15% |
| c. Others | 9% |
| | **100%** |

Table above shows that 75% teachers have never use online learning before Covid-19 taking place in the area. 15% of them had familiar with online learning becase the use almost the same form with online learning. While 9% of them also had experinece in online learning eventhough not specifically mention the devices and meterials used to run the learning onlined.yap

Table 3: Challenges in running Online learning

| Choices | Percentage |
| --- | --- |
| a. Teaching materials (such as power point, student task and evaluation) | 44% |
| b. Learning using videos | 36% |
| c. Operating supporting devices for online learning (computer and internet, etc.) | 20% |
| | **100%** |

The figure above shows that most teachers (44%) face difficulty in preparing teaching materials. 36% of them has problem with using video as part of learning. 20% of them have obstacles in using technology devices to run online learning.

Table 4: Competency Improvement Required

| Choices | Percentage |
| --- | --- |
| a. Training and mentoring of teaching materials (such as power point, student task and evaluation) | 35% |
| b. Training and mentoring of learning to prepare and use video learning | 26% |
| c. Training and assistance Operating supporting devices for online learning (computer and internet, etc.) | 29% |
| | **100%** |

Table above shows that 35% teachers need Training and mentoring of teaching materials (such as power point, student task and evaluation). 26 % of them stated that they need capacity building and mentoring of learning to prepare and use video learning. 29% of them need competency improvement and assistance in operating supporting devices for online learning (computer and internet, etc.).

**Discussion**

Looking on the literature review including Unicef repoprt (2020), which stated that most teachers had limited attention from schools adn education stakeholders of different education departments, colud also be true for Banda Aceh teachers. Shools have minimal support to teachers regarding integrating usual practice of teaching and learning onto online learning in learning plans, or create a curriculum that includes content across multiple platforms, and so forth.

This above situation at least mirrorred by the above 2 above where almost all teachers have never use online learning before Covid-19. Limited number of them familiar with online learning becase the use almost the same form with online learning. This situation in fact, cannot fully blamed on teachers and schools because according to to APJII *(Asosiasi Penyelenggara Jasa Internet Indonesia),* internet limitation in rural still

shortage because fiber optic lines and other devices to support internet connection not available all.

In the meantime, there are several digital platforms which is widely available for online learning (Assidiqi & Sumarni: 2020; Daud: 2022),) including Whatsapp groups, Google Facilities (Google Classroom, Google Forms, and Google meet) and Zoom Cloud Meetings, it seemed to have no big impact on online learning because of limited teachers competency.

Online learning environment provides equal access to the information regardless of the users' locations, their ethnic origins, races, and ages (Rawashdeh et al., 2021) would also unapplicable as a cosequencies. This is because of unadequate Information Technology skills belongged to teachers (Rahma & Nugraheni; 2020).

Regardless many online application and online material resources available, the data shows that most teachers can not take beefit from them. They have difficulty in preparing teaching materials, have problem with using video as part of learning, and some of them face challenges to run them.

It is very reasonable if many of teachers need capacity building as well as mentoring on how to make power point and run student task and evaluation through online system. The study also find that a lot of teacher request training and mentoring in preparing material and use video learning. They also need competency improvement and assistance in operating supporting devices for online learning such as in operating computer and how to connect to internet and run the learning.

## 5. Conclusion

Based on the discussion above, several conclusions can be drawn, including:

1. A lot of teachers do not familiar with online learning before Covid-19. Covid-19 has fostered the use of online learning, including National Ministry education regulation to shift comunal classroom meeting onto online learning.
2. Many teachers however have difficlty dealing with online learning. Some of them suggest impotant capacity building for them, including operating computer and how to connect to internet and run the learning.
3. Finally, it concluded that eventhough the government polecy to bring online learning to usual practice in schools, infrastucture for online learning still limited. Therefore, schools and education decision makers to think and take action about this so that online learning with all its advantages can bring positif impact on learning outcomes.

## References

APJII *(Asosiasi Penyelenggara Jasa Internet Indonesia),* internet limitation in rural still shortage because fiber optic lines and other devices to support internet connection not available all (https://dailysocial.id/post/apjii-survei-internet-indonesia-2017).

Alaa Zuhir Al Rawashdeh, Enaam Youssef Mohammed, Asma Rebhi Al Arab, Mahmoud Alara & Butheyna Al-Rawashdeh (2021), Advantages and Disadvantages of Using e-Learning in University Education: Analyzing Students' Perspectives, The Electronic Journal of e-Learning Volume 19 Issue 3, 2021

Assidiqi, M. H., & Sumarni, W. (2020). *Pemanfaatan Platform Digital dalam Pembelajaran Daring di masa Pandemi Covid-19.* Prosiding Seminar Nasional Pascasarjana UNNES

Daud, M: 2022: Tantangan Kepala Sekolah/Madrasah di "Jaman Now": https://aceh.tribunnews.com/2022

*Daud, M., Mariati MR* (2022), Evaluation of Teacher's Ability in Using Technology Distance Learning in Banda Aceh City, Jurnal Serambi Ilmu, *Vol 23, No 2 (2022)*

Huang, Y. M., and Chiu, P. S., 2015. The effectiveness of a meaningful learning-based evaluation model for context-aware mobile learning. British Journal of Educational Technology, 46(2), pp. 437-447.

I Gusti Agung Ayu Wulandari, I Wayan Suastra, & Ida Bagus Putu Arnyana, 2022, Evaluation of Online Learning During the Covid 19 Pandemic, Jurnal Ilmiah Sekolah Dasar, Volume 6, Number 1, 2022 pp. 95-105

Kemdikbud No. 15 Tahun 2020 Pedoman Belajar dari Rumah Pada Masa Covid 19, Kemdikbud: Jakarta

Marpaung, N.N. (2022), *Implementation of Online Learning Applications in SD Bina Kreasi Mandiri Bekasi: Infrastructure Effect Analysis,* Budapest International Research and Critics Institute-Journal (BIRCI-Journal), Volume 5, No 1, February 2022, Page: 1796-1807

Riskiana Rahma & Nursiwi Nugraheni, 2020, Strategi Pembelajaran Guru Sekolah Dasar Di Era Pandemi Covid-19, Prosiding Webinar Nasional IAHN-TP Palangka Raya 2020, https://prosiding.iahntp.ac.id

Unicef (2021), Strengthening Digital Learning across Indonesia, Unicef, UK