

## Conference Paper

# School from Home during COVID-19 Pandemic, a Descriptive Study: Effectivity of Learning towards High School Students in West Sumatra

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## Abstract

COVID-19 pandemic has forced several countries to manage regulations in order to minimize the spread of virus. Learning from home, or school from home (SFH) is one of the responses towards COVID-19. This study aims to explore the effectivity of SFH in West Sumatra. This study uses descriptive quantitative research survey design. The effectivity of SFH measures by using 9 aspects related to teaching practices: communicating effectively, guiding students' knowledge, promoting individual learning, engaging students with content, ensuring content accessibility, maintaining academic integrity, keeping the course a safe place, meeting students' needs, and scaffolding. Statistical analysis uses to explore the effectivity of learning during SFH. Results indicates that averagely subjects perceived that all aspects have fulfilled by school teachers ( $M= 2.7-3.2$ ). Its can concludes that SFH is quite effective for student in West Sumatera. On the other hand, open-ended questionnaire showed the overview of the implementation SFH during initial months of pandemic. 53.3% of learning are using WhatsApp, television (TVRI; 2.3%), Google Meet (8.2%), Zoom (6.5%), and other media (29.5%). Moreover, all subjects preferred face-to-face learning than online learning. Majority of subjects (30.7%) suggested online learning to be more creative and attractive, and using easy to understand methods (27%). Implications are suggested for the field of teachers or educational sectors in creating online education programs to reach optimal learning.

**Keywords:** school-from home, online-teaching, learning effectiveness

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## 1. Introduction

The emerge of novel virus in China in the beginning of 2020 has turned the world upside down. The virus known by SARS-CoV-2 spreads coronavirus disease 2019 (COVID-19). This virus was first identified in December 2019 in Wuhan, China. Thousands of people have been infected and many have died.

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The virus spreading swiftly, thus WHO announced COVID-19 as world pandemic (Hatta, 2020). Some countries reported that COVID-19 already attacked their countries. The very first case in Indonesia was found in Depok, West Java. This case emerged by two national citizen positive COVID-19. Two weeks after the first case, hundreds of people in DKI Jakarta identified positive COVID-19. One month after that case, 5.516 people were infected in Indonesia, with death rate of 9% (Idhom, 2020). Moreover, the first case in West Sumatra was found in Bukittinggi on March, 23<sup>rd</sup> 2020 (Harlina, 2020). Not long afterwards, first case also found in Padang and Pesisir Selatan City.

COVID-19 pandemic is a challenge to every countries to cut the spread of virus. As far we know, this virus is spreading rapidly, thus WHO informed COVID-19 as world pandemic (Hatta, 2020). Government is trying to respond and implement such regulation towards this pandemic, in which the regulation has a big impact in life order. One of regulation made as a response during this pandemic is by implementing social distancing, or physical distancing. Physical distancing refers to keeping physical distance with other people (Unicef, 2020b).

In Indonesia, there is a regulation to limit outdoor activity. Furthermore, school and college activity were closed since the middle of March 2020. Process of learning in school is not face-to-face, but through online method, or called as school from home (SFH).

SFH is using online teaching method. Online teaching refers to learning activity in which students learning through internet to be involved in school education (Bates 2005 in Hartnett 2016). Online teaching allows students to learn without having direct contact with teachers.

In contrast, this online learning method sometimes could have obstacles. One of the obstacles is teachers are unprepared to operate the online learning systems in this pandemic era (Unicef, 2020a). The implementation of online learning seems not built sufficiently, thus impacted the learning effectivity. Findings from the preliminary interview showed that students are facing some obstacles by the online learning, such as the load of assignments. Moreover, the lack of face-to-face contact with teachers make the learning process less optimized.

The ideal process of online learning system is by explaining learning materials as by studying in the classroom (Hubalovska, 2015). However, based on the interview shpwed that online teaching system is only by giving such assignments for students, and also by giving learning materials through PDF file. As a result, students perceived this learning process is less effective, or even demotivate themselves. This condition may affect the learning process negatively.

This study is using quantitative descriptive methods aimed to explore the effectivity of SFH during pandemic in Indonesia, specifically in West Sumatra. Abrupt change as the impact of COVID-19 pandemic affecting learning process in high school students. This study is expected to give description of learning effectivity and its problems students have during SFH, as well as provide suggestions for teachers and government for a better learning system.

## 2. Literature Review

Purpose of education can never be achieved without teacher's role (Rao & Kumar, 2004). The effectivity of learning depends on effectiveness of its teachers (Barma, Bhattacharrya, & Barman, 2005 dalam Shahzad & Mehmood, 2019). Effectiveness of learning can be inferred as the learning objective is achieved (Shahzad & Mehmood, 2019). Effective learning involving the preparation and enhancement efficiency, not only in cognition but also emotion (Day & Qing, 2009). Effective learning characterized by pedagogical ability, content clarity, and student-teacher relationship (Shahzad & Mehmood, 2019). Effective teacher is supportive, emphatic, aware of students' emotions, respectful, caring, firm, flexible, warm, dynamic, attentive, and reliable (Ergur, 2009).

Effectivity of learning system may depends of learning practices by the teachers. Anderson, Liam, Garrison, & Archer (in Lin & Zheng, 2015) divide teacher's functions during online learning into 3 categories: instructional design & organization, facilitating discourse, & direct instruction. Instructional design and organization refers to how teachers prepared the curriculum, designing learning methods, and the usage of media in communication and learning. Facilitating discourse refers to teacher's role as facilitator, to promote students' interaction, students' involvement, and students' interest in learning process. Direct instruction refers to teacher's role as a leader and source of knowledge. Furthermore based on Lin and Zheng (2015), there are 9 aspects of learning practice: communicating effectively, guiding student knowledge, promoting individual learning, engaging students with content, maintaining academic integrity, keeping the course a safe place, meeting students needs, and scaffolding.

Effectiveness of learning can be explored by students' evaluation. Students' evaluation allowed students to give feedback towards learning activity. Items related to learning evaluation consist of statements about effectivity of learning itself (Bush, Rushton, Conklin, & Oermann, 2018). Learning evaluation consists of organization of the course, teaching methods, course assignments, student workload, examinations and grading, communication with students, enthusiasm of the teacher, interactions between students

and faculty (in a group and individually), and the course's value in terms of their learning (Annan, Tratnack, Rubenstein, Metzler-Sawin, & Hulton, 2013). In this study, students' evaluation was using self-report questionnaire consists of 9 learning technique aspects by DiPietro (2010).

### 3. Method

#### 3.1. Research Design

This research is using descriptive quantitative design. Descriptive quantitative design involves test, survey, interview, and observation to describe status or characteristics by a phenomenon or situation (Eggen & Kauchak, 2010). Moreover, Gravetter & Forzano (2018) stated that survey is one of descriptive research. Survey research used to have description of certain group of individuals. This research is using survey as research design because this research purpose is to have description in effectivity of school from home in West Sumatra as the impact of COVID-19 pandemic.

#### 3.2. Research Participants

Participants of this research is 226 high school students in West Sumatra Province. 140 of participants were female and 86 participants were male. This research was conducted from August 2020 until September 2020. Participant criteria is such as below:

- a. High school students in West Sumatra whose graduated in 2020
- b. Have online learning system in previous semester

Senior high school students graduated lately also considered as participants, because this research is aimed to explore the effectivity of online learning during the early months COVID-19 pandemic in Indonesia.

#### 3.3. Research Instrument

This research is using survey technique by using Teacher Practice Questionnaire formulated by Lin & Zheng (2015). The instrument consists of significant aspects for online teaching, so that students may appraise the implementation of online learning during initial months of COVID-19 pandemic in Indonesia. Authors modified several items in the instrument, for student's individual adjustment purpose. This instrument was in the beginning conducted towards teachers. However, the instrument adapted for students

participating in this research. The adaptation process were translation, adaptation and professional judgment. Professional judgment is found to be substantial, in order to determine suitability of each items and the variable construct towards Indonesia high school students. Professional judgment was conducted in two psychology program lecturers. In general, professional judgment suggested the correction of sentence or words in several items. Researchers improved the questionnaire by the suggestions of professional judgments. Read-ability test also given to 10 samples of high school students to recognize students' ability to understand the questionnaire. Read-ability test shown that subjects were generally understand the items of instrument. Futhermore, reliability test showed score 0.97. This questionnaire is a rating-scale question using Likert scale (1 to 5), very suitable (5), suitable (4), averagely suitable (3) slightly suitable, and not suitable (1). In order to reach a deeper understanding in participants, researchers built up additional open-ended question towards research participants.

### 3.4. Collection of Data

Collection of data was conducted in one month, using google form. Researcher created questionnaire and additional question in google form and broadcasted the link to high school students in West Sumatra, throughout online media such Whatsapp Group and Instagram. Moreover, teachers also took part in broadcasting the questionnaire towards the students. In the beginning of research questionnaire, researcher explained informed consent of current research, such as objective of the study, duration of questionnaire, and rewards for joining in the research.

### 3.5. Analysis of Data

Analysis of data used statistical descriptive by comparing mean score of teaching practice aspects to explore the effectivity of school from home during COVID-19 pandemic. Additional questions were collected and measured based on its frequency.

## 4. Result and Discussion

Results of this research were elaborated based on: (1) description of demographic study by place of origin, education, and gender; (2) data based on teacher practice aspects, and (3) open-ended questionnaire result.

Distribution data of participants based on city/regency in West Sumatra can be seen on table below.

TABLE 1: Research Participant Based on City/Regency in West Sumatra

No.	City	Sum	Percentage (%)
1.	Padang	38 students	17%
2.	Pariaman	13 students	6%
3.	Padang Panjang	75 students	33%
4.	Pasaman	1 students	1%
5.	Agam	89 students	39%
6.	Bukittinggi	10 students	4%
	Total	226 students	100%

As shown in Table 1, 38 participants (17%) from Padang, 13 participants (6%) reported from Pariaman, 75 participants (33%) from Padang Panjang, 1 participant (1%) from Pasaman, 89 participants (39%) from Agam, and 10 participants (4%) from Bukittinggi. Majority of participants were from Padang Panjang, and the least participants was from Agam.

TABLE 2: Participants based on Education

No.	Education	Sum	Percentage (%)
1.	Junior High School (SMP)	58 students	26%
2.	Senior High School (SMA)	168 students	74%
	Total	226 students	100%

Table 2 reported participants from junior high school were 58 participants (26%). On the other hand, percentage of participants from senior high school were 168 participants (74%). Overall, senior high school participants were more than junior high school participants.

TABLE 3: Participants based on Gender

No.	Gender	Sum	Perentasge (%)
1.	Male	87 participants	38%
2.	Female	139 participants	62%
	Total	226 participants	100%

Table 3 showed male participants were 87 participants (38%) and female participants were 139 participants (62%). Thus, female participants were more than male participants.

Table 4 above presented meand difference by specific aspects of teacher practice. In general, overall means were slightly difference, in the range of 2.7-3.2. This can be concluded that students perceived that teacher’s learning method were slightly suitable.

TABLE 4: Descriptive Analysis of Teacher Practice Aspects

No.	Aspects	Descriptive Statistics				
		N	Min	Max	Mean	Std. Deviation
1.	Communicating Effectively	226	1,00	5,00	2,9174	0,83699
2.	Guiding Students Knowledge	226	1,00	5,00	3,0611	0,91233
3.	Promoting Individual Learning	226	1,00	5,00	2,8695	0,95690
4.	Engaging Students with Content	226	1,00	5,00	3,0642	0,90847
5.	Ensuring Content Accessibility	226	1,00	5,00	2,7699	1,01600
6.	Maintaining Academic Integrity	226	1,00	5,00	3,0236	0,89246
7.	Keeping the Course a Safe Place	226	1,00	5,00	3,2044	0,97497
8.	Meeting Student's Needs	226	1,00	5,00	3,1283	0,92790
9.	Scaffolding	226	1,00	5,00	3,0066	0,85307

Teachers used communicating effectively, guiding students' knowledge, promoting individual learning, engaging students with content, ensuring content accessibility, maintaining academic integrity, keeping the course a safe place, meeting students' needs, and scaffolding during school from home process. Teachers keeping effective communication with students, tutoring the students, encouraging self-learning, keeping a safety learning, accessibility of learning materials, integrity during learning process, also accomodating students' needs.

Moreover, additional responses by participants were shown in Table 5:

Table 5 shown participants responses towards the questions of online learning process by teachers. Based on data above, 40% of the participants showed that teachers gave more tasks during online learning.

Based on Table 6 above, can be seen participant's answers by the question of "Do the teachers explain learning materials during online learning?". 35.4% of participants respnded "yes", 56.2% responded "sometimes", while 8.4% answered "No". Overall, the biggest percentage was the answer of 56.2% of teachers sometimes explain the learning materials during online learning.

Table 7 showed the participant's answers by the question "Do teachers supervise your online learning process at home?". The answers of Yes were 35.% (80 participants), sometimes were 37.2% (84 participants), and answering no were 27% (61 participants). By the answers, it can be concluded that teachers were supervising the learning proses through online learning.

Table 8 showed that participant's answers were vary in the way teachers supervise student's online learning process. Participants' answers were by sending photos, giving attendance list throughout group, by using video, application, collecting tasks, student's

TABLE 5: Online Learning Process

Question 1.		Describe the learning process by your teachers !	
No.	Participant's Responds	Percentage (%)	
1.	Supports Learning	0,6%	
2.	Complicated	0,3%	
3.	Many tasks to do	40,2%	
4.	Give the learning materials	9,3%	
5.	Quiz	2,2%	
6.	Take notes of learning materials	1,2%	
7.	Voice note	1,2%	
8.	Rapid tasks deadline	0,9%	
9.	Self-understanding	2,2%	
10.	Fun	2,2%	
11.	Give YouTube link	1,9%	
12.	Less Comprehension	4,7%	
13.	Learning through handphone and applications	10,3%	
14.	Slightly good	3,7%	
15.	Explaining the lesson	4,0%	
16.	Online discussion	3,7%	
17.	Give presentation	1,2%	
18.	Send learning videos	6,2%	
19.	Without explanation	0,6%	
20.	Videocall	0,3%	
21.	Boring	2,8%	

TABLE 6: Teachers Explain Learning Materials during Online Learning

Question 2.		Do the teachers explain learning materials during online learning?	
No.	Answers	Percentage (%)	
1.	Yes	35,4%	
2.	Sometimes	56,2%	
3.	No	8,4%	

TABLE 7: Teachers Supervise Online Learning Process

Question 3.		Do teachers supervise your online learning process at home?	
No.	Participant's Answers	Percentage (%)	
1.	Yes	35,8%	
2.	Sometimes	37,2%	
3.	No	27,0%	

involvement during class, monitoring online status, giving questions, get in touch, and task inquirement.



TABLE 8: Teachers' method in supervising online learning process

Question 4. How do teachers supervise your online learning process at home?		
No.	Participant's Answers	Percentage (%)
1.	By sending photos	0,8%
2.	By giving attendance list throughout group	17,7%
3.	Never	34,3%
4.	Video	0,8%
5.	Application	12,5%
6.	Collecting Tasks	6,5%
7.	Student's involvement during class	2,4%
8.	Monitoring online status during learning	15,3%
9.	Giving questions	0,8%
10.	Get in touch with students	0,4%
11.	Inquire the tasks	8,5%

TABLE 9: What kind of applications used during online learning?

Question 5. Online learning was using:		
No.	Participant's Answers	Percentage (%)
1.	WhatsApp (WA)	53,5%
2.	Televisin Media/Televisi Republik Indonesia (TVRI)	2,3%
3.	Google Meet	8,2%
4.	Zoom Meeting	6,5%
5.	Others	29,5%

Data collected in table 9 showed that WhatsApp is application used the most by teachers (53.5%), Televisi Republik Indonesia (TVRI) for 2,3%, Google Meet contributed for 8,2%, Zoom-Meeting 6.5%, and other applications were 29.5%. It can be concluded that the highest percentage was the usage of WhatsApp application during online learning process.

TABLE 10: Choosing Online Learning or Face-to-face Learning

Question 6. If you may choose, which one do you prefer, online learning or face-to-face learning?		
No.	Participant's Answer	Percentage (%)
1.	Face-to-face learning	100%
2.	Online learning	0%

Table 10 described that every participant chose face-to-face (100%) learning than online learning (0%).

Table above showed that the highest percentage was 38.4% by the reason of face-to-face learning to be more effective than online learning. Moreover, 25% of participants felt less understanding of online learning method, and 12.7% participants perceived

TABLE 11: Reasons of choosing face-to-face learning or online learning

Question 7. Why do you choose that? (face-to-face learning or online learning)		
No.	Participant's Answer	Percentage (%)
1.	Less understanding of online learning method	25.0%
2.	Face-to-face learning is more optimal	38.4%
3.	Task overload	2.1%
4.	Interaction with teacher and classmeets	8.8%
5.	Limitation of internet connection	4.6%
6.	Boring	2.8%
7.	Difficulty to ask questions	12.7%
8.	Feels lazy towards online learning	3.9%
9.	Less pocket money	0.4%
10.	Sensitive teachers	0.4%
11.	Smartphone radiation	1.1%

online learning is more complicated to ask questions during learning. Other responses were overload of task, less interaction with teacher and classmates, limitation of internet connection, boring, less pocket money, more sensitive teachers, and smartphone radiation.

TABLE 12: Effectivity of Online Learning

Question 8. Did last semester's online learning found to be effective?		
No.	Participant's Answer	Percentage (%)
1.	Yes	16.4%
2.	No	83.6%

Based on table 12 above, can be inferred that 16.4% participants perceived that online learning in last semester was effective. On the other hand, 83.6% participants perceived that online learning in last semester was not effective.

Table 13 above described participant's answers towards the question of " Why would you choose (online learning to be effective or not)?". The answers were vary such: Difficulty in understanding learning materials, Neglected the task, Boring, No explanation by teacher, Troublesome signals, Face-to-face learning is more optimal, overload of task, economy, difficulty to ask questions, ineffective, inattention of grade mark, teacher has done the best, and still on progress using online learning.

Data collected based on table above showed several suggestion for teachers such: motivate students, make a more creative and attractive learning materials, lessen the task, giving quiz, more understandable materials, buy students internet package, alleviate task deadline, voice note, video call, using zoom application, and through online discussion.

TABLE 13: The reasons of choosing effective of not effective

Question 9.		Why do you choose (Online learning to be effective or not)?
No.	Participant's Answer	Percentage (%)
1.	Difficulty in understanding learning materials	38,8%
2.	Neglected the task	4,1%
3.	Boring	3,7%
4.	No explanation by teacher	9,8%
5.	Troublesome signals	9,0%
6.	Face-to-face learning is more optimal	13,5%
7.	Overload of task	2,4%
8.	Economy	2,0%
9.	Difficulty to ask questions	0,8%
10.	Ineffective	8,2%
11.	Inattention of grade mark	2,0%
12.	Teacher has done the best	2,9%
13.	Still on progress using online learning	2,9%

TABLE 14: Evaluation of teachers in online learning system

Question 10.		What do you think teachers should evaluate to make a more condusive online learning system?
No.	Participant's Answers	Percentage (%)
1.	N/A	7,9%
2.	Motivate students	0,9%
3.	Make a more creative and attractive learning method	30,7%
4.	Lessen the task	14,4%
5.	Giving quiz	0,9%
6.	A more understandable explanation	27,0%
7.	Give internet package for students	0,9%
8.	Alleviate task deadline	1,9%
9.	More undertanding towards students	3,7%
10.	Voice note	2,8%
11.	Video call	0,9%
12.	Using zoom application	0,9%
13.	Online discussion	5,6%

## 5. Disscussion

COVID-19 pandemic make a great change in educational process in Indonesia, specifically West Sumatra. Learning process must be shifted from face-to-face learning to be online learning from home (school from home). This condition forced teachers to adapt and create a new system of learning.

Mishra, Gupta, & Shree (2020) stated that during COVID-19 pandemic, online learning emerged as a major challenge which should be faced by adjusting to the change. This also related to the competency of technology supporting learning process.

In general, evaluation given from students relating to online learning systems has done smoothly. It can be seen by the questionnaire showed that participants of the study perceived that teachers are having a good communication during online learning, motivated the students, and elaborated indicators of learning materials to the students. Anderson *et al* (2001) in Lin & Zheng (2015) denoted three functions of teachers during online learning: instructional design and organization, facilitating discourse, and direct instruction. Instructional design and organization related to teacher's way of designing learning method and using communication media. On the other hand, facilitating discourse related to teacher's role in motivate students, facilitate the learning and effective communication. Direct instruction is teacher's role as source of knowledge.

Furthermore, abruptive online learning found some obstacles during the process. Although questionnaire showed that teachers already have teacher practice's aspects, open-ended questions showed the description of online learning implementation.

By the open-ended question of media teachers use in online learning, participants' average answer were using WhatsApp. This finding in relation to research by Mishra *et al.*, (2020), found 100% teachers or students are using WhatsApp as learning media through COVID-19 pandemic. This can be concluded that WhatsApp is the most application used in learning during COVID-19 pandemic. But, the usage of WhatsApp sometimes limits students in understanding learning materials. Lack of interaction with teachers and classmates complicated students to understand learning materials. Several of participants stated that sometimes teachers not explaining learning materials as well as offline learning. This finding supported by research from Ni (2013), socialization and communicative interaction between student and teacher plays significant role in learning.

Advantages of technology involvement in learning process is enhancing student's understanding (Santrock, 2017). Development of technology nowadays facilitate students to access information for their learning purposes. However, student needs supervision from teacher to reach an optimal learning. In fact, not all teachers have adequate ability in using technology for learning. As a result, technology utilization in learning process found to be less sufficient. Self-learning process still needs teacher's supervision to explain the core materials of learning. This condition supported by technical report of European Commission (2020) found that students have learning loss during COVID-19 pandemic. Pandemic situation should not be an obstacle in learning, or giving negative impact towards students in cognitive or non-cognitive aspect.

The result of current research shows student's satisfaction in online learning process. As can be seen in participant responses chose not enjoying their online learning process. This study findings found to be more interesting as whole participant chose to have face-to-face learning than online learning. It can be inferred that students feel dissatisfaction towards learning process during pandemic situation. However, different findings by Kaur, Arora, and Ghandi (2020) showed that students have the similar satisfaction level in both offline and online learning. Students' satisfaction have correlation to the availability of electronic source or technology, development of professional ability, and attractive learning materials. Online learning may fulfil learning process, but can not substitute the previous learning method. Students' satisfaction counted to be significant indicator in affecting learning effectivity (Johnson, Aragon, & Shaik, 2000), and another characteristics such as gender (Terrell & Dringus, 2016), behavior (Omar, Hassan, & Atan, 2012), and levels of attachment (Robinson & Hullinger, 2008).

Teachers should create a more creative and more attractive learning in online learning. Furthermore, in Table 11 shown that creative and attractive presentation have the bigger percentage of all aspects. Participants in general stated that teachers need to evaluate their presentation method, in order to motivate and facilitate students in online learning. Result of research cooperated with research of Mishra et al.,(2020) showed students' perceived positively towards attractive learning presentation, thus encourage students to learn more effectively and study over the videos more.

There found several suggestions from students for more effective online learning. Teachers should be focused on students' understanding than by distribution of task. Teachers suggested to give more explanation of learning materials, such by using video or another supported application.

Based on research result and discussion above, it can be concluded that online learning during COVID-19 pandemic towards high school students in West Sumatra, found quite effective. The effectivity of online learning can be seen from communication during online learning, teachers encourage students during learning process, motivate students, also have learning competencies for students.

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