(Emergency) Online Remote Learning in Higher Education Institutions during COVID-19 Crisis: Students' Perception of the Situation

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Abstract  Recently, there has been wide interest in online learning environment studies during the COVID-19 crisis around the globe, but only a few studies on students’ perception on emergency online remote learning have been well documented. Therefore, our purpose was to describe higher education institutions students’ perception of online remote learning during COVID-19 crisis, which was conducted through a descriptive approach. The collected data were analyzed through descriptive statistics and content analysis. The findings in this study indicate that students in higher education institutions have a quite positive perception of online remote learning environment during COVID-19 crisis. They have concerns and a sensitivity to the current global situation. They hold a positive belief about lecturers’ online instructions, formative assessment, and feedback as well as online class interactions. However, they hold a negative belief about online topic delivery in the sense that they still find it hard to understand the topic delivered by their lecturers. They have a quite negative perception of online remote learning experience during COVID-19 crisis. They are not satisfied with their overall online remote learning experiences including online class interactions and lecturers’ topic delivery. Moreover, they are not satisfied with the Internet connection, which is poor, and the cost for the Internet access, which is expensive. In addition, they have some worries, obstacles and expectations in the online remote learning during the COVID-19 crisis. The study’s implications with some suggestions for future research are also discussed.

Keywords  Online Education, COVID-19, Pandemic, Remote Teaching, Belief

1. Introduction

Recently, there has been wide interest in online education studies during the coronavirus disease of 2019 (COVID-19) crisis around the globe. In Indonesia, for example, higher education institutions (HEIs) are currently in transition from traditional face-to-face classes to online remote learning. The faculty members and students have been working out to adjust their new teaching and learning culture. [1] state that this is done as an effective way to prevent the spread of COVID-19 and the list of higher education institutions (HEIs) making the decision and
announcing their policy on moving classes online has been growing every day. [2] states that HEIs are “going online” on a scale that has been never seen before due to the COVID-19 outbreak.

[3] found that a terminology to refer to online learning, e-learning, and distance learning, which is oftentimes interchanged, is inconsistently used. They further state that the term ‘online learning’ is the more updated version of ‘distance learning’. The other term ‘e-learning’ is a kind of ‘online learning’ (Triacca, Bolchini, Botturi, & Inversini, 2004 as cited in [3]). It is generally accepted that their umbrella term ‘online education’ has been studied by researchers for decades and we could not agree more that the effectiveness of learning outcomes results from carefully designed and planned instructions [1]. Because online learning experiences that are carefully and well planned by the instructors are different from learning offered online in response to COVID-19 crisis [1], a term ‘online remote learning’ would therefore be used in this paper, which [1] call as ‘emergency remote teaching’.

A very few studies on students’ opinions about online remote learning around the globe have been well documented. [4] reported that students miss most about school, schoolmates, teachers, sports, extracurricular activities, and even what they call “the loud and crazy lunchroom.” They find it hard to understand overwhelming assignments assigned to them and they also find it easy to get distracted due to not reliable Internet connection. However, some of them also enjoy the remote learning because of being free from the stressful school environment although it challenges when learning new topics without direct explanation from teachers. In addition, a survey on learners’ perspective on studying abroad plans reported that prospective students postpone, rather than cancel, their future study because at the moment their study abroad plans are being disrupted by the COVID-19 outbreak [5]. In Indonesia, [6] found that during the COVID-19 pandemic the most popular application used for online remote learning is WhatsApp (91.8%), followed by Zoom (6.5%) and E-mail (1.5%). Most of the participants under investigation use their smartphone (96.6%) and the rest use their laptop (3.4%). Most of them state that the topic delivered online is sometimes understandable and if they could choose, all of them would choose in-person learning in the classrooms.

To our knowledge, only a few studies about the impact of COVID-19 pandemic on education in higher education settings have appeared in the literature (see, for example, [6], [7]), thus, the situation in the Indonesian context is still not completely understood and has remained unclear. Therefore, our purpose was to shed light on students’ perception of online remote learning during COVID-19 crisis in Indonesia. The research question formulated in this present study is as follows:

1. What is higher education institutions students’ perception of online remote learning during COVID-19 crisis in Indonesia?

2. Literature Review

COVID-19 crisis and sustainability of the education

The World Health Organization (WHO) declared COVID-19 as a pandemic on 11 March 2020 [8]. The term ‘pandemic’ itself refers to “an outbreak of a disease that occurs over a wide geographic area and affects an exceptionally high proportion of the population” [9]. The WHO Director-General, Dr Tedros Adhanom, stated at a media briefing that “this is not just a public health crisis, it is a crisis that will touch every sector.” Therefore, “every sector and every individual must be involved in the fights” [10]. It is apparent that education is one of the sectors that is affected by the COVID-19 crisis.

In response to the COVID-19 crisis, the Indonesian government has been taking steps to prevent the spread of the virus. The Ministry of Education and Culture of the Republic of Indonesia issued a circular number 2 of 2020 dated 2 March 2020 on prevention and handling of COVID-19 in the Ministry of Education and Culture [11] and a circular number 3 of 2020 dated 10 March 2020 on prevention of COVID-19 outbreak in every education unit in Indonesia [12]. The Ministry of Health of the Republic of Indonesia also issued a circular number HK.02.01/MENKES/199/2020 dated 12 March 2020 on communication of COVID-19 handling [13].

A circular number 36603/A.A5/OT/2020 dated 15 March 2020 on prevention of the spread of COVID-19 in Ministry of Education and Culture of the Republic of Indonesia was also issued [14]. Through this circular, the education units under the Ministry of Education and Culture are required to implement the policy stated in the circular to reduce and prevent the spread of the COVID-19. One of directives is that civil servants are obliged to work from home. Due to the issuance of this circular, higher education institutions in Indonesia also issued a ‘working-from-home’ policy. However, education must go on and alternative pathways for teaching and learning are needed and a top priority at the moment. Therefore, the full inclusion of technology through online education to support the teaching and learning process is the answer. For faculty members or professors, it is to keep providing education through online teaching to their students, and for students, it is the only way for them to keep learning and being in touch with their professors over the Internet.

Online education: Are online learning, distance learning, e-learning, and (emergency) online remote learning the same?

It is generally accepted that there is no other way to keep education going during the COVID-19 pandemic other than through online education pathways. The online education and networking at every level of education received enormous technological innovations with massive
expansion in the 1980s and 1990s [15]. However, is it online learning, distance learning, e-learning, or (emergency) online remote learning we have been going through so far?

Online learning differs from what is called as computer-based learning, distance learning, and open educational resources in some significant ways, although they have something in common with each other [16]. Online learning is when students interact with content or people over the Internet for the purpose of learning, which may be part of formal course settings or programs. It can also refer to something that students or learners try to find out over the Internet for their own interest. As long as the teacher-led instruction and carefully designed and planned resources to instruct students with/without a teacher’s presence are carried out via the Internet, it can be said as online learning [16]. What is offered by the computer- or server-based instruction or learning lack in distance, its affordability, and its flexibility because it is not impossible for teachers and students to do it via the Internet today [16].

The concept of distance learning, which refers to any instruction where teachers and students are separated in different physical space [16], [17], is broader. It includes “other technologies, going all the way back to print-based correspondence courses”, thus online learning is part of distance learning, not a synonym [16, p. 8]. However, distance learning is also said to be synonymous with web-based learning, virtual learning, online collaborative learning, technology-mediated learning, e-learning, online learning, and so forth (Conrad, 2006 as cited in [17]. Open educational resources refer to resources (course modules, syllabi, lesson plans, and other instructional resources which are intentionally provided to be used by teachers, rather than students) that are available on the Internet for free or at nominal charge [16].

Some authors have conflicting views on the conceptual definitions of e-learning [3]. E-learning can be defined as the use of information and communication technologies (ICT) to make access to online learning or teaching resources possible [18]. To its broader definition, e-learning is any learning that is electronically enabled (Abbad, Morris, & de Nahlik, 2009 as cited in [18], but distance is “not a defining characteristic of e-learning” [19, p. 108]. Most higher education institutions make use of digital technologies to improve the quality of face-to-face meetings in the classrooms, they do not implement a distance pedagogical approach [19].

Remote learning refers to learning that can be switched off and on in accordance with needs and moving to this learning pathway is highly dependent on preparedness, technological supports, and supporting infrastructure of the students. Remote learning differs from what is called as virtual/online learning since this type of learning program has typically gone through several processes such as online curriculum and dedicated structure to support students. However, remote learning can provide teachers and students with an opportunity to remain engaged and connected with teaching and learning process while working from home. This type of learning has to do with emergency situations to assure safety. We need to keep in mind that in remote learning environment, teachers and students are not familiar and accustomed to having distance during online instruction and learning, which might need more mental and physical effort in order to successfully implement the teaching and learning process [20]. In other words, because of the suspension of face-to-face meetings in the classrooms during the COVID-19 crisis, the courses that had been carefully designed and planned for face-to-face classes are now exclusively delivered over the Internet [21].

It is stated that the term which is used to refer to online learning, e-learning, and distance learning is inconsistently used [3]. We believe we all totally agree that the effectiveness of learning outcomes results from carefully designed and planned instructions and learning [1]. Therefore, online learning experiences that are carefully and well planned by the instructors are different from learning offered online in response to COVID-19 crisis [1], a term ‘online remote learning’ would therefore be used in this paper, which [1], call as ‘emergency remote teaching’.

**Students’ perception of (emergency) online remote learning during Covid-19 crisis**

Perception can be defined as “the way someone thinks and feels about a company, product, service, etc.” or it is “a belief or opinion, often held by many people and based on appearances/how things seem” [22]. In other words, it is about something that someone believes and feels is true.

University students hold a positive perception of online learning, but as a supplement to their ‘offline’ classes [23] and understanding the way students perceive their learning environment at higher education institution contexts is of vital importance because their perception affects their learning experiences [24]. For example, the perception of students with high achievements is significantly more positive than those with low achievements [25]. Eleven factors that are related to success in e-learning have been identified, four of which are instructor, student, basic technology knowledge, and learning materials [26]. They have also further identified seven technological aspects that have to do with e-learning, two of which are level of interaction and the Internet quality. Interaction between instructor and students is said to have a huge impact on students’ satisfaction in an online learning [27]. In addition, students’ perception of their readiness for an online learning experience is slightly positive. They are familiar with mobile devices and social media applications, but unfamiliar with e-learning tools for collaborative tasks [28].

It is important that students’ readiness also plays an important role for the success of online learning [29].

A survey conducted by Nahdlatul Ulama Student
Association (Indonesian: Ikatan Pelajar Nahdlatul Ulama/IPNU) through their Student Research Center division reported that a total of 92.29% students want to get more creative and innovative online instruction and learning methods. Most of them (88.75%) also state that the teaching and learning process during the COVID-19 pandemic is boring and stressful and they (81.84%) prefer learning at school. They (95.43%) state that face-to-face learning setting at school is more effective compared to learning from home, however they (92.29%) agree with the implementation of physical distancing, which means that they have a sensitivity and concerns for the COVID-19 outbreak [30].

University students were reported having positive perception of online remote learning during the COVID-19 pandemic. However, they are in the hope that their lecturers/professors make use of free online applications available in the market such as free Messenger application. They hold out much hope of getting explanations before their lecturers/professors assign them an assignment or a new topic, for example using Voice Note. It implies that the topic delivery and instructions are not well understood by the students [7]. It was found that during the COVID-19 pandemic, students’ most favorite application for online remote learning is WhatsApp (19.8%), followed by Zoom (6.5%), and E-mail (1.5%). They prefer using smartphone (96.6%) to computer or laptop (3.4%). However, they prefer the conventional face-to-face learning approach in the classrooms setting [6].

3. The Study

Participants

A total of 500 undergraduate students from public (77.2%) and private (22.8%) higher education institutions in Lampung, Indonesia took part in the current study. Most of them (67.6%) were female and the rest (32.4%) were male. They were nearly at the same age ranging from 17 – 33 years old, 19.77 years on average. We explained the purpose of the study to them and guaranteed anonymity and confidentiality. By filling out the online questionnaire, they consented to the use of data they provided for research purpose.

Instruments

The data were collected through an online questionnaire with open- and close-ended questions (27 and 3 questions respectively) using a free cloud-based survey and questionnaire tool, Google Forms. The close-ended questions of the online questionnaire were developed based on several aspects or dimensions according to our literature review because they are still related to online remote learning in response to the COVID-19 situation, including students’ technological skills and accessibility to the Internet [23], [26], instructional design and delivery [27], assessment and feedback from lecturers [27], interaction [26], the Internet quality [26], students’ satisfaction [31], and students’ concerns and sensitivity to the COVID-19 situation. We also made some adjustments to the questions under each aspect or dimension above to fit into the current online education situation due to COVID-19 pandemic. The questionnaire was also equipped with three open-ended questions to dig more information from the respondents.

The questionnaire received a pilot testing from 20 students before it was distributed to the respondents. It was to make sure that everything was understandable, clear, and reasonable in length [32] and to assess its appropriateness and design that the questionnaire was able to achieve the research purpose [33].

Data Analysis

The data collected from the closed-ended questions of the online questionnaire were quantitatively analyzed using SPSS 23 for Windows through a descriptive statistics method. The analysis was used to investigate higher education institutions students’ perception of (emergency) online remote learning during the COVID-19 crisis. In addition, the data collected from the open-ended questions were analyzed through content analysis, which is a subjective interpretation of the participants’ responses to the questions which is done through coding classification and theme or pattern identification [34] with the aim of providing thorough descriptive interpretations of a social phenomenon (Tesch 1991 as cited in [35]).
4. Findings

Students' concerns about COVID-19 pandemic

Chart 1 gives information about students’ concerns about the COVID-19 pandemic by following COVID-19 news and practising physical distancing. Regarding their frequency of following COVID-19 news, a total of 184 students (36.8%) sometimes follow COVID-19 news, followed by those who always and very often follow news about COVID-19, 172 students (34.4%) and 121 students (24.2%) respectively. A very few of them rarely and never follow the news, 22 students (4.4%) and 1 student (0.2%) respectively.

Turning to physical distancing practices, it is apparent that they have great concerns for the practices to prevent the spread of the COVID-19. A total of 218 students (43.6%) always practise physical distancing, followed by those who very often and sometimes practise the activities, 183 students (36.6%) and 91 students (18.2%) respectively. Only a very few of them rarely and never practise the campaign, 7 students (1.4%) and 1 student (0.2%) respectively.

Students’ mobile device, type of Internet access, and their self-assessed digital literacy.

Chart 2 illustrates students’ most frequently used device for their online remote learning during COVID-19 crisis. It can be clearly seen that smartphone is the most frequently used device (78%), followed by laptop (20%) and desktop PC (2%).
Chart 3 gives information about the Internet network the students under investigation rely on for their online remote learning during COVID-19 crisis. It is apparent that 396 students (79.2%) do not subscribe to home Internet access on a monthly basis from an Internet service provider, only 104 of them (20.8%) take out a monthly subscription to an Internet service provider. Turning to cellular data Internet network, it is reported that 466 students (93.2%) use their cellular data Internet network via their smartphone, only 34 of them (6.8%) state that they do not use cellular data Internet network for their online remote learning.

Instructional design, topic delivery, and application for online classes

Chart 5 gives data about online class instructional design and topic delivery in the online remote learning during COVID-19 crisis. It is clear that a total of 324 students (64.8%) agree that in online classes during the COVID-19 pandemic, their lecturers provide them with clear instruction for completing assignments on time, with only 54 students (10.8%) strongly agree. The others, 111 students (22.2%) and 11 students (2.2%), disagree and strongly disagree with the statement.

Regarding ample opportunities given by their lecturers to interact with their classmates, 276 students (55.2%) agree that their lecturers give ample opportunities to them to interact with classmates, with only 23 students (4.6%) strongly agree. Less than half of them (185 students or 37%) disagree and only 16 students (3.2) strongly disagree with the statement. However, the pattern of students’ perception on topics delivered by their lecturers is reversed, the students disagree and strongly disagree that their lecturers deliver their topics in an easy and understandable way, 229 students (45.8%) and 38 students (7.6%) respectively. The others agree and strongly agree with the statement, 207 students (41.1%) and 26 students (5.2%) respectively.
Turning to learning resources, it can be seen that 346 students (69.2%) agree that their lecturers provide them with various learning resources such as articles and website links, followed by those who strongly agree with the statement (76 students or 15.2%). The others disagree and strongly disagree with this statement, 69 students (13.8%) and 9 students (1.8%) respectively. Besides that, a total of 266 students (53.2%) disagree that the online remote learning environment increases their desire to study, with only 36 students (7.2%) strongly disagree. Then, 173 students (34.6%) agree, with only 25 students (5%) strongly agree with this statement.

More importantly, 279 students (55.8%) and 199 students (39.8%) agree and strongly agree that they must have self-motivation to succeed in learning during COVID-19 crisis. Only a few of them disagree and strongly disagree with this statement, 20 students (4%) and 2 students (0.4%) respectively.

Chart 6 illustrates the applications most frequently used for online classes during COVID-19 crisis. It is apparent that WhatsApp is the most frequently used application for online remote learning during COVID-19 crisis (40%), followed by Google Classroom (31%). Learning management system (LMS) owned by institutions and video conferencing applications, e.g. Zoom, has an almost similar pattern, with 14% and 12% respectively. The others such as Google Meet, CloudX, Quizizz, and Edmodo are the least frequently used applications for online remote learning during this COVID-19 crisis (3%).

**Chart 5.** Instructional design and topic delivery

**Chart 6.** Application most frequently used for online classes
Assessment and feedback

Chart 7 gives facts about assessment and feedback provided by lecturers in online remote learning during COVID-19 pandemic. It is clear that most of them students agree that their lecturers conduct formative assessment with feedback, provide clear feedback, and provide feedback in a timely manner, 352 students (70.4%), 306 students (61.2%), and 288 students (57.6%) respectively. Less than one third of them disagree with the statements that their lecturers provide feedback in a timely manner (165 students or 33%), provide clear feedback (143 students or 28.6%), and conduct formative assessment with feedback (20%), while the others have an almost similar pattern, only 39 students (7.8%), 40 students (8%), and 34 students (6.8%) respectively strongly agree as well as 12 students (2.4%), 8 students (1.6%), and 14 students (2.6%) respectively strongly disagree with the statements.

Online class interaction among students

Chart 8 illustrates about online class interaction among students during COVID-19 pandemic. It can be seen that 335 students (67%) and 120 students (24%) agree and strongly agree that they can interact with their classmates in their online classes, only 39 students (7.8%) and 6 students (1.2%) disagree and strongly disagree with this statement.
Regarding the quality of interaction and discussion sessions among students, there is an almost similar pattern in the number of students who agree with these two statements. It is apparent that 246 students (49.2%) and 240 students (48%) agree that the interaction among students is very active and they have quality discussion sessions with their classmates in their online classes, with only 64 students (12.8%) and 25 students (5%) strongly agreeing with the statements. Besides, they also disagree that they have quality discussion sessions and active interaction, with a total of 205 students (41%) and 164 students (32.8%) respectively. Less than 6% of them strongly disagree that they have quality discussion sessions and active interaction with their classmates in their online classes, 30 students and 26 students respectively.

**Online class interaction and communication between lecturer and students**

Chart 9 gives facts about online class interaction and communication between lecturer and students during COVID-19 pandemic. A total of 258 students (51.6%) agree that they find it easy to interact with their lecturers in their online classes, only 41 students (8.2%) strongly agree with this statement. However, 180 students (36%) and 21 students (4.2%) also disagree and strongly disagree with this statement.

Regarding contacting or communicating with lecturers outside online classes, 288 students (57.6%) and 29 students (5.8%) agree and strongly agree that they find it easy to contact their lecturers outside online classes, with only 159 students (31.8%) and 24 students (4.8%) disagree and strongly disagree with this statement.

The students also have a belief that their lecturers quickly respond to their messages or emails, with 239 students (47.8%) and 27 students (5.4%) stating agreement and strong agreement with this statement. However, almost half of them 212 students (42.4%) disagree and 22 students (4.4%) strongly disagree with this statement.

**Students’ satisfaction of online remote learning and the Internet connection**

Chart 10 shows facts about students’ satisfaction of online remote learning during COVID-19 crisis. Most of them (269 students or 53.8%) state that they disagree that they are satisfied with their overall online remote learning experience and 76 of them (15.2%) strongly disagree with this statement. Only 141 students (28.2%) and 14 students (2.8%) agree and strongly agree with this statement.

Regarding interaction, 226 students (45.2%) and 52 students (10.4%) disagree and strongly disagree that they get satisfaction from students interaction in their online classes. However, a total of 194 students (38.8%) and 28 students (5.6%) agree and strongly agree with this statement.

Turning to the students’ satisfaction obtained from their lecturers’ topic delivery, 248 students (49.6%) and 50 of them (10%) disagree and strongly disagree that they derive satisfaction from their lecturers’ topic delivery in their online classes during this COVID-19 pandemic. However, 188 students (37.6%) and 14 students (2.8%) agree and strongly agree with this statement.
Chart 10. Students’ satisfaction from online remote learning

Chart 11. Students’ perceptions of the Internet for their online remote learning

Chart 11 illustrates the satisfaction students obtain from the Internet connection in their online remote learning during COVID-19 crisis. It is apparent that most of them (214 students or 42.8%) disagree that they are satisfied with their Internet connection for their online remote learning during COVID-19 crisis. More than a quarter of them (133 students or 26.6%) strongly disagree with this statement. Only 136 students (27.2%) and 17 students (3.4%) agree and strongly agree with this statement.

Regarding the cost of their Internet access, more than half of them (282 students or 56.4%) strongly agree that the cost they spend for the Internet access during COVID-19 pandemic is expensive. A total of 172 students (34.4%) agree with this statement. Only a few of them, 41 students (8.2%) and 5 students (1%), disagree and strongly disagree with this statement.
Students’ worries of online remote learning

The students’ worries of their online remote learning were obtained from an open-ended question in the online questionnaire. The question was: “Considering this online remote learning situation during COVID-19 crisis, do you have any worries?” Their responses to the open-ended question were analyzed through content analysis which was done through coding classification and theme or pattern identification. Here are the students’ responses to the question in the following Chart 12.

Chart 12. Students’ worries of online remote learning during COVID-19 crisis

Chart 12 illustrates students’ worries of online remote learning during COVID-19 crisis. It can be seen that they are worried that they might not understand clearly the topics delivered by their lecturers in online classes (60%). They are worried that they might fail classes due to failing course grades (20%) and fail in their attempt to submit assignments due to poor Internet connection (12%). When they find it hard to understand a topic clearly, they are worried that they might start feeling boredom (5%). During online remote learning, classes are performed online, but they are worried that they might have a cyberattack (3%). Here are what they say about their worries (English translation).

“I have a fear of boredom in my learning.”

“Once I complete my courses in this semester two, I will become a student with no knowledge because learning in an online mode is so boring.”

“Without direct interaction with my classmates and lecturers, I feel demotivated.”

“When using an online application, I have a fear of data theft.”

“I am worried that lecturers might give me bad grades.”

“Online exams in a very short time and poor signal strength, I am worried that my final grades are dependent on the signal strength.”

“I have a fear that I might fail my courses.”

“I don’t really understand what is conveyed by my lecturer.”

“I am afraid I cannot build up my knowledge and many students get stressed because I have more assignments compared to when I was having ‘offline’ classes.”

“Topic is not clearly understood.”

“Due to poor Internet strength, I am afraid I miss some information about class assignments.”

“I am afraid my lecturers don’t receive my assignments due to poor signal strength.”

“I find it hard to submit my assignment because sometimes my signal dissipates all of sudden.”

“When I submit my assignment online, I am not sure whether it is well received or not by my lecturers.”

Students’ obstacles to online remote learning

The students’ obstacles to the online remote learning were obtained from an open-ended question in the online questionnaire. The question was: “Do you encounter any obstacles in your online remote learning during COVID-19 crisis?” Their responses to the open-ended question were analyzed through content analysis which was done through coding classification and theme or pattern identification. Here are the students’ responses to the question in the following Chart 13.

Chart 13. Students’ obstacles to online remote learning during COVID-19 crisis

Chart 13 gives facts about students’ obstacles to online remote learning during COVID-19 crisis. The biggest obstacle to their online remote learning is the Internet connection (64%), followed by expensive Internet data packages (23%). Electricity, device for online classes, environment, and schedule changes are also obstacles that they encounter during COVID-19 pandemic, 6%, 3%, 2%, and 2% respectively. Here are some excerpts of what they say about their obstacles (English translation).

“Poor signal strength.”
“Slow Internet connection, not to mention the price is getting more expensive.”
“Limited Internet access.”
“No signal, no money for buying a mobile Internet data package.”

**Students’ expectations**

The students’ expectations of their lecturers teaching online classes were obtained from an open-ended question in the online questionnaire. The question was: “Considering this online remote learning situation during COVID-19 crisis, do you have any expectations of your lecturers teaching online classes?” Their responses to the open-ended question were analyzed through content analysis which was done through coding classification and theme or pattern identification. Here are the students’ responses to the question in the following Chart 14.

Chart 14 gives information about what students expect from their lecturers in the online remote learning during COVID-19 crisis. It is apparent that they expect to get clearer topic explanation (26%), followed by decreased students workload (22%), and lecturers’ understanding and tolerance towards current learning situation during COVID-19 (12%).
They also expect that lecturers attend online classes according to schedule (11%). They find it hard to meet the deadline for assignment submission that they expect their lecturers could extend the deadline because they struggle under abundant heavy workloads (7%). They expect fair final grading (5%), more interactive online classes (5%), quick responses from lecturers (4%), clear instructions for completing assignments (3%), lecturers’ creativity (2%), and lecturers’ feedback (2%). Here are what they say about their expectations (English translation).

“I hope that lecturers do not always give us excessive assignments and let alone replace learning activities with assignments.”

“I hope my lecturers provide clear instructions for completing assignments. And, start and end the online classes on time, as was in offline classes.”

“Please deliver the topic clearly.”

“Please lecturers, pay more attention to your students. Don’t just start the online forum then leave it. We need your guidance.”

“I expect more interactive classes with topics clearly delivered.”

“Although learning is done online, I hope I can easily understand the topics delivered by my lecturers.”

“Lecturers need to participate in discussion sessions, not only students discuss a topic using an auto-pilot method.”

“If lecturers demand their students to understand, then do what makes them understand.”

“A lecturer can explain using a video he/she makes him/herself.”

“Be more creative.”

“Don’t give us abundant assignments with a tight deadline.”

“Give your students assignments with reasonable deadlines. Understand the different conditions of each student.”

“I hope that lecturers can provide materials and clear explanations. We need your feedback when we perform a presentation.”

“Detailed explanations and feedback.”

“Due to the current situation, I hope lecturers can give us at least a B.”

“Be wiser in giving us final grades.”

“I hope lecturers can understand us more, especially due to the signal problem. Not all students can access the Internet smoothly.”

“Make some control to better monitor students and make some adjustments due to the current situation. Students in remote areas find it hard to access the Internet due to poor signal strength.”

“Make online classes based on schedule.”

“I hope lecturers don’t change the fixed class schedule.”

“I hope lecturers quickly respond to students’ questions.”

5. Discussion

Close-ended questions

The higher education institutions students have concerns over the current COVID-19 crisis. It can be seen from the reported facts that most of them always and very often follow news about COVID-19 pandemic, 34.4% and 24.2% respectively. They also always and very often practice physical distancing, 43.6% and 36.6% respectively. It explicitly indicates that they have concerns and a sensitivity to the current global situation, which is consistent with [30] finding. Practising physical distancing aims to stop to prevent the transmission of the virus to one another, but it does not mean that people are disconnected from their loved ones, they can still be connected through technology [36]. This term is also sometimes called as social distancing, which refers to keeping social and/or physical space between one another [37].

It is also reported that students most frequently use their smartphone (78%) for online remote learning during COVID-19 crisis. This totally resonates with Anhusadar’s (2020)[6] finding that smartphone is the most predominantly used device for their online classes during this emergency online remote learning. Because most of them (79.2%) do not subscribe to a home Internet access on a monthly basis, most of them (93.2%) need to use their mobile Internet access to get involved in online classes. This situation also resonates with [6] finding that mobile data plan is a must today that they are able to join online classes. In addition, in today’s era, which is called as Industry 4.0, technology is said to have positively impacted on education [38], and most of the students’ perceived digital literacy falls into good category (56%) and very good category (13%). This implies that they do not have any technical matters with technology [39] that they have the ability to utilize information and communication technologies to increase their capacity in online remote learning during COVID-19 crisis.

Regarding instructional design, topic delivery, and applications used for online classes, most of them report that their lecturers provide clear instructions for assignment completion (64.8%). The figure is emphasized by a total of 10.8% of them who strongly agree. More than half of them also report that they agree that they are given abundant opportunities to interact with their classmates online (55.2%), with 4.6% of them strongly agree. However, the pattern of their perception of lecturers’ topic delivery in online classes is reversed, they disagree (45.8%) and strongly disagree (7.6%) that their lecturers deliver topics in an easy and understandable way. This finding
resonates with [7] finding that it is not easy for students to understand a topic, which should be explained in a more detailed way. However, this makes sense because, as stated by [39], most lecturers are now facing challenges due to lack of online teaching experience with little or even without any early preparation or support from information and technology divisions. Moreover, more than 60% of them do not express a burning desire to study. In other words, this online remote learning situation during COVID-19 crisis does not increase their desire to study. This is in line with [40] finding that motivation is one of students’ barriers when they learn online. However, they still agree (69.2%) and strongly agree (15.2%) that they are given various learning resources, such as articles and website links, by their lecturers to help their learning. More importantly, nearly 100% of them agree and strongly agree that they must be self-motivated to succeed in their learning. Regarding the online applications used for online instructions, WhatsApp becomes the most frequently application used for online classes (40%), followed by Google Classroom (31%). This finding resonates with [6] finding. Moreover, since all in-person classes are shifted to an online remote learning mode, computer servers might not be able to host users on a massive scale [39]. These two platforms are also recommended by the United Nations Educational, Scientific and Cultural Organization (UNESCO) to facilitate learning during COVID-19 pandemic [41].

Turning to formative assessment and feedback, more than half of them agree that their lecturers conduct formative assessment with feedback (70.4%), provide clear feedback (61.2%), and provide feedback in a timely manner (57.6%). It indicates that even in emergency online remote learning, their lecturers still conduct formative assessment and provide feedback to help them develop their knowledge. However, another study reported that students lack of feedback from their teachers during online courses [50].

Turning to interaction among students, nearly 100% of the students agree (67%) and strongly agree (24%) that they can interact with their classmates in online classes. Regarding the interaction and discussion quality, there is an almost similar pattern that more than half of them, 62% and 53% respectively, agree and strongly agree that they have active interaction and quality discussion sessions with their classmates in their online classes. This finding implies that students improve their social interaction in an online mode of learning which can lead to more enjoyable and effective online educational experiences [40]. In addition, more than half (59.8%) agree and strongly agree that it is not difficult for them to interact with their lecturers in their online classes. There is also an almost similar pattern that most of them (63.4%) agree and strongly agree that it is easy for them to contact and communicate with their lecturers outside online classes. More than half of them (53.2%) hold a belief that their lecturers quickly respond to their messages or emails.

Talking about students’ satisfaction of online remote learning during COVID-19 crisis, they report that 69% of them are not satisfied with their overall online remote learning experience. Moreover, more than half of them (55.6%) report that they actually are not satisfied with interaction among students in online classes. More importantly, it turns out that a total of 59.6% of them disagree and strongly disagree that they derive satisfaction from the way their lecturers deliver a topic in online classes. This is consistent with a study’s finding conducted by [42] in a real online learning, not in response to an emergency situation. They state that students with hybrid online courses rate more satisfatory than in fully online classes and lack of interaction is the most predominant reason for their dissatisfaction.

Most of them (42.8% and 26.6%) also disagree and strongly disagree that they are satisfied with the Internet connection they are using for online remote learning. Nearly 100% of them agree and strongly agree that they spend much for the Internet access. This is in line with [40] finding that cost and Internet access are students’ barriers for learning in an online mode.

Open-ended questions

Regarding the open-ended questions, significant important facts were also found. It turns out that students have some worries of online remote learning during COVID-19 crisis. It can be clearly stated that they are worried that they might not understand clearly the topics delivered by their lecturers and fail classes due to failing course grades. This implicitly supports what is found by [43] that they actually prefer face-to-face meetings to build up their knowledge more easily. In addition, they are worried that they might fail in the attempt to submit assignment due to poor Internet connection, start feeling boredom, and experience a cyberattack. It is stated that some students are adjusting well to different learning environment, some are feeling bored and lonely in this new online environment [44]. It is admitted that online systems and networking can attract hackers [45] and are vulnerable to security attacks in terms of authentication, availability, confidentiality, and integrity attacks (Rjaibi, Rabai, Aissa & Louadi, 2012 as cited in [46].

Besides that, they report several obstacles during their online remote learning. They state that the biggest obstacle they encounter is the Internet connection. The also complain about the cost they spend for their mobile Internet data package. This finding resonates with findings of [6], [40] that the cost and the Internet access are barriers for students when learning online. In addition, electricity, device for online classes, environment, and schedule changes are also obstacles that they encounter in their online remote learning during COVID-19 crisis. In a study, it is also stated that most online students experience...
difficulties [47].

In addition, they have some expectations during this online remote learning situation. They expect to get clearer topic explanation, decreased students workload, lecturers’ understanding and tolerance towards current learning situation, fixed class schedule, extended deadline for assignment submission, fair final grading, more interactive classes, quick responses from lecturers, clear instructions for completing assignments, lecturers’ creativity, and lecturers’ feedback. This is in line with [7] that students need their lecturers to understand their students’ financial situation and Internet access availability.

6. Conclusions

Students in higher education institutions have a quite positive perception of online remote learning environment during COVID-19 crisis. They have concerns and a sensitivity to the current global situation. They hold a positive belief about lecturers’ online instructions, formative assessment, and feedback as well as online class interactions. However, they hold a negative belief about online topic delivery in the sense that they still find it hard to understand the topic delivered by their lecturers. They have a quite negative perception of online remote learning experience during COVID-19. They are not satisfied with their overall online remote learning experiences including online class interactions and lecturers’ topic delivery. Moreover, they are not satisfied with the Internet connection, which is poor, and the cost for the Internet access, which is expensive.

It turns out they have some worries of online remote learning during COVID-19 crisis. They are worried that they might not understand clearly the topics delivered by their lecturers, fail classes due to failing course grades, fail in their attempt to submit assignments due to bad Internet connection, start feeling boredom, and have a cyberattack. Their worries are due to some obstacles they encounter during their online remote learning and the poor Internet connection is their biggest obstacle, not to mention they spend much for mobile Internet data packages. Therefore, they have some expectations including clearer topic explanation, decreased students workload, lecturers’ understanding and tolerance towards current learning situation, fixed class schedule, extended deadline for assignment submission, fair final grading, more interactive classes, quick responses from lecturers, clear instructions for completing assignments, lecturers’ creativity, and lecturers’ feedback.

This study has several implications. Since the online remote learning mode is in response to emergency situation due COVID-19 crisis in which both lecturers and students are not accustomed to having classes in the distance [20], a simple and well-organized online remote learning and instruction needs to be designed and developed [48]. Due to the interruption of traditional class meetings, in which the courses that had been well designed and planned for in-person classes are inevitably delivered over the Internet [21], six instructional strategies to help students increase their motivation, engagement, and concentration as well as “five high-impact principles for online education” proposed by [39, p. 115] are in need to be taken into account. To make sure that the sustainable learning for all and prevent wider inequities in education [49], faculty members, governments, and policy makers are hoped to listen to the voice of the students.

However, this study is also with some limitations. Although this study has shed light on a relatively important insight of students’ perception of (emergency) online remote learning during COVID-19 crisis in the context of Indonesia, it was conducted in a medium sample size (n=500). Since we assume that the number of respondents or participants and empirical data in our study are inadequate, we have carefully concluded the phenomenon under investigation. In other words, we do not generalize about our findings as conclusive in the entire country. Therefore, to understand the phenomenon in the context of Indonesia more clearly and deeply, we believe there is still a necessity to conduct further research with larger number of participants and more advanced quantitative and qualitative data analyses. In so doing, we would be able to have more valid findings and draw more reliable conclusions.
## Appendix

### Questionnaire on higher education institutions students’ perception of online remote learning during COVID-19 crisis

| No. | Question/Statement                                                                 | Response                     |
|-----|------------------------------------------------------------------------------------|------------------------------|
|     | Students’ concerns about COVID-19 pandemic                                         |                              |
| 1   | How often do you follow news about COVID-19?                                       | Never | Rarely | Sometimes | Very often | Always |
| 2   | How often do you practice physical distancing?                                     | Never | Rarely | Sometimes | Very often | Always |
|     | Students’ mobile device, type of Internet access, and their self-assessed digital literacy |                              |
| 3   | What device do you use most often for online remote learning during the COVID-19 pandemic? | Smartphone | Laptop | Desktop PC |
| 4   | Do you subscribe to home Internet on a monthly basis from an Internet service provider for your online remote learning during the COVID-19 pandemic? | Yes | No |
| 5   | Do you use cellular data internet network via your smartphone for online remote learning during this COVID-19 pandemic? | Yes | No |
| 6   | Please self-assess your digital literacy!                                          | Very poor | Poor | Acceptable | Good | Very good |
|     | Instructional design, topic delivery, and application for online classes           |                              |
| 7   | In online classes during the COVID-19 pandemic, my lecturers provide me with clear instruction for completing assignment on time. | Strongly disagree | Disagree | Agree | Strongly agree |
| 8   | In online classes during the COVID-19 pandemic, I am given ample opportunities by my lecturers to interact with my classmates. | Strongly disagree | Disagree | Agree | Strongly agree |
| 9   | In online classes during the COVID-19 pandemic, my lecturers deliver their topics in an easy and understandable way. | Strongly disagree | Disagree | Agree | Strongly agree |
| 10  | In online classes during the COVID-19 pandemic, my lecturers provide me with various learning resources such as articles and website links to help my learning. | Strongly disagree | Disagree | Agree | Strongly agree |
| 11  | The situation of online remote learning during the COVID-19 pandemic increases my desire to learn. | Strongly disagree | Disagree | Agree | Strongly agree |
| 12  | In online classes during the COVID-19 pandemic, I must have self-motivation to succeed in learning. | Strongly disagree | Disagree | Agree | Strongly agree |
| 13  | During my online remote learning during the COVID-19 pandemic, what application is most frequently used by your lecturers? | Video conferencing apps, e.g Zoom | LMS | Google Classroom | Others |
|     | Assessment and feedback                                                            |                              |
| 14  | In online classes during the COVID-19 pandemic, my lecturers provide me with clear feedback. | Strongly disagree | Disagree | Agree | Strongly agree |
| 15  | In online classes during the COVID-19 pandemic, my lecturers conduct formative assessments with feedback. | Strongly disagree | Disagree | Agree | Strongly agree |
| 16  | In online classes during the COVID-19 pandemic, my lecturers provide feedback in a timely manner. | Strongly disagree | Disagree | Agree | Strongly agree |
|     | Online class interaction among students                                             |                              |
| 17  | In online classes during the COVID-19 pandemic, I can interact with my classmates online. | Strongly disagree | Disagree | Agree | Strongly agree |
| 18  | In online classes during the COVID-19 pandemic, the interaction among students is very active. | Strongly disagree | Disagree | Agree | Strongly agree |
| 19  | In online classes during the COVID-19 pandemic, I have quality discussion sessions with my classmates. | Strongly disagree | Disagree | Agree | Strongly agree |
|     | Online class interaction and communication between lecturer and students             |                              |
| 20  | In online classes during the COVID-19 pandemic, I find it easy to interact with my lecturers. | Strongly disagree | Disagree | Agree | Strongly agree |
| 21  | During my online remote learning during the COVID-19 pandemic, I find it easy to contact my lecturers outside online classes. | Strongly disagree | Disagree | Agree | Strongly agree |
| 22  | During my online remote learning during the COVID-19 pandemic, my lecturers quickly respond to my messages or emails. | Strongly disagree | Disagree | Agree | Strongly agree |
## Table continuous

| Students’ satisfaction of online remote learning and the Internet connection |
|-------------------------------------------------|
| 23. During my online remote learning during the COVID-19 pandemic, I am satisfied with my overall learning experience so far. | Strongly disagree | Disagree | Agree | Strongly agree |
| 24. During my online remote learning during the COVID-19 pandemic, I am satisfied with the students’ interaction. | Strongly disagree | Disagree | Agree | Strongly agree |
| 25. During my online remote learning during the COVID-19 pandemic, I am satisfied with what has been delivered by my lecturers in online classes. | Strongly disagree | Disagree | Agree | Strongly agree |
| 26. I am satisfied with my Internet connection speed for my online remote learning during the COVID-19 pandemic. | Strongly disagree | Disagree | Agree | Strongly agree |
| 27. I think the cost of the Internet for my online remote learning during the COVID-19 pandemic is expensive. | Strongly disagree | Disagree | Agree | Strongly agree |

### Open-ended questions

1. Considering this online remote learning situation during COVID-19 crisis, do you have any expectations of your lecturers teaching online classes?  

2. Considering this online remote learning situation during COVID-19 crisis, do you have any worries?  

3. Do you encounter obstacles in your online remote learning during COVID-19 crisis?  

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